

Utopia and knowledge:

EDITED BY

Manuel Heitor
Minister for Science,
Technology and Higher Education,
Portugal

CONTRIBUTIONS
FOR THE DEBATE
ON THE FUTURE
OF EUROPE

Includes Council conclusions,
manifestos and declarations prepared
during the Portuguese Presidency
of the Council of the European Union,
2021, in the areas of Research,
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INTRODUCTORY REMARKS



How deep are European citizens mobilized, at large, to guarantee that **knowledge and learning** are in the center of their aspirations and drive policies which aim towards the emerging of a digital and green transition leading to the need to foster a more resilient, inclusive and global Europe?

Some 500 years after Thomas More introduced *Utopia*, the question above will drive the discussion on the future of Europe's research and innovation landscape and the desired strengthening of the *European Research Area* - ERA. Following the French novelist Vitor Hugo, "There is nothing like a dream to create the future. Utopia to-day, flesh and blood tomorrow."

This booklet includes specific ideas for this debate and should be considered as a contribution towards the future of Europe in the areas of research, innovation and higher education, with a specific focus on the "Next Generation EU" recovery instrument and the related national recovery plans, new 2021-2027 programmes, especially the European Research and Innovation Framework Programme for 2021-27, "Horizon Europe" and the Erasmus+. The ultimate goal is to promote the leading role of research, innovation and higher education as strategic assets towards the **green and digital transitions**, as well as to foster European sovereignty for a **resilient, social and global Europe**.

The booklet was prepared in the context of the Portuguese Presidency of the Council of the European Union, 2021, and considers four parts, as follows: i) the conclusions approved by the Council in the area of research, which focus on "attractive and sustainable careers and working conditions and making brain circulation a reality"; ii) the conclusions approved by the Council in the area of education, which focus on "European Universities"; iii) a set of very relevant manifestos and policy declarations approved and launched during the Portuguese Presidency; and iv) Main events and issues discussed during the Portuguese Presidency of the Council of the European Union, 2021, in the areas of research, innovation and higher education.

This introductory remarks considers those main contributions of the Portuguese Presidency of the Council of the European Union and discusses them in terms of **three main issues for the future** of Europe, as follows: i) Mobilizing Horizon Europe and Next Generation EU for promoting green and digital transitions across Europe and preparing resilient recovery; ii) Promoting attractive research careers across Europe to help building a resilient recovery through a renewed, cohesive and inclusive European Research Area; and iii) Evolving scenarios for Higher Education.

ISSUE 1: Mobilizing Horizon Europe and Next Generation EU for promoting green and digital transitions across Europe and preparing resilient recovery with a renewed European Research Area

Horizon Europe is the EU's most ambitious R&I framework programme ever and the largest transnational programme of its kind worldwide, with its 95.4 billion euro budget. This innovative programme provides new instruments, such as the *European*

Innovation Council, *Research Missions* and revamped *Partnerships* to boost the EU R&I landscape. It establishes a target of at least 35% of expenditure for climate objectives as well as reinforces the EU's commitment to facilitate R&I collaborative links in Europe and sets up a broader policy for the association of third countries to the programme in order to increase a global R&I cooperation. Horizon Europe – as its predecessor Horizon 2020 - is firmly anchored in excellence with a deep commitment towards fundamental science.

The renewed European Research Area and the launch of Horizon Europe serve as unique opportunity to reaffirm the 3% EU GDP research and development investment target for 2030 and to recall the need to support all Member States in articulating research and innovation funding and conducting the necessary reforms. The launch of the programme marks the start of the European Innovation Council - a major new endeavor under Horizon Europe to accelerate innovations based on breakthrough technologies and game changing innovations and to scale up Europe's most promising start ups and SMEs into a new generation of world leading companies.

The new Recovery and Resilience Facility, core component of the Next Generation EU recovery package, represents a major chance for the Member States to get large-scale financial support for R&I investments and reforms. It is essential to exploit this in full **synergy** with *Horizon Europe*, in particular in the frame of its *Research Missions* and *Partnerships*. Horizon Europe through its powerful measures and new level of synergies with other EU programmes and instruments will pave the way out of the current crisis towards a fair, green and resilient future to everyone.

The Portuguese Presidency of the European Union followed up on the Trio programme and recommendations, the EC communication of September 30, 2020 and the Council conclusions of December 2020. The Presidency focused on the three main issues crucial to provide the European Research Area with more coordination and to encourage Member States to create synergies between their R&I investment and Horizon Europe:

1. Firstly, **science-employment-resilience relationship** is key to foster recovery of Europe while including every single European region in these efforts. Science and technology create new services and markets. Citizens need to be better informed of the significance of research and innovation for creating jobs and improving working conditions, including in professions, businesses and markets that have been hit the hardest by the pandemic, while increasing the role of socially responsible industry and entrepreneurs. Synergies between national and European programmes are essential in the frame of the Recovery and Resilience Plans.

2. Secondly, **open and collaborative research needs to be fostered to break through the frontiers of knowledge**. Examples include cancer research, genetically improved food, the physics of the universe, advanced materials and nanoscience, or quantum physics, among many other disciplines. Human activity has an unbalanced influence on Earth, as shown by alarming signals such as climate change and zoonotic diseases. Both phenomena have been increasing due to the pressure that our societies and their economic development exert on nature (e.g., Human Development Report, 2020, UNDP,^{15th} December).

The eventual scientific demonstration of these relations with the pandemic, with which we now live, requires **new knowledge** to be able to ask more accurate and difficult questions to better understand the risks we run, as well as to guarantee that **Europe leads the scientific evolution in this new geological era of the "Anthropocene"**. The new knowledge across disciplines, institutional innovation across public and private institutions, and new observation methods making use of low-orbit satellite systems are needed to better guide our common future. In this respect, the role of philanthropy and private foundations is becoming more relevant in promoting European R&I and should be carefully articulated with national funding agencies, scientific organizations and the European Commission.

3. Thirdly, we need to **fostering research careers and increase the professionalisation of research activities**, both in public and private sector, and make research careers more attractive for women and minorities in order to fully mobilise the R&I potential of the Union. **Europe needs more scientists** and must improve the conditions to attract talents and retain researchers. The European research ecosystem should promote transparent and coordinated recruitment procedures in R&I. Potential future avenues may consider joint recruitments schemes and joint career development across European Universities, as well as across research institutions in different EU Member States. The role of national funding agencies and their cooperation with the European Commission is crucial to ensure these synergies.

ISSUE 2: Promoting attractive research careers across Europe to help building a resilient recovery through a renewed, cohesive and inclusive European Research Area

There is a wide consensus throughout Europe about the need to further enlarge, attract and retain the best talent for research, which has been emerging in terms of the need to **foster research careers and increase the professionalisation of research activity** in both public or private sectors, through an European approach. By “career” we mean how researchers are recruited, how they are assessed, rewarded and eventually promoted, which are their employment conditions and what are the conditions for their mobility across sectors and countries.

This was one of the priority areas for policy action set out in the 2020 Commission communication and Council conclusions to revitalise the European Research Area (ERA). This priority is to be fully developed and implemented through the “ERA Forum for Transition”, set up with all Member States to act as the new R&I policy co-creation platform in Europe. One of the first outcomes in 2021 is a “Pact for Research and Innovation”, anchored in the values and principles that guide European research and innovation, in particular, as concerns the career of researchers. Overall, **Europe needs more scientists!**

Following the preliminary consultation process conducted in the context of the preparation of the Portuguese Presidency of the European Union in October-November 2020, as well as the *European Research and Innovation Advisory Committee (ERAC)* Workshop of December 15th on “labour market for research, skills, assessment and monitoring”, the Portuguese Presidency placed the research careers **debate** with in **key policy discussions for Europe**. In particular, it can only be effectively addressed in terms of the need to **increase the level of public and private investment in R&D throughout all European** regions, as explicitly acknowledged in the EC communication of September 2020, the Council conclusions of December 2020 on the ERA and the Council conclusions of May 2021 on research careers.

A • THE EVOLVING POLICY ACTIONS ABOUT RESEARCH CAREERS IN EUROPE OVER THE LAST 20 YEARS:

Since the Council Resolution **establishing the European Research Area (ERA)**, of June **2000**, the career of researchers has been a key dimension of the ERA. In **2003** initial steps were taken with the Commission Communication on “Researchers in the European Research Area: One profession, multiple careers” and the Council Resolution of 10 November 2003 on “the profession and the career of researchers within the European Research Area (ERA)”. In **2004**, the high-level report on “Increasing human resources in science and technology for Europe” was clear in promoting the message that “Europe needs more scientists”, which was the theme of a Conference organized by the Commission in April 2004. However, the European dimension of research careers remained an issue, as careers remained fragile and quite different across research institutions and countries, still with many precarious situations throughout Europe.

In the meantime, the *European Charter for Researchers* and the *Code of Conduct for Researchers Recruitment* were adopted in **2005** and in **2009**, in response to the French Presidency request supported by EU research ministers, the Luxembourgish Minister François Biltgen and the late Portuguese Minister José Mariano Gago proposed concrete political actions aiming at achieving immediate progress in the area of human resources for science and technology focused on better careers and more mobility¹.

We should also recognize that progress in science was deemed as necessary as innovation, priming scientists to accept their societal responsibility, joining forces, building and organizing communities, and providing evidence-based advice to inform policy. An impressive outcome of these activities was the establishment of the European Research Council (ERC) in 2007. Today, the ERC has grown to be one of the flagships of the European Union (EU) Framework Programs (FPs), and funding talent researchers has become the engine that fuels innovation.

Then, in 2010, the European Parliament approved a Resolution on “Better Career and more mobility: A European Partnership for researchers”. It offers the basis for a single European research career, as part of a single employment market for researchers. However, the European labour market for researchers is being developed at a very slow pace, with regards to the working and careers’ prospects of researchers.

¹ ST10003/09

In 2016, the Open Science Policy Platform was established by the European Commission in order to contribute to the co-development and implementation of open science strategies throughout Europe. In 2020, in its final report submitted to the Competitiveness Council, the Open Science Policy Platform identified the reform of the system used for assessing research, researchers and institutions towards a system that incentivises the practice of open science, as a priority.

Time seemed ripe for moving ahead and both the Council and the Commission have expressed support to further develop the European Competence Framework for Research Careers, as well as the inclusion of research as a profession in the context of the European Classification ESCO. This would allow for comparable statistical data, as well as interoperability between sectors and countries. Recently, the Roadmap proposed in the context of the **Commission Communication of September 30, 2020**, on **“A new ERA for Research and Innovation”**², considers the development by 2024 of a new toolbox in support of researchers career development, as well as other related measures addressing brain circulation and intersectoral mobility.

B • PROMOTING NEW POLICY ACTIONS FOSTERING EUROPEAN RESEARCH CAREERS:

It is under this context that the **European Research Council**, which has built a unique consensus across the research community in Europe, should continue to be strengthened, promoting recruitments following inter alia open, transparent, and merit-based principles and a better coordinated process across countries, including of training and career development systems.

Potential future avenues should also guarantee that EU, national, and local investments in performing training and career development systems are increased, to improve attractiveness of research careers across the entire ERA, thereby ensuring more **“multidirectional”** and **“balanced” brain circulation**, associated with strengthened responsible research careers. A stepwise approach to promote joint recruitments schemes and joint career development could be piloted in the “European Universities alliances”, as well as across research institutions at large in different EU member states. **The ultimate goal is to foster true European research careers.**

Mobilizing all stakeholders including national funding agencies and their cooperation with the European Commission is crucial to ensure these synergies, which may be further strengthened in close articulation with private foundations and the private sector in general.

The complexity of the issue in association with the need to continue promoting the autonomy of research and academic institutions, as well of the distinctive national public and private labour frameworks, implies that a special priority must be given to **the implementation of open observation, monitoring and reporting systems across Europe** about the framework conditions, working conditions and remuneration, **mobility “flows” and “stocks” of researchers**, as well as of career development systems and research career paths at institutional level. Although related conclusions have already been approved at the level of research ministers in the Competitiveness Council, such observation and reporting systems **remain to be implemented**. In particular, “pilot projects” could be tested at the level of the “European Universities Initiative”, as well as across higher education and research institutions from different EU member states, to foster European career development practices.

In addition, the debate should also considered the need to promote and mainstream a **renewed assessment system of researchers** and more **ambitious “European Charter for Researchers” and “Code of Conduct”** oriented to foster European research career development practices applied for multiple career paths. These processes should include clear recommendations for: i) **open observation, monitoring and reporting systems** across “European Universities”, as well as across research institutions at large throughout different EU member states; ii) improving **tenure track systems and strengthen team and career management and diversification** within academia; iii) **open science principles**, including the guarantee that career development is mainly associated with research publications freely available on journal websites, or through public repositories, as well as other open science practices, such as open access publishing, knowledge and data sharing, and open collaboration; (iv) expanding the Charter and Code beyond academia; and (v) a governance mechanism that provides incentives and raises visibility internationally.

It is in this context that the **Presidency promoted an active policy debate and Council Conclusions** about **research careers across Europe**, articulated with related issues across public and private systems, considering that careers are a national competence and preserving the autonomy of institutions. All the elements referred above were discussed and concrete orientations were given. This included, among others, the following priority themes to be carefully addressed throughout Europe:

² COM(2020) 628 final, 30.09.2020

- **Stimulating Research careers and recruitment of PhD talents in industry, SMEs and business firms:**

- Guarantee that the recently established **taxonomy for sustainable financing**, as developed in close articulation with the EU New Green Deal, promotes innovative, sustainable and regenerative businesses and entrepreneurial activities, stimulating research careers in industry, SMEs and business firms, together with an increasing level and scope of business and private R&D;
- Ensure better matching of transversal skills with the needs of business in search of highly skilled talents, to ensure better flow through of PhD talents, by mainstreaming involvement of business sector in research training and career development systems from the onset;
- Optimise the collaboration across ecosystem actors to leverage talent, by using and sharing talent at a national /regional level and across employers.

- **Improve Research careers in Research Performing Organizations, Research and Technology Organisations and in Higher Education Institutions:**

- Focus on early career researchers and on improving employment and working conditions;
- Improve employability of trainees by strengthening training and career development systems that involve non-academic sector from the onset, matching skills with needs, and increase career guidance;
- Improve recruitment, rewarding and assessment systems towards a better appreciation and valuation of **research performance beyond purely bibliometric indicators** based on journal's impact factors, in order to encourage openness, sharing and collaboration as a means of increasing research quality and impact. Also improve the recruitment, rewarding and assessment systems towards a better balance between educational, research, managerial and entrepreneurial achievements, thus **fostering true European practices for recruitment and career development**;
- Consider recommendations for a stepwise approach to **joint recruitment schemes**, piloted among "European Universities Alliances" and their surrounding ecosystem, and mainstreamed across higher education and research institutions at large, towards effective "multidirectional" and "balanced" brain circulation across Europe, associated with strengthened responsible research careers;
- **European Universities alliances can be considered as "testbeds"** for interoperability and promotion of cooperation between Member States regarding European research career development practices;
- Guarantee the **involvement of the RPOs, RTOs and HEIs** in the development, consolidation and refinement of the recently established **taxonomy for sustainable financing** to ensure scientific evidence is at the core of its criteria and to strengthen even more its level of ambition, robustness and impartiality. This will, in addition, promote the alignment of public funding with the objectives of the EU New Green Deal, contributing in greening public budget and harmonizing research careers in business firms and in RPOs, RTOs and HEIs.

- **Involvement of national funding agencies in cooperation with the EC:**

- Guarantee the implementation of open observation, **monitoring and reporting systems** across Europe about annual progress in framework conditions, working and employment environment and issues such as remuneration and social security, also on the annual **mobility "flows" of researchers**, as well as of **research career paths and progress in training and career development systems at institutional level**;
- Explore the possibility of **agreements among funding agencies and RTOs and HEIs on common principles for the assessment of research and researchers**;
- Promote the **articulation of national programs with Horizon Europe** to support the enlargement of the recruitment, training and career development and rewarding of early career researchers, promoting an adequate coordination across countries following open, transparent and merit-based recruitment principles, and facilitating joint recruitments across institutions in different countries;
- Foster the necessary articulation among national agencies and EC towards a stepwise process leading to a pan European job market for young researchers based on a common framework for research assessment.

- **Engage with private foundations to foster labour market opportunities for talent:**

- Articulate public action at national and European levels in close cooperation with **philanthropy, through private foundations, to stimulate more and better research careers** in RPOs, RTOs and HEIs, with a focus on young researchers and to further improve recruitment, rewarding and assessment systems, as well as promoting and mainstreaming **European career development practices;**
- Promote value creation by research institutions in close collaboration with private foundations, in particular spin offs, through adequate conditions including entrepreneurial skilling, incubators/accelerators, facilitating access to risk finance.
- Stimulating research careers and attention to scientific evidence in policy making:
 - Ensure professional mobility between research and policy organizations (i.e., national and local government, public sector agencies) to reinforce the provision of scientific knowledge and expertise in support to policymaking (i.e., “science advice to policy”).

Overall, the successful evolution of the European Research Area should consider the necessary practices and frameworks fostering better research careers across business firms, Research and Technology Organisations and Higher Education Institutions, together with an increasing level and scope of business and public R&D.

The implementation of the renewed European Research Area, as set out in the EC communication of September 2020 and the Council conclusions of December 2020, and reaffirmed by ERAC, will be supported by an “**ERA Forum for Transition**” in which all Member States will participate.

ISSUE 3: On the evolving scenarios for Higher Education towards a digital, green, resilient, social and global Europe

The vision to build the “European Education Area” by 2025 in close articulation with the strengthening of the “European Research Area” and the “higher education transformation agenda”, as well as fostering the sustainable growth of “European Universities” will drive the discussion across Europe in terms of the conditions to foster knowledge and learning in the coming decades.

Looking towards the future of higher education institutions in Europe, the Council Resolution of the 26th February 2021 promotes “a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030)”. The establishment, by 2025, of an agenda for higher education transformation was identified as a concrete action in higher education, with a focus on inclusion, innovation, connectivity, digital and green transition, and international competitiveness, fundamental academic values and high ethical principles, as well as employment and employability. In addition, significant insights have been published by many institutions and stakeholders, including the European University Association (“Universities without walls – a vision for 2030”). Also, the policy report produced by the European Commission “Towards a 2030 vision on the future of universities in Europe”, of September 2020, considers a forward-looking and future agenda for higher education.

Preserving European diversity of higher education together with promoting a common European vision and values towards a strengthened European identity among youngsters and citizens has become a unique challenge for policy making in higher education throughout Europe. It requires promoting synergies among regional, national and European instruments and policies. The goal is to guarantee the necessary skills and competences among learners fostering different European and global cultures, in different languages, and across borders, sectors and academic disciplines.

It is under this context that the ‘European Universities’ initiative establishes a diversified set of inclusive pan-European partnerships, based on excellence and inclusion in learning, teaching, research and innovation, covering a broad geographic scope across all parts of Europe. They are oriented to contribute to shared, integrated long-term education, research and innovation strategies, as well as engaging society at large, in order to strengthen the knowledge landscape across European regions and boost the quality, attractiveness and societal empowerment of European higher education institutions.

Although higher education institutions encompass an increasingly diversified set of supply schemes and increasingly share together online and physical resources, courses, expertise, data and infrastructures to leverage their strengths and become lowing:

1. Guarantee **‘European Universities’ as “test beds” for student-centred approaches**, addressing societal challenges and skills needs in Europe by working in partnership and building European knowledge-creating, transdisciplinary and transnational teams of students and academics (‘challenge-based approach’), together with researchers, businesses, regional actors and civil society actors. In cooperation with their surrounding innovation ecosystems, higher education institutions must be able to prepare students, graduates and early career researchers to profit from the opportunities available and become agents of change for the twin green and digital transformations. This approach should consider:

- **Making lifelong learning a reality in higher education**; introducing innovative pedagogies and student-centred curricula, jointly delivered across European inter-university campuses, where a diverse student body can build flexible learning paths at all levels of their studies and career. Micro credentials can help to complement full degree programmes by widening learning opportunities and making the learning experience more flexible and modular contributing to upskilling and reskilling;
- **Embedding physical, blended and/or virtual mobility in the curricula**, in line with the quality standards in Europe and in Member States, and where practical and/or work-based experience is provided by external mentors to foster an entrepreneurial mind-set and developing civic engagement;
- Creating **new and more inclusive learning environments** that reach out to disadvantaged and non-traditional learners and contributes to strengthening the social dimension of European higher education systems.

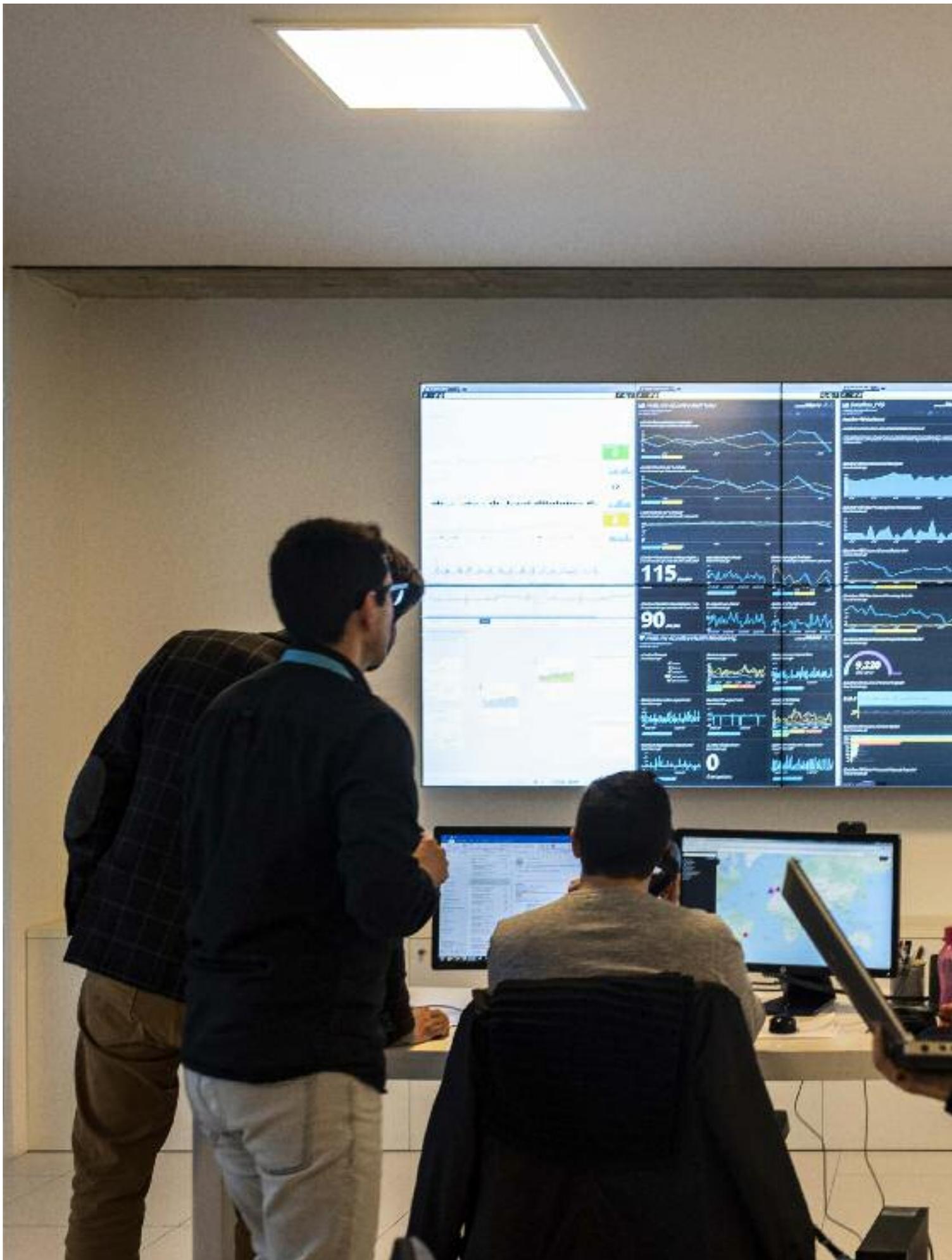
2. In addition, and as mentioned in the previous chapter, it is essential to guarantee that ‘European Universities’ are capable of using, in full, the EU’s excellent research and innovation capacity in the higher education sector, supporting a new generation of highly skilled and competitive European researchers, and a stronger dimension of research and innovation in Europe. This should consider

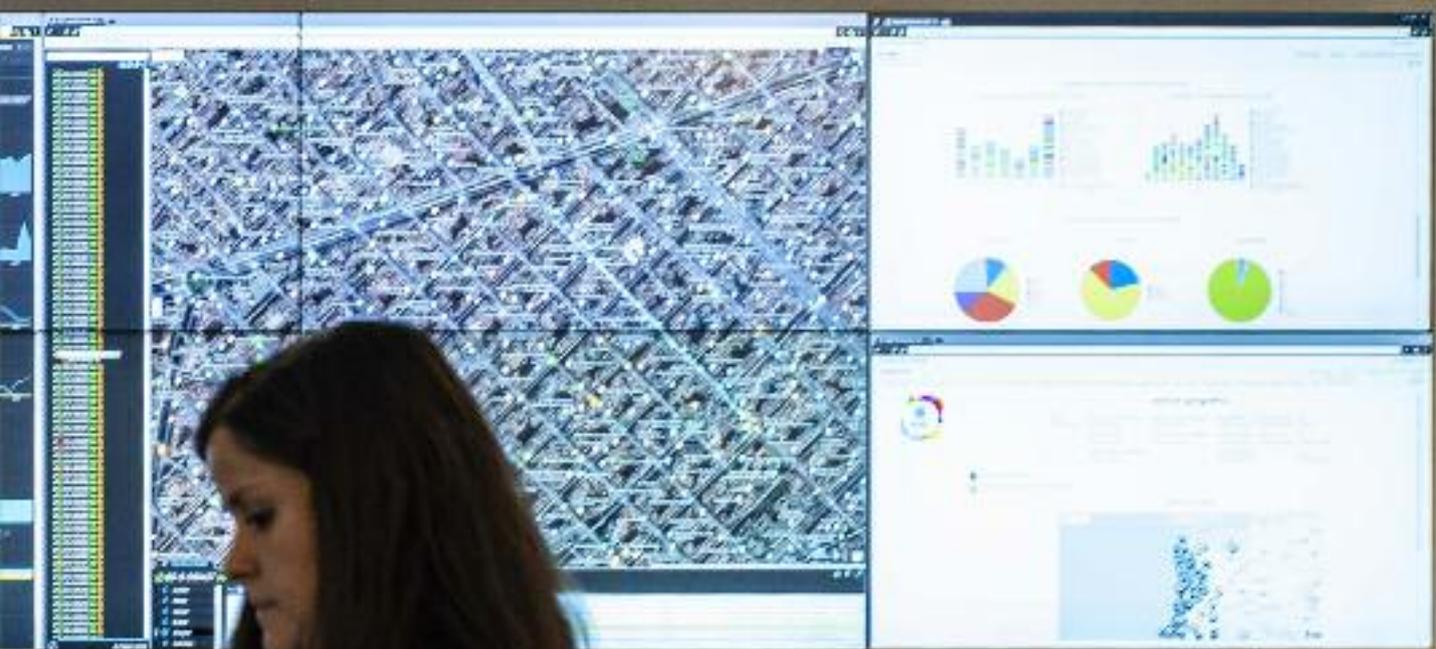
- Acting as “test beds” for responsible research and teaching, including: i) dissemination of **open observation, monitoring and reporting systems** about research and teaching careers; ii) improved **tenure track systems and strengthen career management and diversification**; iii) **adoption of open science principles**, including the guarantee that career development is mainly associated with research publications freely available on journal websites, or through public repositories, as well as other open science practices, such as open access publishing, knowledge and data sharing, and open collaboration;
- Fully adoption of the **“European Charter for Researchers” and “Code of Conduct”** oriented to foster **European research career development practices applied for multiple career paths**.
- Improving recruitment, rewarding and assessment systems of researchers and teachers towards a better appreciation and valuation **of research performance beyond purely bibliometric indicators** based on journal’s impact factors, in order to encourage openness, sharing and collaboration as a means of increasing research quality and impact. Also improve the recruitment, rewarding and assessment systems towards a better balance between educational, research, managerial and entrepreneurial achievements, thus **fostering true European practices for recruitment and career development**.

Acting as a role model for a transformation of higher education, and as a **bridge between the European Education Area and the European Research Area**, establishing increasingly stronger partnerships where joint recruitment of academics and researchers becomes the norm and where their careers can develop in harmony.

In the context of the Conference on the future of Europe, it is our firm belief that Research, Innovation and Higher Education, in two words knowledge and skills, play a pivotal role and should be seen as enablers for growth and recovery as well as in its own value.

We sincerely hope that the debates and results achieved in these 6 months can be valuable contributions for the debate on the future of Europe and the years to come.



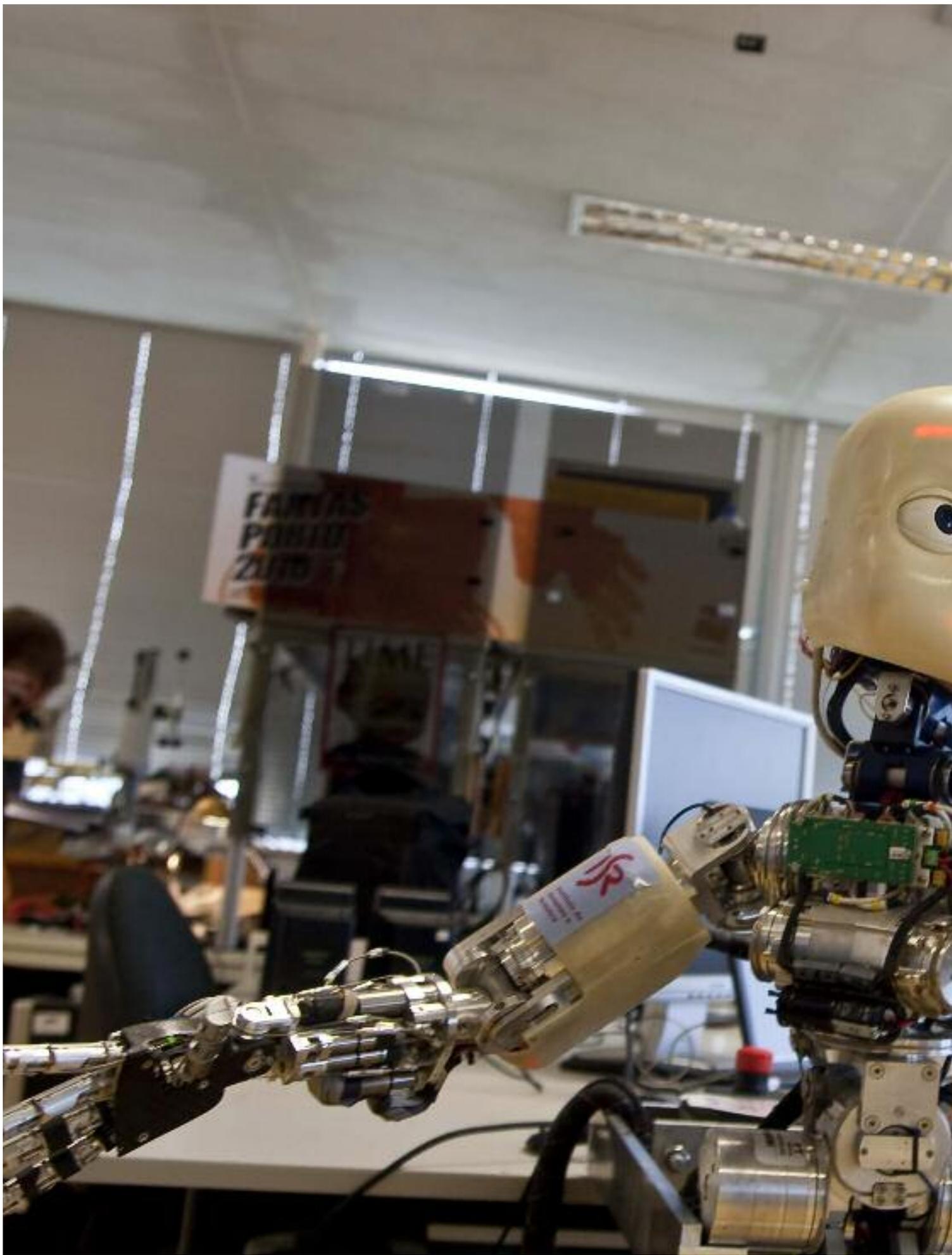
















Mariya Gabriel

Commissioner for Innovation,
Research, Culture, Education and Youth



PREFACE



Europe faces an important turning point in the next decade. The socio economic challenges linked with the green and digital transitions require forward-looking approaches.

I believe that we are well equipped. With the new ERA, we are proposing an ambitious policy framework. With Horizon Europe we have an unprecedented R&I programme, both in terms of budget but also in terms of scope. It supports the full range of research - from basic science to targeted impact-driven research and innovation. There is also more attention and more resources to support the access to excellence by less performing countries.

We have also the urgency to overcome the pandemic crisis and put in place a robust recovery. I very much appreciated the debate promoted during the presidency on synergies between Horizon Europe and the Next Generation EU.

With a great sense of delivering, we could advance in many areas related with research, innovation and higher education developing further the intersections between the European Research Area and the European Education Area. This was the case of the excellent Council conclusions on research careers.

I am very pleased with the concrete steps in key policy files of my portfolio: from Council conclusions on researchers' careers and on European universities, to the declarations on cancer research, on humanities, or open research and innovation. International collaboration was also high in the agenda as for example with the Lisbon manifesto on earth observation for Africa and Europe, looking at science as an effective channel of dialogue and geopolitical diplomacy.

I congratulate the Portuguese Presidency for the very pertinent agenda, covering all the above critical subjects, advancing on many legislative files like the Horizon Europe partnerships.

We have difficult discussions ahead to advance on a new Pact for Research and Innovation. Even if the momentum is there, we need to deepen the coordination with Member States and stakeholders.

I can count on the Portuguese research and innovation community. It was very rewarding to see, during my two visits to Portugal, their efforts to be part of European networks. This was clear in the events I participated at the Centro Ciência Viva, or at the new national HPC centre in Guimarães, and in the Porto innovation ecosystem with the Fraunhofer and CeiiA labs.

The Forum for Transition, launched at the beginning of the presidency semester, is an example of the willingness to advance quickly with ambition, avoiding the lowest common denominator.

I commend this book bringing together key areas of the political debate during the Semester we are about to conclude and a good deliverable to handover to the Slovenian Presidency.



Jean Pierre Bourguignon

President, European Research Council (ERC)



PREFACE



We are living in very special times. On the one hand, the pandemic has struck the whole world at an unprecedented speed, requiring that political leaders take rapid and sometimes unpopular decisions. Those decisions had to be informed by scientists providing the political echelon with key facts on the situation and the possible consequences of the steps to be taken. On the other hand, several challenges, that have been with us for quite some time, such as climate change, digital transition and growing inequalities, have generated an even more pressing demand for sustained actions. These challenges too can only be addressed through close international collaborations between scientists and policy makers that share data and identify critical paths to follow, several of them directly impacting the society at large. This can only be achieved by “taking the long view”.

This combination of pressing short-term actions and necessary long-term commitments, including a thorough monitoring of their implementation, is a major challenge to democracies where, too often, confronting the power in place comes with the claim that it has done everything wrong. The need to establish broadly accepted facts-based goals requires in-depth discussions and informed exchanges in which the scientific community at large must be involved. The extraordinary achievement of having vaccines for CoViD-19 available in less than a year teaches us in the most spectacular way that gaining knowledge in itself is essential if one wants to be able to raise the readiness level of our societies for the next crises to come. It was indeed the rapid sharing of data and the understanding of key processes that accumulated over decades – with other purposes in mind –, coupled with massive industrial investments and elaborate social organisation, which made the decisive step of offering vaccination to billions of people possible. This is why the title *“Utopia and Knowledge”* that Minister HEITOR gave to this booklet is highly appropriate.

We are indeed moving into a society in which knowledge is going to play an increasingly decisive role. Hence all channels through which knowledge is produced have to be understood and mobilised. Of course a major one involves the scientific communities. In order to enter this new way of life with a positive mindset, and hope is vital for society to develop in a healthy way, one has to give frontier research and innovation the appropriate visibility. This cannot happen without a radically improved way of having the scientific community engage with decision makers and the public at large. Producing documents like this booklet which summarises actions and discussions that took place during the Portuguese EU Presidency on issues related to research and innovation is a welcome step in the right direction.

To make it possible to move forward at the needed pace and with the appropriate momentum, it is the collective responsibility of policy makers and scientists to give explicit signs to young people that their involvement in science is cherished and, indeed,

essential for Europe's future. They must see clear prospects for being employed in research if they have the talent and the ambition to orient their lives accordingly. Why? Because researchers are at the heart of the research process. One has to ensure that they will be provided with enough freedom and support to pursue the research questions they have chosen to tackle. And, as a matter of great urgency, we need to plot out a sustainable career path for motivated young researchers who are probably the ones most hit by the restrictions that had to be introduced during the pandemic.

Recognising the pressing need to take the next generation on board is essential for the future of Europe at a moment when its natural competitors in North America and in Asia are making long-term commitments with much higher budgets than European governments have so far decided to put in place. Europe has no other choice but to make the most of its talents and resources and provide the best possible foundation for heading into an increasingly unpredictable future. We owe it to all citizens of Europe



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Main events and issues discussed during the Portuguese Presidency of the Council of the European Union, 2021, in the areas of Research, Innovation and Higher Education



Part 1:

Conclusions approved by
the Council of the European Union
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THE COUNCIL OF THE EUROPEAN UNION

**Council conclusions on
“Deepening the European Research Area: Providing researchers with attractive and sustainable careers
and working conditions and making brain circulation a reality”**

*Adopted by the Council at its 3797th meeting held on 28 May 2021.
Conclusions will be published in the Official Journal of the European Union*

RECALLING

- the Council Resolution of June 2000³ establishing a European area of research and innovation (ERA) and including focus on human resources and attractiveness of scientific and technological professions;
- the Council Resolution of 10 November 2003 on the profession and the career of researchers within the European Research Area that called on Member States and the Commission to *inter alia* share and develop evaluation and appraisal systems, improve working conditions for researchers and stimulate intersectoral mobility of researchers and that invited the Commission to report regularly⁴;
- the Council conclusions of 18 April 2005 on reinforcing human resources in science and technology in the European Research Area⁵;
- the conclusions of the European Council of 13 and 14 March 2008, which called upon the Member States to remove barriers to the free movement of knowledge by creating a “fifth freedom” based in particular on making the labour market for researchers more open and competitive, providing better career structures, transparency and family friendliness;
- the Council conclusions of 30 May 2008 on family-friendly scientific careers: towards an Integrated Model, which recalled the crucial role of research and technological development policy for Europe in the context of the Lisbon Strategy and stressed the importance of women’s role in science and technology and to develop better work-life balanced conditions, as well as making scientific careers more family-friendly⁶; the Council conclusions 26 September 2008 on “Better careers and more mobility: a European Partnership for researchers”, stressing the need to keeping a balance between the opening-up at the European level and the autonomy of institutions, reinforcing the principles and values of the European Charter for Researchers and the Code of Conduct for Recruitment of researchers⁷ (hereafter Charter and Code) and the need of monitoring the progress at national and EU levels⁸;
- the report of Ministers Biltgen (LU) and Gago (PT) of 18 May 2009 on a European partnership to improve the attractiveness of research and technology development (RTD)-careers and the conditions for mobility of researchers in Europe⁹ proposing diversified research career paths, dual careers, family conditions and flexicurity and invited for synergies with other Council formations;
- the Council conclusions of 2 March 2010 on European researchers’ mobility and careers¹⁰ and its conclusions of 1 December 2015 on research integrity¹¹ and advancing gender equality¹²;
- the European Parliament Resolution published in April 2010¹³ on better career and more mobility, in particular asking for a single European career model, urging for a European Pension Fund and calling on Member States to make the returning to home institutions more attractive for researchers;

³ OJ C 205, 19.7.2000, p. 1.

⁴ OJ C 282, 25.11.2003.

⁵ 8194/05.

⁶ 10212/08.

⁷ 2005/251/EC of 11 March 2005.

⁸ 13671/08, 7652/1/08 REV1.

⁹ 10003/09.

¹⁰ 6833/10.

¹¹ 14853/15.

¹² 14846/15.

¹³ 2010/C 87 E/20

- the Conclusions of the European Council of February 2011¹⁴ that stressed that Europe needs a unified research area to attract talent and investment and that called for the creation of a genuine single market for knowledge, research and innovation;
- the Council conclusions of 28 and 29 November 2011 on the modernization of higher education asking for open and transparent recruitment procedures and a European Framework for Research Careers; the Council conclusions of 29 May 2015¹⁵ on the European Research Area Roadmap 2015-2020 highlighting *inter alia* the role of human capital in the advancement of the ERA and the necessity to strengthen comprehensive human resources strategies and the empowerment of young researchers by providing them with attractive career pathways;
- the Council conclusions of 27 May 2016¹⁶ on the transition towards an Open Science system;
- the Council conclusions of November 2016¹⁷ on measures to support early-stage researchers and increase the attractiveness of the research careers, which link the careers with the Skills Agenda and called upon the Commission in particular to develop monitoring processes for measuring researchers' mobility flows within the European Union (EU) and with third countries;
- the Commission Recommendation (EU) 2018/790 of 25 April 2018 on access to and preservation of scientific information, that in particular call for Member States to set and implement clear policies for adjusting, with regards to scientific information, the recruitment and career evaluation system for researchers, the evaluation system for awarding research grants to researchers, and the evaluation systems for research performing institutions;
- the Council conclusions of 30 November 2018¹⁸ on the governance of European Research Area, which stressed the importance of the development of the labour market for researchers in Europe, linking Open Science with reward and assessment mechanisms, as well as skills development schemes for researchers and called for better synergies with the European Higher Education Area (EHEA);
- the Opinion on the future of the ERA adopted by European Research Area and Innovation Committee (ERAC) on 17 December 2019¹⁹ that outlined the main elements for a "New ERA";
- the Bratislava Declaration on Young Researchers from 2016 conveying the need for better research careers and the Zagreb Call for action on Brain Circulation 2020 linking the improvement of researchers' careers to the need of better performing national/local research ecosystems in order to contribute to a more balanced brain circulation; the European Skills Agenda adopted by the Commission on 30 June 2020 called to develop a European Competence Framework for researchers, supporting the development of a set of core skills for researchers, skills taxonomies, and related training, in line with the European Pillar of Social Rights;
- the Commission communication of 30 September 2020²⁰ on "A new ERA for research and innovation";
- the Council conclusions of 1 December 2020²¹ on the New European Research Area which invited the Portuguese Presidency to develop further in cooperation with the Commission the topic of research careers, and stressed the need for stronger synergies between the ERA and the higher education related elements of the European Education Area (EEA);
- the European Pillar of Social Rights which highlights the ERA as a cornerstone to making Europe competitive and sustainable and unlocking opportunities through innovation, and the related Council Recommendation on social protection²² which encourages Member States to improve access to social protection for all.

¹⁴ EUCO 2/11.

¹⁵ 9351/15.

¹⁶ 9526/16.

¹⁷ 15013/16.

¹⁸ 14989/18.

¹⁹ ERAC 1201/20.

²⁰ 11400/20 + ADD1.

²¹ 13567/20.

²² Council Recommendation 2019/C 387/01 of 8 November 2019.

I INTRODUCTION

1. RECOGNISES that researchers and other research and development (R&D) personnel across the public and private sectors are at the heart of research and innovation (R&I) systems and that the ERA, established by Article 179 of the Treaty on the Functioning of the European Union, aims at the creation of an internal market for research with free circulation of researchers, knowledge and technology to ensure high quality knowledge production, diffusion and innovation; and HIGHLIGHTS that despite progress made so far, challenges still persist and more coordinated action is needed.

2. With a view to pursuing an ERA policy agenda, and taking into consideration the ERA Roadmap set out by the Commission, namely on the priority “deepening the ERA”, NOTES the importance of adequate framework conditions for research careers, including work-life balance²³, employability and access to social protection for all²⁴.

3. RECALLS that enhancing the attractiveness of research careers across the Union is a vital element of the “New ERA”, by creating inclusive and supportive working and employment conditions, including lifelong learning, for more sustainable and appealing researchers’ careers and, consequently, attracting the best talents without any bias and retaining excellent researchers from Europe and abroad.

4. WELCOMES the Commission proposals in the ERA Communication for a toolbox of support measures to strengthen research careers and other related actions, such as those related to open science, inclusiveness and access to excellence (e.g. EURAXESS and facilitate brain circulation).

5. CONSIDERS that research careers go beyond R&I policies, mobilising other public policies like employment, social and education policies, recognising potential for synergies and horizontal coordination; STRESSES the importance of national, regional and sectorial dimensions and of preserving the autonomy of the organisations.

6. STRESSES that cross-border and cross-sectoral cooperation, openness, sharing, fair recruitment, competition and value creation from knowledge underpinned in R&I activities contribute to the development of sustainable and attractive research careers.

7. HIGHLIGHTS that ERA has successfully fostered mobility of researchers, removed barriers to circulation and career development, through among others, the Charter and Code and its implementing mechanisms, including the Human Resources Strategy for Researchers and EURAXESS, the Marie Skłodowska-Curie Actions (MSCA), European Cooperation in Science and Technology (COST) and widening measures; however, despite progress, the European and international dimension of research careers still requires continued joint efforts and commitments by Member States and the Union.

II • MOBILITY, BRAIN CIRCULATION AND RESEARCH AND INNOVATION SYSTEMS

8. RECALLS that geographical, intersectoral and interdisciplinary mobility of researchers and other R&D personnel is a core dimension of the “New ERA”, and that the Union and Member States should strive for brain circulation to address the unbalanced flow of researchers; RECOGNISES that brain circulation depends on adequate framework conditions, interoperable and attractive research careers and the overall quality and attractiveness of the research system; ENCOURAGES Member States to improve the quality of the research and innovation systems with adequate framework conditions, including sufficient R&I investment and implementation of reforms as needed.

9. RECOGNISES that impacts of mobility on research careers development is highly relevant in earlier stages of careers, as researchers are more likely to search for suitable positions, mentoring, progress on their career, better remuneration and employment conditions, wellbeing and work life balance as well as by the quality of research ecosystems.

10. EMPHASISES that fair recruitment and competition for talent between institutions and systems, are essential elements to improve attractiveness of research systems; HIGHLIGHTS the need to invest in national and local research

²² EDirective (EU) 2019/1158 of 20 June 2019.

²³ Council Recommendation 2019/C 387/01 of 8 November 2019

systems and create appropriate and fair working conditions for career development, with a view to eliminating a major driver for the imbalances in flows within the internal market and beyond.

11. UNDERLINES that uneven flows of researchers and brain circulation needs to be addressed not only at national level, but also at European level through policy measures and instruments, whereby requiring comparable data from different countries; CALLS on the Commission to develop instruments and measures to attain this aim, such as through the ERA Hubs and ERA4You, the Widening Actions and support instruments to design and implement reforms in the national R&I systems, including with the support of the Horizon Policy Support Facility.

12. HIGHLIGHTS the importance of incentive schemes for the promotion of mobility and career development at European level (ERASMUS+, MSCA, ERC, COST) as well as national return and integration schemes; LOOKS FORWARD, in this context, to the outcome of the study on support measures for researchers to return to their country of origin within and to the Union, foreseen in Horizon Europe that can be a useful tool, if appropriate and justified, to modernise or enhance research training programmes and systems as well as to increase institutions' attractiveness worldwide.

III • OPEN LABOUR MARKET FOR RESEARCHERS

13. UNDERLINES that one of the priorities of the ERA Roadmap 2015-2020 - "Open Labour market for researchers" (ERA priority 3) is to increase mobility of researchers in Europe, by openness of recruitment to achieve a well-functioning labour market for researchers; LOOKS FORWARD to its evaluation, including possible recommendations and measures.

14. STRESSES the increasing trend towards precariousness of employment in academia, loss of talent and reduction of job security in many countries, aggravated by the COVID-19 pandemic; NOTES that suboptimal balance between institutional and project-based funding lead to short-term, project-based contracts that do not give a long-term perspective for researchers, as shown by the fact that temporary grant-based contracts dominate the early-career path in academia; RECOGNISES that the number of academic positions is limited and that researchers are increasingly likely to find a job outside academia or to reach a permanent position in academia at a later stage in their professional careers; and ASKS Member States and the Commission for appropriate instruments and tools promoting attractive working conditions within and beyond academia.

15. RECOGNISES that there are numerous barriers faced by early-career researchers both within and outside academia, lacking adequate guidance mechanisms and involvement of other sectors in their training and career development systems, which can result in a skills mismatch with the available jobs in the labour market; STRESSES that early-career women researchers face additional specific barriers.

16. HIGHLIGHTS that the skills mismatch observed in the labour markets of many countries result from the fact that doctoral training tend to focus on an academic research career path, research skills and standard academic incentives, thus not providing the right transversal skills for talents to move to other sectors, whose absorption capacity for academic profiles is limited; UNDERLINES the need to support career development and counselling services, including advice regarding career choices in all career stages; and ENCOURAGES a stronger role for skills intelligence in informing policy decisions and the considerations on researchers and research careers when designing national measures or strategies in this field; and UNDERLINES that doctoral training in collaboration with the private sector helps to bridge the difference in culture and boost the required research skills outside the academia, thus fostering employability.

17. UNDERLINES in these contexts the importance of upskilling and reskilling and transversal skills, in particular digital skills; and INVITES the Commission to promote initiatives in synergy with the Pact for Skills to maximise the impact of skills investment by bringing together public and private stakeholders.

18. HIGHLIGHTS the need to enlarge the doctoral training programmes building on the example of the MSCA Doctoral Networks, beyond academic training, including transferable skills valuable to other sectors, and the involvement of other sectors in the training systems for early-career researchers from the onset in order to improve matching with skill requirements beyond the academic sector. In this regard, RECOGNISES the importance of policy measures that promote wider access to training and of career development instruments, as well as the promotion of value creation from knowledge, entrepreneurship and support to start-up creation, where relevant; and INVITES the Commission to explore these options in the design of ERA4You on the basis of Member States' best practices.

19. NOTES that the range of factors that influence uneven flow of researchers are, amongst others, remuneration levels, pensions, social security and other employment conditions, which are largely determined at national, regional or institutional level.

20. NOTES the diverse and essential roles highly skilled talents play in successful research and innovation systems across the ERA like data stewards, research (e-)infrastructure operators, research facilitators, knowledge brokers, innovation and technology transfer managers and coordinators, among others; NOTES that these roles need to be acknowledged and supported via training and career development instruments to optimise job opportunities; and INVITES Member States and the Commission to develop measures in support of career diversification and multiple career paths.

IV • ATTRACTIVE EUROPEAN FRAMEWORK FOR RESEARCH CAREERS

21. NOTES that a European flexible framework for research careers is essential for creating conditions to retain and attract talents to Europe facilitating interoperability, comparability, career breaks and mobility; WELCOMES the technical work undertaken by the Commission towards the 2021 update of the ESCO classification²⁵ and the development of a European Competence Framework for researchers to allow the profession to be recognised at European level; similarly, NOTES the work to be done on EURES²⁶, and ASKS the Commission to develop a taxonomy of Skills for researchers²⁷ in order to allow the statistical monitoring of brain circulation and to discuss with Member States on a set of indicators accordingly, and propose a training scheme to foster national expertise.

22. RECOGNISES that coherent global, European and national taxonomy levels will facilitate interoperability between careers of different sectors and intersectoral mobility, in full respect of the autonomy of the universities, research organisations and businesses.

23. UNDERLINES that current reward and assessment practices are largely based on bibliometrics rather than on what researchers deliver and how (excellence and impact), and should evolve towards a more qualitative assessment, which may impact on the diversification of research careers, taking into account open collaboration and knowledge and data sharing, valorisation of research, intersectoral aspects and, where relevant, societal engagement; HIGHLIGHTS the need to explore more talent-based and diversity-sensitive quality measurement, going beyond publication and citation metrics and taking into account excellence of research, teaching and skills, impact, services to society (e.g. patient care), open science practices, team science, mobility, management and leadership skills, entrepreneurship and collaboration with industry, among others; NOTES the experiences and reforms underway in Member States and in the research organisations and universities asking for a European approach to the evaluation of researchers' talent; WELCOMES the Commission ongoing consultation on reforming research assessment, among policy makers (EU, Member States levels), research funders, research performers and other stakeholders.

24. NOTES that the revision of the scope addressed by the Charter and Code is in progress in the ERA-related groups and the Commission in co-creation with stakeholders, and CONSIDERS analysis of further evolution to a single framework with a more holistic approach addressing all challenges beyond values and principles and broadening its focus to sectors beyond the academia; HIGHLIGHTS that the renewed "Charter & Code" should provide guidelines for further improvements in the recruitment, selection, rewarding and assessment systems of researchers across Europe; in this context, INVITES the Commission to analyse best practices at national level and present proposals by 2022, *inter alia* for tenure track systems, research assessment, career diversification, work-life balance, incentives to hire early-career researchers and to address gender equality, interoperability with industry and improving EURAXESS governance and services.

25. WELCOMES the reform and broadening of EURAXESS network, services and portals towards a talent management platform, with linkages with EURES and EUROPASS, and other transnational networks, in particular Widening national contact points, bridging researchers and institutions and helping absorb talent in countries and regions while continuing to ensure seamless quality services across the network; CALLS on the Commission and Member States to co-design and co-develop the next phase of EURAXESS towards an ERA Talent Platform.

²⁵ ESCO: European Skills Competences, Qualifications and Occupations.

²⁶ Regulation (EU) 2016/589 of 13 April 2016 on a European network of employment services (EURES), workers' access to mobility services and the further integration of labour markets.

²⁷ 9349/20

26. STRESSES the importance of safeguarding and enhancing freedom in scientific research and research careers; NOTES the fact that researchers are increasingly exposed to threats and hatred when they participate in debates, share their result and contribute to the advancement of knowledge; HIGHLIGHTS that Member States, Research Organisations and Higher Education Institutions need to address this problem.

V • PROVIDING RESEARCH CAREERS WITH BETTER WORKING CONDITIONS AND FAMILY FRIENDLINESS

27. RECOGNISES that researchers' careers tend not to be developed within a single sector or country and that mobile researchers tend to have multiple research career paths while their social protection benefits²⁸, including pensions, are often not portable or comparable and tend to be valid only in the country where they were acquired.

28. ACKNOWLEDGES that social security and pension schemes are national competences and NOTES the progress realized by the pan-European supplementary Pension scheme RESAVER and the need for more visibility and diversification of portfolios to facilitate adoption by organisations, including foundations and the business sector and better articulation with national systems; EMPHASISES that analysis of existing instruments and tools and share of best practices should be promoted.

29. UNDERLINES the need to promote a better work-life balance and family friendly environment as part of career prospects including childcare and schooling provisions, career breaks, parental leave and dual-career opportunities.

30. HIGHLIGHTS the importance of promoting equal opportunities, inclusiveness and gender balance namely in career accession and progression, including in top leading positions, reducing precarity as well as assessing the impact of COVID-19, among others, on women's and minority groups' careers.

VI • ACCESS TO EXCELLENCE, NURTURING TALENT AND REDUCTION OF INEQUALITIES

31. HIGHLIGHTS the need to strengthen public and private investment in R&D in Europe and to support lower performing research systems to increase their attractiveness to avoid brain drain, loss of competitiveness due to persistent inequalities and promote retaining talent in all its diversity; STRESSES that aiming at achieving the 3% GDP R&D target, and ensuring synergies among EU programmes and EU and national programmes will contribute to these purposes.

32. STRESSES the importance of supporting reforms in the national research systems to ensure the attractiveness of research careers and address the divergence in the remuneration levels while improving the reward and assessment systems. Revamped Commission tools, such as the Technical Support Instrument and the Horizon Policy Support Facility, can help in designing and implementing these needed reforms; CONSIDERS that the Gender Equality Plans in Horizon Europe could be a promising tool to achieve more equality within research careers.

VII • INTERSECTORAL, INTERDISCIPLINARY, VIRTUAL AND INTERNATIONAL MOBILITY

33. HIGHLIGHTS the importance of interdisciplinary research to contribute to excellent science and of intersectoral mobility on fostering scientific employment, obtaining better knowledge exchange and uptake, acquiring a wider set of research related skills and better matching these to the needs beyond academia.

34. STRESSES the importance of inter-sectoral mobility to provide significant opportunities for employment and career development especially for early-career researchers; HIGHLIGHTS that mobility between sectors can take many shapes (from academia to industry, business, public entities, non-profit organisations, cultural sectors, and *vice versa*, as well as business creation) and STRESSES that the training and career development systems should build mobility opportunities and guidance mechanisms for STEM domains as well as for social sciences and humanities; RECOGNISES the importance of appropriate criteria for the proper evaluation and rewarding of researchers undertaking intersectoral mobility.

²⁸ See footnote 22

35. CONSIDERS that ERA4You scheme needs to be co-designed by the Commission and Member States in order to foster mobility and access to excellence, including for those researchers in countries with low R&I performance, and should primarily target early-stage career researchers preparing them for career opportunities beyond academia; EMPHASISES the need to foster international and intersectoral mobility and improve links between academia, businesses and society, offering opportunities at Member State and EU level, by exploring best practises and new schemes building on those offered through programmes such as MSCA which equips its fellows with intersectoral and international experience.

36. NOTES the need to establishing solid partnerships between academia and non-academic sectors for identification of skills needs, researcher training and career development systems; UNDERLINES the importance of doctorates under the responsibility of academia, generated in partnership with industry, as a good practice example, already implemented in the MSCA, also taking advantage of virtual means.

37. CONSIDERS that attraction and retention of talent in Europe needs improved conditions for early-career researchers, promoting gender equality, taking away remaining administrative barriers and fostering meritocracy as well as adapting systems of remuneration, social security and pensions to non-linear careers.

38. CONSIDERS the merit in using the recently established taxonomy for sustainable financing to promote innovative businesses, entrepreneurial activities and stimulating research careers in industry, SMEs and business firms, together with an increasing level and scope of business and private R&D.

VIII • SYNERGIES BETWEEN EUROPEAN HIGHER EDUCATION AREA AND EUROPEAN RESEARCH AREA

39. RECALLS that stronger synergies and interconnections between the ERA, the higher education related elements of the EEA and the EHEA (the Bologna Process), are to be developed further; CONSIDERS that synergies between the “New ERA” and the EEA could possibly be realised through a comprehensive Higher Education Transformation Agenda, developed together with Member States and stakeholders, will enable empowering the European higher education sector in their education, research, innovation and service to society missions; HIGHLIGHTS that strengthening research careers and reinforcing research links with learning and teaching and supporting research-based education should be a major component of this Agenda.

40. To ensure full synergies between ERA, EHEA and EEA, CALLS on the Commission to support Member States in designing policy measures for seamless and ambitious transnational cooperation between higher education institutions in Europe notably in the area of academic and research careers which are often intertwined, promoting inclusiveness, leveraging excellence and raising the international competitiveness of Europe’s higher education sector, thereby increasing attractiveness for talents from within and outside Europe.

41. CONSIDERS that the European Universities Initiative, supported in ERASMUS+ and complemented under Horizon 2020, is another crucial element in terms of synergies; AGREES that European Universities alliances and their partnerships with local ecosystems are suitable platforms to test possible models fostering interoperability of research careers, and to explore possibilities for joint recruitment schemes, training and career development systems accommodating both research and teaching aspects, as well as for testing new reward and assessment systems, including for research-based teaching; and INVITES the Commission to analyse the results of these pilots and make proposals taking into account the aforementioned aspects.

42. HIGHLIGHTS the potential that the European Innovation Council (EIC) and the European Institute for Innovation and Technology (EIT) have with regard to the higher education sector to nurture entrepreneurship in researchers and support the creation and scaling up of start-ups and SMEs in Europe.

IX • MONITORING

43. CONSIDERS the development of an observatory for monitoring of research careers trajectories, doctoral and post-doctoral holders flows of talent, including geographical and sectoral mobility and working conditions to allow for the assessment of sustainability and attractiveness of research careers, and of the level of change in inequalities; AGREES that a European approach on research profession is key to develop statistical data on mobility and talent circulation and identification of trends, patterns, skills and gender gaps and labour market dynamics; and INVITES the Commission,

in cooperation with Member States, to set a permanent, comprehensive and transparent monitoring system that takes into account the needs of various stakeholders to allow the evaluation of EU actions; ASKS the Commission to diffuse the results of the study currently underway with the OECD to develop better data on stocks and remuneration conditions; in addition, ASKS the Commission to collect and transparently present the data on EU Framework Programme-facilitated mobility flows within the EU.

X • ERA PRIORITY ACTIONS

44. CALLS on Member States and the Commission to improve skills and training for early-stage careers to boost recruitment and career progression and to promote measures to reduce precarity of research careers, inter-generation inequality and provide early-career researchers with sustainable, predictable and attractive research careers; and ASKS future presidencies to further develop and explore this outstanding issue.

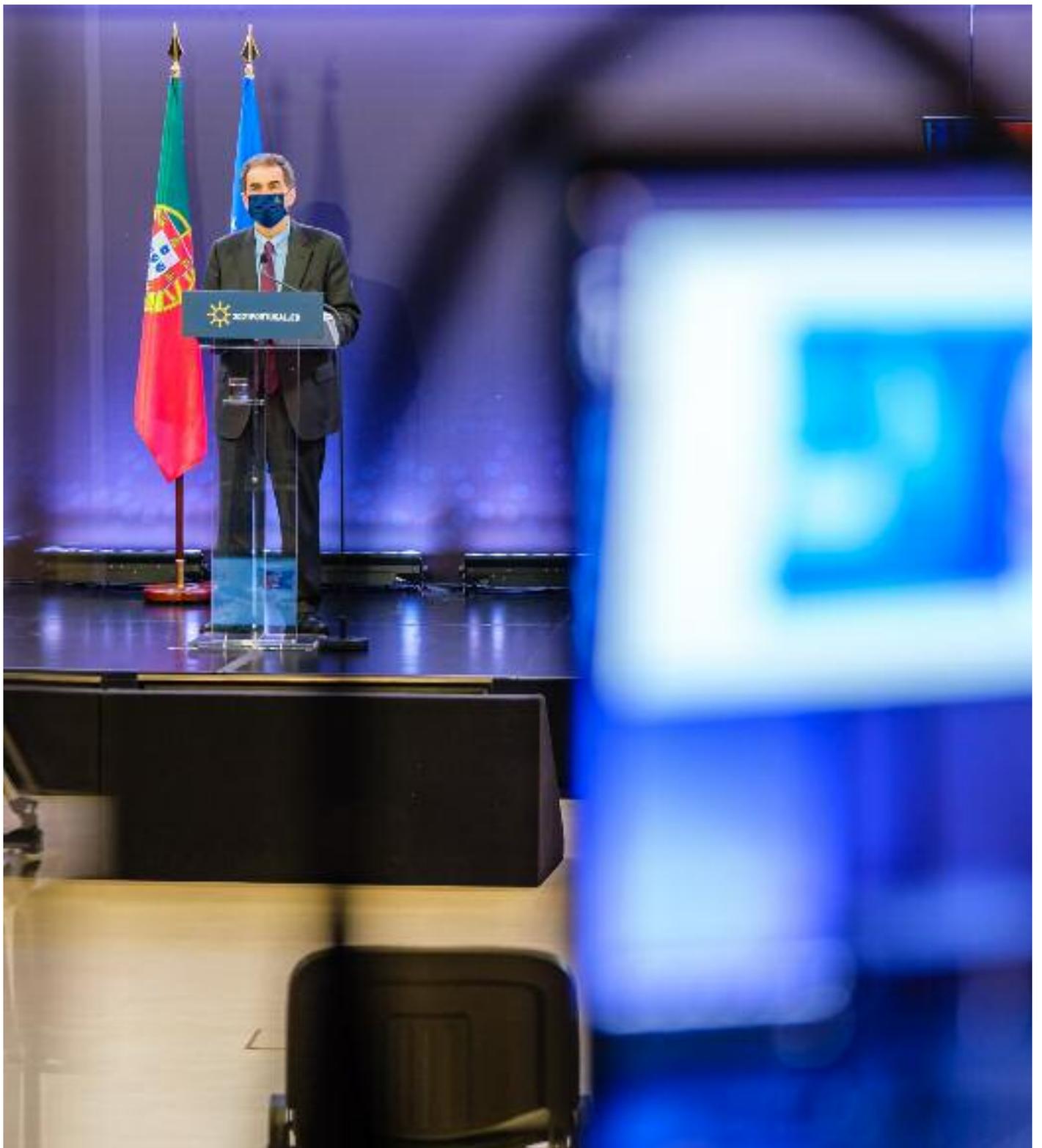
45. INVITES the Commission to propose an implementation roadmap for the Observatory on Research Careers in order to provide sound data for mobility, career paths, employment and working conditions.

46. SUGGESTS to Member States, research and technology organisations and non-academic sectors, in particular business sector, to consider coordinated action towards the creation of diversified career paths to reduce skills mismatch and matching expectations of the doctoral trainees.

47. ENCOURAGES Member States to take as a priority the issue of R&I investments and reforms in the above-mentioned areas in their national policies; and INVITES Member States and the Commission to bring this issue further in the context of the future ERA policy agenda.

48. INVITES Member States, the Commission, higher education institutions (HEIs) and research performing organisations (RPOs) and Research Funding Organisations (RFO) to work together towards a broad development and application of modern assessment and rewarding practices in order to set the right incentives including for open science practices. Guide the development of 'European Universities' as "testbeds" for interoperability and promotion of cooperation between Member States regarding European research and teaching career development practices.







Part 2:

Conclusions approved by
the Council of the European Union - EDUCATION:

• Council Conclusions on “European Universities”, 19 May 2021



THE COUNCIL OF THE EUROPEAN UNION,

**Council Conclusions on European Universities initiative –
Bridging higher education, research, innovation and society:
paving the way for a new dimension in European higher education**

Adopted by the Council on 19 May 2021.

Conclusions will be published in the Official Journal of the European Union

RECALLING the political background to this issue as set out in the Annex to these conclusions,

HIGHLIGHTING THAT:

1. the European Council Conclusions of 14 December 2017 called on the Member States, the Council and the European Commission to take work forward on strengthening strategic partnerships between higher education institutions across the EU and encouraging the emergence by 2024 of some twenty 'European Universities', consisting of bottom-up networks of higher education institutions across the EU which will enable students to obtain a degree by combining studies in several EU countries and contribute to the international competitiveness of 'European Universities',
2. in its Conclusions of 28 June 2018, the European Council called for cooperation between research, innovation and education to be encouraged, including through the European Universities initiative,
3. the Council Conclusions of 22 May 2018 on moving towards a vision of a European Education Area further acknowledged the flagship role that the 'European Universities' could play in the creation of a European Education Area as a whole,
4. the Council Resolution of 8 November 2019 on further developing the European Education Area to support future-oriented education and training systems endorsed the further development of the European Universities initiative considering that this could be a game-changing step forward in cross-institutional cooperation by offering various inspirational visions, models and themes for interaction to support the future development of the European Education Area in accordance with the changing needs of society,
5. in the first ever joint policy debate held on 8 November 2019, ministers of finance and education stressed the need to step up effective and efficient investment in education and training, skills and competences, in terms of quality, quantity, inclusiveness and equity,
6. the Council Resolution of 27 February 2020 further acknowledged investment in education and training as the most powerful investment that can be made in people and in the future and its social and economic returns for individuals, employers and society as a whole,
7. in the Council Conclusions of 1 December 2020 on the New European Research Area, the Council stressed the need for stronger synergies and interconnections between the European Research Area and the higher education related elements of the European Education Area, and identified institutional transformations, research careers, science education, training, international cooperation and knowledge circulation as possible areas of further cooperation,
8. [PLACEHOLDER: 19 February 2021 Resolution on EEA]

AWARE THAT:

9. Higher education policies are primarily decided at the level of the individual Member-states, in accordance with the subsidiarity principle.

10. Higher education institutions are autonomous and academic freedom is central to their existence.
11. European higher education institutions are rich in diversity in terms of their history, organisational structures, fields of study and the regions in which they are located and to which they are connected.
12. 'European Universities' are open to partners from all types of higher education institutions and cover a broad geographic scope across Europe.
13. 'European Universities' will play an essential role in achieving the ambitious vision of an innovative and globally competitive European Education Area and European Research Area, by helping to boost the inclusive and excellence dimension of higher education, allowing for seamless and ambitious transnational cooperation between higher education institutions in Europe, and inspire the upcoming Higher Education Transformation Agenda.
14. 'European Universities' are instrumental in resetting education, training and research for the digital age, within the Digital Education Action Plan (2021-2027), the European Education Area and the new European Research Area, by helping to develop virtual and face-to-face European inter-university campuses. In so doing, this initiative will boost research, help to implement innovative models of digital higher education and Open Science and therefore foster a high performing digital education and research ecosystem, which has become increasingly important in current times.
15. 'European Universities' are foreseen in the European Skills Agenda as a relevant key to ensure that people have the right skills for jobs, in particular within the full rollout of the European Universities initiative under the Erasmus+ programme 2021-2027 and Horizon Europe and throughout the setting of standards for the transformation of higher education institutions across the European Education Area and the European Research Area, also making lifelong learning and talent circulation a reality.

NOTES THAT:

16. After two Erasmus+ calls for proposals, complemented by Horizon 2020 support, 41 'European Universities' involving more than 280 higher education institutions across Europe are now working towards their shared vision and institutional transformation, aiming at a structural, systemic and sustainable impact on education and training, research and innovation.
17. The first phase covered around 5% of all higher education institutions in the European Union and programme countries of Erasmus+, striving for an inclusive and equitable coverage in order to achieve the initiative's goals, especially the promotion of European values and the strengthening of the European identity.
18. The selection criteria are based on inclusion and excellence in learning and teaching, research, innovation, knowledge transfer and geographical balance, within the first two calls, since European cohesion, inclusion and competitiveness are amongst the objectives of the 'European Universities'. The selection results and ambitious vision of each 'European University' prove that the geographical balance added quality to the 'European Universities'.
19. Higher education institutions have proved to be resilient in managing the impact of the COVID-19 pandemic, but it has also revealed weaknesses regarding equitable access, support for staff, researchers and students (in particular vulnerable students), mobile early career researchers and digital capacity. A survey of the 'European Universities' showed that being a member of a 'European University' helped them to navigate the crisis and will allow them to recover faster by pooling their resources and strengths together.
20. European labour markets are transforming rapidly, especially influenced by the COVID-19 pandemic and the digital transitions, and flexible learning opportunities are needed at all stages of life and across disciplines and sectors.

WELCOMES:

21. The fact that the European higher education community has taken up the initiative so enthusiastically and thereby has enabled the swift and sound progress already reached.
22. The full rollout of the European Universities initiative under the Erasmus+ programme 2021-2027 and the envisaged

synergies with Horizon Europe in order to, where appropriate, complement the Programme's support for the European Universities initiative as part of developing new joint and integrated long-term and sustainable strategies on education and training, research and innovation, as well as increasingly foster the integration of education, training and research, in particular in higher education institutions.

23. The 'European Universities' strive for a completely new quality and ambitious level of deeper cooperation between higher education institutions across Europe, while exploiting synergies with other existing successful cooperation models like knowledge alliances, Knowledge and Innovation Communities of the European Institute of Technology (KICs-EIT), Marie Skłodowska Curie Actions (MSCAs) or strategic partnerships within national and European programmes.

ACKNOWLEDGES THAT:

24. The European Universities initiative aims to contribute to a more united, stronger, digital and green Europe, open to the wider world by increasing the resilience, geographical and social inclusiveness, performance, attractiveness and international competitiveness of European higher education institutions.

25. 'European Universities' contribute to a new quality of transnational cooperation through interinstitutional strategies that combine teaching, learning, research, innovation and knowledge transfer into the economy and the society at large.

26. 'European Universities' can be important vehicles for transforming teaching and learning by developing innovative methods. They are also important platforms for further developing the research dimensions within higher education institutions that need to invest in research-based learning, as well as stable, flexible and attractive research and teaching careers.

27. In line with the vision for a European Education Area and its achievements by 2025, the new European Research Area and the upcoming Higher Education Transformation Agenda, the European Universities initiative should be guided to:

- a) Promote a common European vision and including fundamental academic values contributing to a strengthened European identity for a new generation of citizens, equipping them with the necessary skills and competences to be able to cooperate and co-create knowledge within different European and global cultures, in different languages, and across borders, sectors and academic disciplines.
- b) Establish European inter-university campuses, based on inclusion and excellence in teaching, learning, research and innovation, covering a broad geographic scope across all parts of Europe.
- c) Contribute to shared, integrated long-term education and training, research and innovation strategies, as well as service to society, in order to boost the quality, attractiveness and competitiveness of European higher education institutions and to strengthen the knowledge square. Higher education institutions pool together online and physical resources, courses, expertise, staff, data and infrastructure to leverage their strengths and become more resilient.
- d) Foster 'European Universities' as "testbeds" for teaching and research, including dissemination of open observation, monitoring and reporting systems for teaching and research careers; improved tenure track systems and strengthened career management and diversification; and adoption of open science principles and practices, such as open access publishing, knowledge and data sharing, as well as open collaboration.
- e) Promote the adoption of the "European Charter for Researchers" and "Code of Conduct", oriented to foster European research career development practices, applied to multiple career paths.
- f) Improve recruitment, rewarding and assessment systems of teachers and researchers towards a better recognition and balance between educational, research, managerial and entrepreneurial achievements thus fostering true European practices for recruitment and career development.

- g) Address societal challenges and skills needs in Europe by working in partnership and building European knowledge-creating, transdisciplinary and transnational teams of students and academics, together with researchers, businesses, regional actors and civil society actors. In cooperation with their surrounding innovation ecosystems, higher education institutions prepare students, graduates and early career researchers to take the opportunities offered and become agents of change for the twin green and digital transformations.
- h) Encourage the full use of the EU's excellent research and innovation capacity in the higher education and research sectors, supporting a new generation of highly skilled and competitive European researchers, increased research excellence and reinforced knowledge transfer and innovation capacity in Europe, for example through closer links with the MSCAs under Horizon Europe.
- i) Make lifelong learning a reality in higher education, inter alia through the increased use of micro-credentials, by introducing innovative and student-centred pedagogies, jointly delivered across European inter-university campuses, where a diverse student body can build flexible learning paths at all levels of their studies and career. Micro-credentials can help to complement full degree programmes by widening learning opportunities and making the learning experience more flexible and modular, while ensuring agreed quality standards; and open access to higher education and engage adults, with or without a higher education degree, promoting reskilling and upskilling through flexible alternatives.
- j) Embed physical, blended and/or virtual mobility in the curricula, in line with the quality standards in Europe and in Member States, and practical and/or work-based experience by external mentors to foster an entrepreneurial mind-set and develop civic engagement.
- k) Create new and more inclusive learning environments that reach out to disadvantaged and non-traditional learners and contribute to strengthening the social dimension of European higher education systems.
- l) Embed areas for transformation in research and innovation, notably developing a common research and innovation agenda and sharing of research infrastructures to create critical mass, strengthening human capital, reinforcing cooperation with non-academic actors in surrounding innovation ecosystems, mainstreaming of outreach to citizens and society, and engaging in reform and modernisation of research assessment systems.
- m) Establish ever stronger alliances in which joint enrolment of students and joint recruitment of academics and researchers becomes the norm and enable their education and research careers to develop in a flexible way within the alliance.
- n) Move towards mainstreaming education in sustainable development across all levels and disciplines, and in making STEM fields more attractive, including to women.
- o) Act as role models for European higher education transformation, for the implementation of the Bologna key commitments, including automatic recognition of qualifications and learning periods abroad, and as a bridge between the European Education Area and the European Research Area.
- p) Pave the way to accelerate the transformation of all European higher education institutions towards the universities of the future, hence strengthening their competitiveness in the international context and the global race for talents.

INVITES THE MEMBER STATES, WITH DUE REGARD TO INSTITUTIONAL AUTONOMY, ACADEMIC FREEDOM AND IN ACCORDANCE WITH NATIONAL CIRCUMSTANCES, TO:

28. Fully use the potential of all available regional, national and EU funding mechanisms, including the new opportunities under the Recovery and Resilience Facility, European Structural and Investment Funds (ESIF), and the InvestEU, towards strengthening the links between education and training, research, and innovation, as well as capacity building for regions with lower levels of research and innovation, thereby ultimately reducing the innovation gap with a geographically balanced participation of higher education institutions in future alliances.

29. Work together to remove remaining legal and administrative obstacles towards more compatible higher education systems, and deeper strategic alliances of higher education institutions, building on the extensive work that has already been developed through the European Education Area, the Bologna Process and the European Higher Education Area, by investing in measures such as the European Student Card Initiative, automatic mutual recognition of degrees and diplomas and mobility periods within study programmes, including by digital means, quality assurance of programmes and institutions, accreditation of joint programmes, joint recruitment, and the possible creation of a European Degree.

30. Find co-funding mechanisms for higher education institutions engaged in 'European Universities', through specific funding programmes, specific strategic funds or based on their basic and performance-based funding.

31. Adapt national legislation to enable the use of European approach for Quality Assurance of Joint Programmes, reinforcing institutional linkages and procedures between evaluation, accreditation, and quality assurance agencies, to find modalities of mutual recognition and to encourage joint accreditation of degrees and diplomas, as well as to simplify the accreditation by members of the EQAR quality assurance agency.

32. Adapt national legislation towards a European approach to micro-credentials oriented to help widen learning opportunities and strengthen the role of higher education institutions in lifelong learning, as well as to guarantee a larger take-up of micro-credentials to serve social, economic and pedagogical innovation in higher education.

INVITES THE COMMISSION AND THE MEMBER STATES IN LINE WITH THEIR RESPECTIVE COMPETENCES AND WITH DUE REGARD TO THE SUBSIDIARITY PRINCIPLE, TO:

33. Keep fostering the establishment of flexible, diverse, geographically balanced and sustainable models of alliances, linked to local ecosystems, providing space for innovation and creativity, and the development of good practices for cooperation can be inspiring to other higher education institutions.

34. Support the 'European Universities', whilst respecting their institutional autonomy, to create the capacity and appropriate environments for fostering balanced and consistent modern infrastructures and career paths in all partners.

35. Create closer synergies between the European Education Area, the European Research Area and the European Higher Education Area. The 'European Universities' can be instrumental for developing important bridges with their research and challenge-based teaching approaches.

36. Consider sustainable funding for the 'European Universities', so that they are able to deliver on their ambitious long-term strategy, which requires structural and institutional changes. To reach the initiative's very ambitious goals, a significantly higher funding per alliance will be necessary.

37. Support the 'European Universities' in reaching the ambitious target of 50% mobile students, administrative staff, teachers and researchers, focusing on balanced physical, virtual or blended mobility schemes and brain circulation.

38. Ensure that the initiative is inclusion and excellence based, open to all types of higher education institutions and to all students irrespective of their socio-economic background, promoting the use of common and shared infrastructures, equipment and facilities.

39. Organise continuous exchanges between the European Commission, Member States, the 'European Universities' and the ad-hoc expert group composed of experts from the Member States to discuss and tackle existing barriers to cooperation, develop solutions and put them in place. The 'European Universities' should be enabled to share their good practices and experiences with higher education institutions across Europe.

40. Encourage higher education institutions to embrace the values, principles and modernisation actions of the upcoming Higher Education Transformation Agenda, as a key initiative between the European Education Area and the new European Research Area.

41. Support a sustainable cooperation between higher education institutions at European level that allows realising the objectives of both the European Education Area and the new European Research Area and strengthen the competitiveness of 'European Universities' in the international context and the global race for talent.

INVITES THE COMMISSION, IN LINE WITH ITS COMPETENCES AND WITH DUE REGARD TO THE SUBSIDIARITY PRINCIPLE, TO:

42. Evaluate, in close cooperation with Member States and ‘European Universities’, the first phase of the European Universities initiative to identify barriers, shortcomings, challenges and possible solutions and a view of further development of the ‘European Universities’ and the rollout of their full and ambitious potential and to report back to the Council on an annual basis.

43. Guide the development of ‘European Universities’ as “testbeds” for interoperability and promotion of cooperation between Member States regarding European research and teaching career development practices.

44. Consider recommendations for ‘European Universities’ to follow a stepwise approach to joint recruitment schemes for teachers and researchers, towards effective and balanced brain circulation across Europe.

45. Within the context of the upcoming Higher Education Transformation Agenda and the European Education Area and in full respect of the national higher education systems, develop clear proposals, hand in hand with the relevant higher education authorities, and relevant stakeholders, to help remove existing legal or technical barriers for cross border cooperation at the European level, so the ‘European Universities’ can live up to their full potential, leverage their strengths and jointly deliver transformative higher education, for example, by exploring the possibility of developing a European Degree by promoting further European cooperation on quality assurance and automatic recognition in higher education, and by exploring the necessity and the feasibility of a legal statute for alliances of higher education institutions such as the ‘European Universities’;

46. Foster the development and use of new pedagogies and simplified administrative procedures by investing in digital infrastructures.

47. Examine how EU programmes, funds and financial instruments will be able to support the ‘European Universities’ in a simplified and streamlined manner with a sound budget aimed to sustainability on a competitive basis and for an extended period, while fostering related synergies. Taking the different funding opportunities and target groups of EU-programmes into account, ways should be explored of how to make them available to the ‘European Universities’.

48. Maintain the successful bottom-up approach in the Erasmus+ programme 2021-2027, giving all types of higher education institutions the opportunity to develop ambitious ‘European Universities’, testing different models for cooperation and being thematically open.

49. Encourage ‘European Universities’ to make best use of policies and initiatives that support them to become more innovative and entrepreneurial, such as HEInnovate, and promote collaboration with the KICs-EIT.

50. Continue close cooperation with Member States in the co-creation and further development of the ‘European Universities’, namely through the Erasmus+ Programme Committee and the ad-hoc expert group.

ANNEX I TO THE ANNEX

POLITICAL BACKGROUND

1. Council conclusions on a renewed European Agenda for higher education (20 November 2017)
2. Conclusions of the European Council (14 December 2017)
3. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Digital Education Action Plan (17 January 2018)
4. Council Conclusions on moving towards a vision of a European Education Area (22 May 2018)
5. Conclusions of the European Council (28 June 2018)
6. Council Recommendation on promoting automatic mutual recognition of higher education and upper secondary education and training qualifications and the outcomes of learning periods abroad (26 November 2018)
7. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on Coordinated Plan on Artificial Intelligence (7 December 2018)

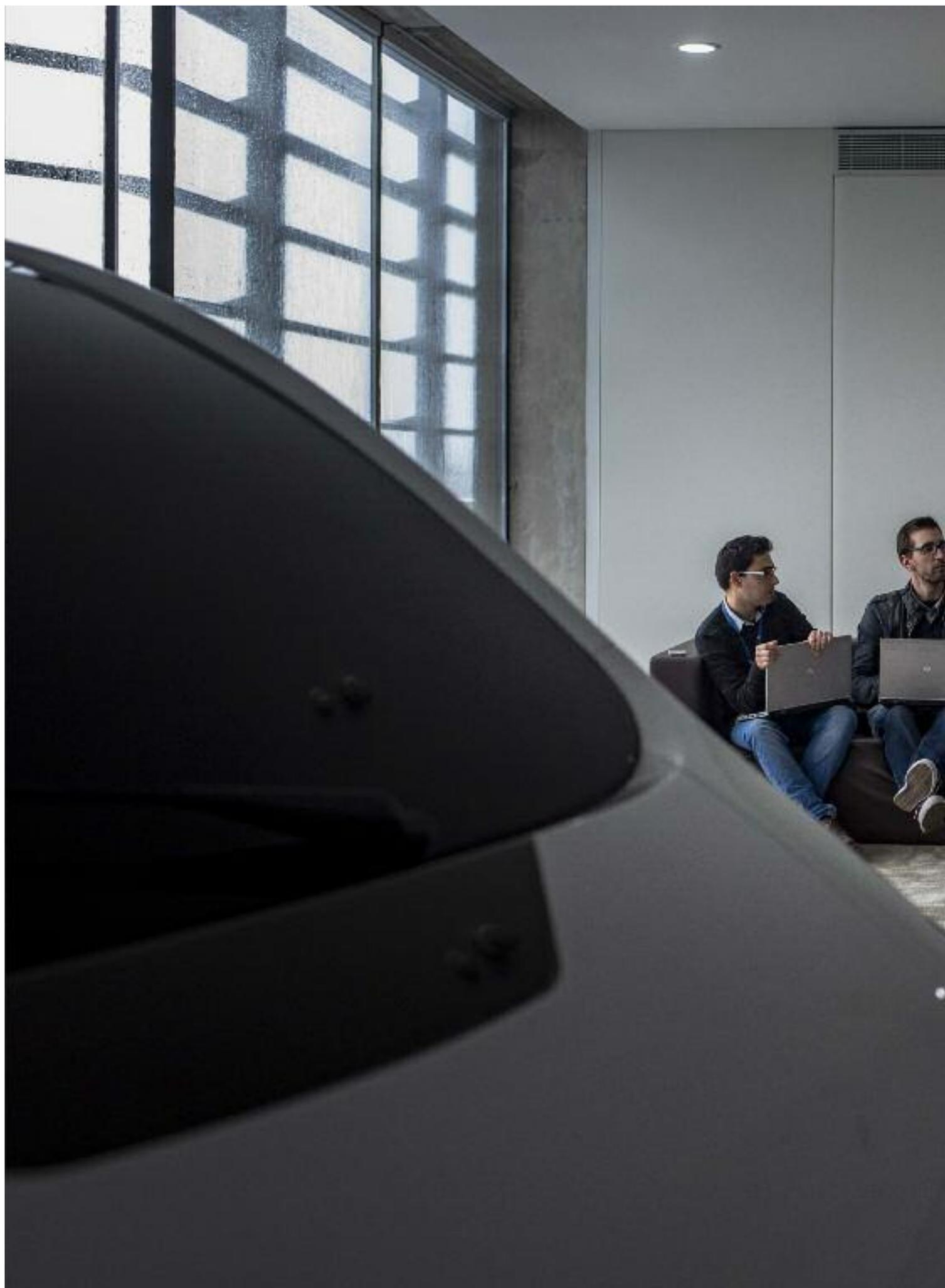
8. Council conclusions on the future of a highly digitised Europe beyond 2020: 'Boosting digital and economic competitiveness across the Union and digital cohesion' (7 June 2019)
9. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions - 'The European Green Deal' (11 December 2019)
10. Council Conclusions on the key role of lifelong learning policies in empowering societies to address the technological and green transition in support of inclusive and sustainable growth (8 November 2019)
11. Council conclusions Towards an ever more sustainable Union by 2030 (9 April 2019)
12. European Council: The New Strategic Agenda 2019-2024 (20 June 2019)
13. Council Resolution on further developing the European Education Area to support future-oriented education and training systems (8 November 2019)
14. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions 'A strong Social Europe for just Transition' (14 January 2020)
15. Council Resolution on education and training in the European Semester: ensuring informed debates on reforms and investments (27 February 2020)
16. Council conclusions on countering the COVID-19 crisis in education and training (26 June 2020)
17. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on "European Skills Agenda for sustainable competitiveness, social fairness and resilience" (1 July 2020)
18. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Digital Education Action Plan 2021-2027 – Resetting education and training for the digital age (30 September 2020)
19. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on achieving the European Education Area by 2025 (30 September 2020)
20. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on A new ERA for Research and Innovation (1 October 2020)
21. Council Conclusions on digital education in Europe's knowledge societies (24 November 2020)



















Part 3:

Manifestos and declarations

- PORTO DECLARATION ON CANCER RESEARCH
- LISBON DECLARATION ON HUMANITIES, OPEN RESEARCH AND INNOVATION
- THE AZORES DECLARATION ON ALL ATLANTIC RESEARCH & INNOVATION FOR A SUSTAINABLE OCEAN
- RIDING THE NEXT WAVE OF RESEARCH DATA DECLARATION
- THE LISBON MANIFESTO ON EARTH OBSERVATION FOR AFRICA AND EUROPE
- PORTO DECLARATION ON HIGHER EDUCATION AND CULTURE:
TOWARDS THE CONSTRUCTION OF A EUROPEAN CULTURAL CORRIDOR
- LISBON MANIFESTO ON CITIZEN-CENTERED, RESEARCH-DRIVEN CREATIVE INDUSTRIES
- MINHO MANIFESTO ON EUROPEAN HIGH-PERFORMANCE COMPUTING FOR SCIENCE AND INNOVATION
- CHAVES MANIFESTO ON EUROPEAN MINERAL WATER RESEARCH, INNOVATION AND VALORISATION



PORTO DECLARATION ON CANCER RESEARCH

*Launched at the Cancer Research Summit 2021, Porto, 3rd May 2021,
and open for signatures at <http://ipoportoenevento/european-cancer-research-summit-2021>*

The undersigned call for a collective action throughout Europe towards a comprehensive translational cancer research approach focused on personalized and precision medicine and covering the entire cancer research continuum, from prevention to care. This requires specific actions to strengthen a network of well distributed and interconnected high-quality infrastructures for translational research, clinical and prevention trials and outcomes research, to ensure that science-driven and social innovations benefit patients and individuals at risk across the healthcare systems in the European Union (EU).

We consider that such a European-wide deployment of high-quality infrastructures has the potential to achieve in 2030 a 10-year cancer-specific survival for 75% of patients diagnosed in EU member states with a well-developed healthcare system.

This target is critically important because cancer is one of the major health problems affecting our society, a situation that is set to deteriorate globally as the population grows and ages. The yearly burden of cancer is expected to increase in the EU member states from the current 3.5 million to more than 4.3 million by 2035. Over this period, the number of individuals that live with a cancer diagnosis during and after treatment and may require regular screening and specialized care, including rehabilitation and psychological and socio-economic support, will rise even steeper.

We, therefore, consider that the fight against cancer will be more successful if Europe relies on a shared network that acts in concert and hence call on all EU member states to strengthen and further develop their existing national initiatives in the areas of prevention, early detection, diagnosis, treatment and long-term follow-up or support.

Under this context, the **Cancer Research Summit 2021**, organized by the Portuguese Presidency of the EU in collaboration with the European Commission, focused on key aspects of cancer research that are essential for the successful implementation of the *Europe's Beating Cancer Plan* and *Europe's Cancer Mission* goals established under the Horizon Europe Program for 2021-27.

The Summit followed the Declaration on effective cancer research "**Europe United against Cancer**" signed on October 13, 2020, by Germany, Portugal and Slovenia, under the EU Council Presidency Trio in order to guide future directions for research and related links with the health systems throughout Europe.

Reducing the increased cancer burden will require the implementation of concerted actions covering the whole cancer research/care/prevention continuum, spanning from basic and preclinical research through clinical and prevention research to outcomes research. Further, research must cover all components of cancer therapeutics/care and prevention with active citizen/patient participation in the full translational cycle from research to patient care or disease prevention, ensuring that the patient is at the centre of shared decision-making.

Concerted actions across this continuum that spans from basic and preclinical research through clinical and prevention research to outcomes research, as well as the establishment of high-quality networked infrastructures will pave the way not only to clinical innovation, but also to the mitigation of economic and social inequalities across European countries. This requires strengthening the following network of distributed and **interconnected high-quality infrastructures for translational research, clinical research, and outcomes research**.

These three infrastructures all cohere and are integrated in well-known infrastructures in Europe – the Comprehensive Cancer Centres (CCCs). These CCCs have the multidisciplinary expertise, capacity and integration of clinical care, research, education, samples, data, trials and core facilities to be the major engine rooms of progress in these three areas of activity. They perform according to international standards set by OECI and German Cancer Aid (for Germany) and EACS intends to expand its Designation of Research Excellence to those with the most leading-edge science. Thus they represent an existing accredited and networked foundation for the aims of the Cancer Mission and Europe's Beating Cancer Plan.

We urge Member States to use this existing network as a foundation, and commission appropriate consulting expertise to develop new CCCs (10 Member States lack them) and develop networks of care and research around CCCs – to meet the following three infrastructure needs.

1 • Infrastructures for translational research:

Translational research bridges basic/preclinical research with clinical and prevention research and builds on inventions and innovations from basic/preclinical research to directly impact therapeutic and prevention research. Complex and advanced infrastructures are required to bridge with healthcare (Comprehensive Cancer Centres).

Molecular and digital pathology is essential for stratifying patients for systemic treatment with anticancer agents and liquid biopsies are being implemented as a complementary diagnostic/monitoring tool. Infrastructure support is also increasing in complexity for radiation and surgical therapy, imaging and immunotherapy. Identification of relevant early tumor lesions for prevention is a strategic research area. The collection of treatment and biological data combined with biobanking provide infrastructures for bidirectional translational research and computational science.

Consortia of advanced CCCs linked to basic/preclinical research are needed, and Cancer Core Europe is the first example of such a consortium. With successful proof of principle clinical/prevention trials, translation will continue by means of clinical research to achieve effective healthcare system implementation and reducing the time spanning from scientific discovery to patient benefit.

2 • Infrastructures for clinical and prevention trials:

‘Proof-of-concept’ studies may serve as a starting point for further clinical and prevention research, with a practice-changing aim, including the assessment of its utility in healthcare or prevention, patients’/individuals’ ‘at risk, cure/survival and health-related quality of life. Well-developed clinical trial structures, and advanced diagnostic methods such as state-of-the-art molecular pathology, omics technologies, and pharmacology to stratify patients as well as innovative imaging are crucial. CCCs can play a role in this together with clinical research networks. The European Organisation for Research and Treatment of Cancer (EORTC) can facilitate this.

For prevention, infrastructures must include strong epidemiology closely connected to basic research, data acquisition capacity, and advanced computational capabilities, and both the International Agency for Research on Cancer (IARC) and Cancer Prevention Europe can play a prominent role in this, along with many other stakeholders. Again, it will be critical to establish funding mechanisms that stimulate these activities and guarantee sustainability. Funding should include resources for proof-of-concept trials initiated by academic investigators.

3 • Infrastructures for outcomes research:

Evidence of the effectiveness of therapeutics and prevention strategies is essential for the assessment of clinical utility, cost-effectiveness, accessibility, sustainability and prioritization. Outcomes research in therapeutics addresses questions related to all aspects of the clinical pathway, including treatment optimization, side effects of treatments, long-term follow-up with assessment of health-related quality of life, rehabilitation and survivorship, as well as attention to social and economic aspects. This should preferably be a collaborative effort between clinicians, researchers and epidemiologists. For prevention, outcomes can be measured using data from population-based registries for cancer incidence and mortality.

The European Commission’s new Knowledge Centre on Cancer will also help foster scientific and technical alignment, coordination and support of European actions against cancer. The Knowledge Centre provides the European Cancer Information System, the European Guidelines and Quality Assurance Schemes for Breast, Colorectal and Cervical cancers and European Best Practices on cancer prevention through its Health Promotion and Disease Prevention Knowledge Gateway.

Indeed, it should become standard that all patients within the European Union have access to state-of-the-art cancer prevention, diagnostics, treatment, and aftercare procedures, regardless of where they live. Comprehensive Cancer Centres and CCC-like entities working in networks (or consortia) are ensuring that this happens today in many European regions by developing treatments tailored to the patients’ individual needs based on the latest scientific findings, put forward by the European Code of Cancer Practice .

By further developing, involving and enlarging CCCs and networks throughout all of Europe it will facilitate access to the infrastructures described above and will provide researchers with access to the required critical mass of patients, multidisciplinary expertise, biological materials, technological resources, data, and collaborative projects. Furthermore, they will bridge research with the healthcare systems.

The seeming inequalities both within and among EU Member States regarding prevention and treatment as well as care and prevention, require more efficient and adaptable funding mechanisms. Synergies amongst regional, national, and European funding mechanisms should therefore be pursued to facilitate access to these important networks of distributed and interconnected high-quality infrastructures.

Coordinated efforts across the European Union are thus required as no country can succeed on its own on the fight to beat cancer. Hence, we endorse the call for European-wide mobilization of well distributed, interconnected high-quality infrastructures for translational research, clinical and prevention trials, and outcomes research ensuring that science-driven and social innovations benefit patients and individuals at risk across the healthcare systems in the European Union .

Porto, 3rd of May 2021



LISBON DECLARATION ON HUMANITIES, OPEN RESEARCH AND INNOVATION

Launched at the [European Humanities Conference 2021, Lisbon, 7th May 2021, and open for signature](#)

The undersigned,

Reaffirming the conclusion of the 2017 World Humanities Conference, convened jointly by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Council for Philosophy and Human Sciences (CIPSH), that the humanities have an essential role to play in equipping societies to make sense of the contemporary challenges they face and enabling governments and other policy-makers and social actors to respond to them;

Stressing that the unique value of the humanities depends on the diversity of their concepts, methods, traditions and experiences and on their productive relationship with the social and natural sciences, including through innovative forms of transdisciplinarity;

Emphasizing, among the challenges on which the humanities can shed light, the priority importance of the Covid-19 pandemic and its multiple effects on inequalities, inclusion and well-being; radicalism and extremism; digital transformations and their ethical implications; and imagining and creating new ways of inhabiting the Earth and relating to one another;

Suggesting that such challenges cluster around the overarching importance of interpreting and reinterpreting what it means to be human in the face of a world in transformation;

Noting recent initiatives taken on these lines by UNESCO, including in particular the BRIDGES sustainability humanities action coalition within the Management of Social Transformations programme and the preparation of the Recommendation on the Ethics of Artificial Intelligence; by the European Union, in particular the strategic framework for European cooperation in education and training; by national governments and agencies, including the preparation of the **European Humanities Conference** by UNESCO, CIPSH and the Portuguese Foundation for Science and Technology (FCT); and by CIPSH and Humanities research units, in particular the Global History of Humankind and the World Humanities Report;

Expressing concern that the humanities often lack, in higher education and research systems, the resources and recognition necessary for their full potential to be captured;

Underscoring that their contribution to policy making can be enhanced substantially, as they shed light on different human interactions and contexts and help improving decision making.

Welcoming the outcomes of the European Humanities Conference, which brought together in Lisbon, from 5 to 7 May, humanities stakeholders from Europe, and beyond, to explore shared intellectual and institutional challenges and propose practical responses to them;

The signatories hereunder,

1 • *Invite* humanities scholars to mobilize their institutions and relevant stakeholders to guarantee that every single youngster throughout Europe has **open access to humanities research, education and innovation by 2025**, contributing effectively to increase humanities literacy throughout all European regions.

Encourage humanities scholars to engage actively in research, education and innovation activities under “open science principles” and in close collaboration with activities throughout different disciplines, as well as policy-level discussion, contributing to new modes of knowledge production and diffusion, together with innovative concepts and understandings of evidence.

2 • *Request* education leaders and higher education institutions to **ensure that, from primary through all levels of education, including doctorate levels, integrate, transversally, course units on humanities and sciences interaction**, strengthening the value of universal knowledge for addressing societal challenges.

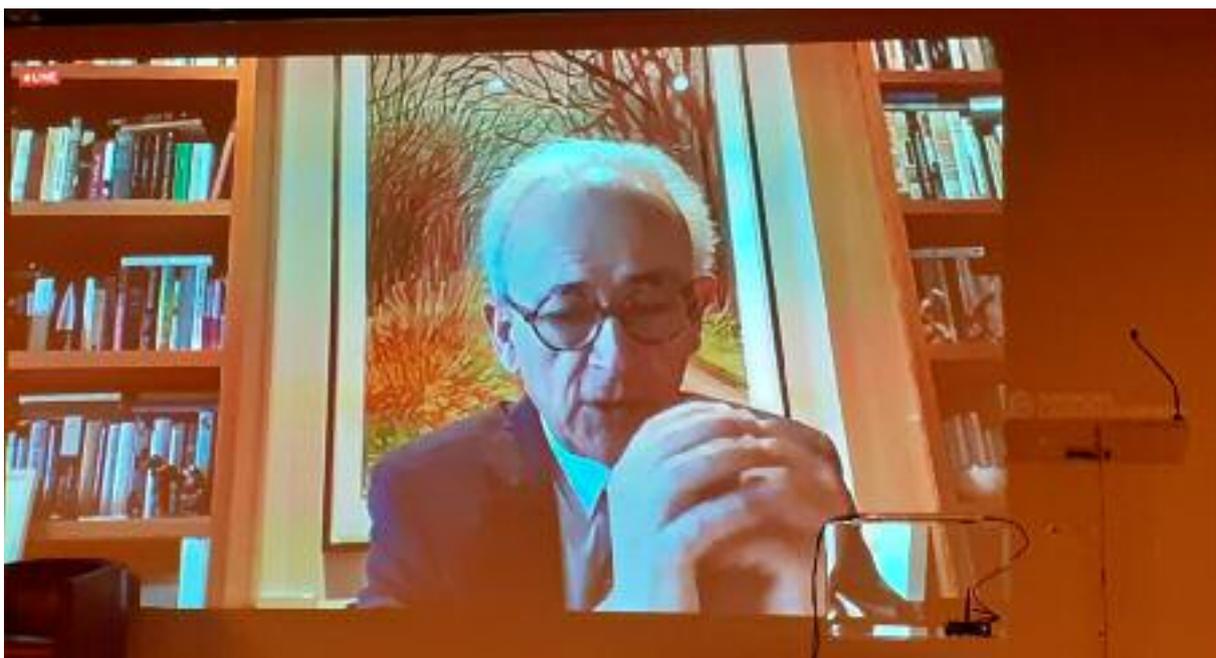
3 • *Request* research and higher education institutions and employers to actively promote **mobility of students and researchers in the humanities**, across geographic borders and disciplinary fields.

4 • *Further request* higher education and research institutions to reach out to a wide range of stakeholders, through education, research and innovation initiatives aimed at **sustainable innovation**, co-designed with local communities, building from the humanities and their interaction with sciences and techniques.

5 • *Undertake* to strengthen **support for the humanities autonomy** through existing funding mechanisms as well as innovative forms of financing.

6 • *Invite* UNESCO, together with the institutions of the European Union, to seek appropriate modalities to bring together governments at Ministerial level, both in Europe and beyond, to further promote humanities research, education and innovation and to help designing corresponding **policy actions**.

Lisbon, 7th of May 2021



THE AZORES DECLARATION ON ALL ATLANTIC RESEARCH & INNOVATION FOR A SUSTAINABLE OCEAN

This declaration was prepared in the context of the high level Ministerial and Stakeholder forum on “ALL ATLANTIC RESEARCH & INNOVATION FOR A SUSTAINABLE OCEAN CONFERENCE”, Ponta Delgada, Azores, 3-4 June 2021, co-organised by the Portuguese Presidency of the European Union Council and the European Commission following the previous “All-Atlantic Ocean Research” fora in Brazil, Belgium and South Africa

Recognizing the contribution of the All-Atlantic Conference to the enhancement of the science diplomacy efforts focused on the Atlantic Ocean, notably those of the Action Plan of the EU Atlantic Strategy, of the Galway and Belém Statements (2013 and 2017, respectively) and of the Arrangements between the European Commission and Cabo Verde, Argentina, and Morocco, that are strengthening the cooperation across and along the Atlantic Ocean from “pole to pole”.

Acknowledging the symbolic significance of this event taking place in the middle of the Atlantic, conveying an important message about our scientific cooperation and common achievements for the benefit of the All-Atlantic community and people, so that they can trust science and its use for them and for building a sustainable future.

Highlighting both the scientific and societal forming angle and goals for the All Atlantic community joint work, recognizing the collective inspiration and the mutual trust that has been built since the start of this All-Atlantic collaboration, in 2013, connecting more than a thousand scientific groups in recent years, with relevant results to the scientific community and our citizens.

Considering this cooperation is instrumental to respond to the challenges and ambitions stated in national and global strategies to ensure the sustainability of our Ocean.

Recognising the important role that the AIR centre is playing – alongside many other research centres - in working as knowledge brokers contributing to the implementation of the UN Decade of Ocean Science for Sustainable Development.

Highlighting the multiple sectorial perspectives discussed in the All-Atlantic Conference, combining a mission-oriented, demand-driven and problem-solving approach, which incorporates key stakeholders and covers diverse geographies, cultures and technology readiness levels.

Acknowledging that discussions fully accommodate local priorities and global challenges and thus strengthening the contribution for the implementation of the UN 2030 Agenda for Sustainable Development, the Decade of Ocean Science for Sustainable Development, the European Green Deal and the Horizon Europe “Starfish” Mission on Healthy Oceans, Seas, Coastal and Inland Waters, among others.

Highlights of this Conference include:

A collective action towards a systemic approach to strengthening knowledge about the interactions between the **ocean and space for climate change and food** through integration of advanced Earth Observation systems and in-situ observation across the water column and deep ocean bottoms. This need to be complemented by advanced, user-driven, citizen-based information systems, from pole to pole, including massive data processing and the use of artificial intelligence that apply to Atlantic Ocean marine ecosystems and the human ecological impacts it is facing.

The pandemic with which we now live demonstrates the importance of knowledge to be able to ask more accurate and difficult questions and better understand the risks we face, as well as to evolve in this new geological era of the “Anthropocene”.

New scientific knowledge on ocean-climate interactions to effectively support the challenges of the green, blue and digital transitions that are seizing opportunities across all disciplinary areas.

Innovation across our current institutional landscape and with diversified stakeholder groups, building the necessary economic and environmental resilience, but also addressing the social context and, above all, the inequalities that persist across our societies.

The advancement of observation and monitoring methods, which will help guide our common future, to better understand climate changes, and to act on ocean and their ecological impacts, including the development of early warning and monitoring systems for a clean and predictable Atlantic ocean.

Concerted actions across the **continuum of ocean-climate-weather-space interactions** that spans from basic and translational research through **market-oriented research** into full deployment, and close links with already existing or new high-quality networked infrastructures.

A collaborative Roadmap on ocean-climate-food-space interactions to include existing and new actors, promoting scientific and technological applications for the inclusive benefit of the communities leaving along and across the Atlantic. In particular, the establishment of the Atlantic International Research Centre – AIR CENTRE in 2018 aims to promote a collaborative and integrative approach to climate science from a knowledge-based perspective and the related international dialogues on “Atlantic Interactions”, to further develop an “Atlantic Constellation” of low-altitude microsatellites.

The “**Digital Twin of the Earth**” concept - as realized in the EU **Destination Earth initiative (DestinE)** - as a very relevant, innovative and important objective towards a sustainable ocean. It requires the creation of a **high precision digital model of the Earth** to visualize, monitor and forecast natural and human activity on the planet aimed to support the sustainable development and adequately monitor and act on climate change and also to include Earth Observation, but equally other elements such as communication.

Our common aim is to:

Continue to connect researchers and communities and bring people and young ocean ambassadors and entrepreneurs in contact with scientific research to deploy their results.

Follow up on the strengthened vision of ‘Connecting-Cooperating-Acting’ together for the Atlantic Ocean and on the pledges made in the All-Atlantic Pledging Platform.

Deliver solutions to accelerate a green, blue and digital transition, while building an equitable and resilient society and ocean community. These efforts should build on digital tools (e.g., space and ocean observation), with the aim to have a sustainable ocean with thriving ecosystems from ‘pole to pole’.

Further develop a common and improved scientific knowledge of ocean, climate change, food and space interactions;

Encourage actions to be taken from now on to consider the “**All-Atlantic Pledging Platform**”, as a new tool to the existing cooperation, enhancing capacity building and promoting stakeholder participation to co-design and to monitor the progress of the cooperative efforts.

Facilitate the uptake of different space and in-situ data and assets, as well as services and information derived from many different existing sources and based on the FAIR and CARE Principles in support to the All-Atlantic partnership and policies.

mobilise all relevant stakeholders to contribute to research, education, capacity building, innovation & entrepreneurship in downstream applications.

To conclude, as demonstrated in this Conference, the All Atlantic multilateral cooperation is a tangible example of a global approach to international science, research and innovation.

Ponta Delgada, Azores, 4th of June 2021



RIDING THE NEXT WAVE OF RESEARCH DATA DECLARATION

Prepared in the context of the Workshop ‘*Riding the Next Wave of Research Data: Leveraging the COVID-19 response towards advancing data interoperability*’, held in Lisbon on 7th June 2021, co-organised by the Portuguese Presidency of the European Union Council and the European Commission.

The coronavirus crisis has put tremendous pressure not only on governments, societies and citizens, but also on the research community to speed up scientific discovery, develop vaccines and therapies, monitor the myriad effects of the pandemic, and inform public health policy.

Since the outbreak, the research community has engaged in an unprecedented level of global collaboration, increasingly practicing early and open sharing of knowledge, data and tools. The record development of effective vaccines based on rapid generation of knowledge about the virus is unprecedented. We must learn from this, use the momentum and ensure that we evolve our collective capability to respond to the next crisis.

Open science, open collaborative work and sharing of research outputs, has been instrumental in improving the quality, efficiency, and impact of the research.

However, many hurdles still exist, including being able to quickly find and integrate different data types, such as virus and host genomics, clinical, epidemiological and social science data, originating from laboratory, hospital or industrial settings across countries, organisations and communities.

Global challenges require global solutions that transcend traditional disciplines and sectors: Speeding up scientific discovery and enhancing research impact require successfully riding the next wave of data that is now rising, namely an increasing volume of FAIR (Findable, Accessible, Interoperable, Re-usable) and open data.

We, the attendees of the event on “Riding the Next Wave of Research Data” co-organised by the Portuguese Presidency of the European Union Council and the European Commission:

Recognise that early and open sharing of viral data has been vital in our fight against the coronavirus; unnecessarily restricting access to such data severely limits scientific discovery, research efficiency and effectiveness;

Commend the launch of the European COVID-19 Data Platform to facilitate seamless access to and sharing of research data and results;

Stress that research and healthcare data need to be accessible and interoperable across silos, in line with the FAIR principles²⁹ and the GDPR, and where possible, in open and interconnected federated environments, to prepare our healthcare systems for future pandemics;

Commit to work together to strengthen the interoperability of health and research data;

Reaffirm that FAIR-based data sharing and management, reciprocal openness, and better use of digital methods and services are required for higher quality, more efficient and impactful research;

Recall the high yearly cost of not having FAIR research data, estimated at €10.2bn/year for the EU alone;

Recall that implementation of the FAIR principles must be pragmatic and inclusive allowing different communities to progress towards increased FAIRness;

Emphasise the need for community-endorsed, minimal and rigorous standards and for the convergence of semantic artefacts such as vocabularies, taxonomies, ontologies, and metadata schemata to enhance data interoperability within and then across disciplines;

Recognise that efforts to apply the FAIR principles must extend beyond research data to research outputs including software, algorithms, workflows, protocols, and services;

²⁹ <https://www.nature.com/articles/sdata201618>

Commit to promote research data management and stewardship following the FAIR principles, including open access as the default setting for publicly funded research in Europe, allowing for exceptions only in duly justified cases, in line with the principle “as open as possible as closed as necessary”;

Commit to systematically mainstream efforts to eliminate biases in the data, which could later lead to discrimination;

Commit to explore ways to reward researchers who make research outputs, including data, open and FAIR and/or reuse and reproduce outputs, both in their career assessment and in the evaluation of publicly-funded projects;

Recognise the implementation of the European Open Science Cloud, EOSC, as a major contribution to realise a “web of FAIR data and services”, and as a federation of research infrastructures enabling access to and reuse of research results and data in the European Research Area;

Highlight the need for continued national and international investments in research data infrastructures, and for a strong and inclusive community involvement to ensure technical, organisational, semantic, and legal interoperability across infrastructures and communities;

Reaffirm that European science must be grounded in a culture of data stewardship, where the stakeholders of the research ecosystem receive adequate training in data skills, ensuring that data and other research outputs are FAIR, appropriately managed and curated, and preserved in the long-term where appropriate;

Underline that the necessary training and upskilling in research data management, stewardship and analysis, should be provided throughout the European Union as part of higher education, as well as lifelong training in academia and industry;

Invite all public research funders in Europe to require Data Management Plans to mainstream a culture of responsible data management;

Recall that the TRUST Principles³⁰ provide high-level guidance for data repository stakeholders to develop and maintain the infrastructure to foster continuing stewardship of FAIR data and enable future use of their data holdings.

Call for a wide mobilisation across the European Union towards developing – in the context of the European Open Science Cloud - coherent interoperability frameworks that build on research community practices to enable interdisciplinary research and innovation.

Lisbon, 7 June 2021

Annex: Background Information

The ERAvsCORONA action plan³¹ included a call for the establishment of a European data exchange platform for SARS-CoV-2 and COVID-19 information, connected to the European Open Science Cloud (EOSC) to allow seamless sharing and access sharing of research data and results to accelerate discovery.

An Open Letter from researchers³² in support of data sharing for COVID-19 highlighted the importance of open and FAIR data to progress scientific discovery, and encourages building upon the interoperability of longstanding infrastructure collaborations.

The Cost-benefit analysis for FAIR research data study³³ estimates the cost of not having FAIR research data for the EU economy at €10.2bn/year.

The Beijing Declaration on Research Data³⁴ (September 2019), which requires data to be FAIR (Findable, Accessible, Interoperable, and Reusable) with a strong focus on interoperability to facilitate their broad reuse in scientific research.

The Vienna Declaration on the European Open Science Cloud³⁵ (November 2018) which launched the pilot implementation phase of EOSC and calls for EOSC to provide all researchers in Europe with seamless access to an open-by-default, efficient and cross-disciplinary environment for storing, accessing, reusing and processing research data supported by the FAIR principles.

The German Presidency Declaration on the European Open Science Cloud ³⁶(November 2020) which highlights the COVID-19 pandemic as a societal challenge that affects our health and well-being as well as our economies, and reaffirms that Open Science, FAIR data, and a better use of digital methods and services are a basis for closer co-operation in science and research.

Council conclusions on the new European Research Area ³⁷ (December 2020) which calls for the development and implementation of EOSC and its framework conditions as the ERA pilot action by federating research data infrastructures across Europe and fostering open and collaborative knowledge and data sharing and interoperability within the ERA.

The European Pact for Skills⁵ and more specifically, the European Skills Agenda³⁸ which calls for the upskilling of researchers and scientists with regards to open science and science management.



³⁰ <https://www.rd-alliance.org/trust-principles-rda-community-effort>
<https://www.nature.com/articles/s41597-020-0486-7>

³¹ [covid-firsteravscorona_actions.pdf \(europa.eu\)](#)

³² [Open letter: Support data sharing for COVID-19 : COVID-19 Data Portal \(covid19dataportal.org\)](#)

³³ [Cost-benefit analysis for FAIR research data - Publications Office of the EU \(europa.eu\)](#)

³⁴ [The Beijing Declaration on Research Data - CODATA, The Committee on Data for Science and Technology](#)

³⁵ [EOSC Vienna Declaration \(eosc-launch.eu\)](#)

³⁶ [EOSC_Declaration_Opening_the_Doors_to_a_FAIR_World.pdf \(era.gv.at\)](#)

³⁷ [pdf \(europa.eu\)](#)

³⁸ [Pact for Skills - Employment, Social Affairs & Inclusion - European Commission \(europa.eu\)](#)

³⁹ [European Skills Agenda - Employment, Social Affairs & Inclusion - European Commission \(europa.eu\)](#)

THE LISBON MANIFESTO ON EARTH OBSERVATION FOR AFRICA AND EUROPE

This manifesto was prepared by the Portuguese Presidency of the European Council in the context of the Africa Europe Space Earth Observation High Level Forum, 10-11 June 2021, co-organised, together with European Commission, African Union Commission, ESA, EUMETSAT and European Union Agency for the Space Programme (EUSPA)

The conference participants, wish for a collective action throughout Africa and Europe towards strengthening advanced Earth Observation systems and their integration with advanced, user-driven, citizen-based information systems, including the increase use of artificial intelligence together with massive data sets about our living pathways and their ecological impacts. This is instrumental, to respond to the challenges considered in the African Union Agenda 2063, in the European New Green Deal, as well as in our common strategies to help improve agriculture, disaster management, climate forecast, banking and finance, as well as security.

This is a question that should concern all of us due to the unprecedented times we are living in. Dealing with Climate Change, uncertainty, risk and ignorance about the future, which the new coronavirus SARS-CoV-2 so promptly came to warn us about, is becoming a changing factor of all modern societies and the best we can pass on to future generations. It requires learning more, with more solidarity and intergenerational debate, understanding respect for others, regardless of gender, age, ethnicity, religion, disability or sexual orientations.

But it also definitely requires that the Earth Observation Community tackles three main strands of actions: i) The delivery of new knowledge to effectively address the challenges of green transition making use of the opportunities driven by digital transitions across all disciplinary areas; ii) Fostering institutional innovation, across our current institutional landscape and diversified stakeholders, building the necessary economic resilience, but also addressing the social context and, above all, the inequalities that persist across our societies; and iii) guaranteeing new observation methods making use of new satellite systems, which are needed to better guide our common future and to better understand and act on our common living pathways and their ecological impacts, including the development of early warning and monitoring systems for water, agriculture, clean oceans and atmospheric issues.

The role Earth Observation can play in documenting and explaining natural process is increasingly relevant in the context of the current pandemic: the new coronavirus has passed from animals to humans likely due to the pressure that our societies and their economic development exercise on nature. It is a clear manifestation of the unbalanced influence of human beings on Earth, which is also expressed through climate change (e.g., Human Development Report, 2020, UNDP, 15th December). The eventual scientific demonstration of these relations with the pandemic with which we now live require more knowledge to be able to ask more accurate and difficult questions and better understand the risks we run, as well as to evolve in this new geological era of the “Anthropocene”.

We, therefore, recognise that the sustainable development of our societies is well supported through the Copernicus programme as a leading Earth Observation and Monitoring programme in the global context in particular through the Group on Earth Observation (GEO) for the benefit of the citizens in compliance with the GEO free and open data policy and in order to deliver solutions for the global societal challenges.

We also note, the establishment of the GMES&Africa initiative, following the Lisbon Declaration on “GMES and Africa” from December 2007, and the important work undertaken so far underpinned by the GMES and Africa Action Plan and its achievements to date. We encourage pursuing the strengthening of African capacities towards the evolving **Copernicus** programme. In addition, the European Meteorological satellite programmes of EUMETSAT and the plan to launch the Meteosat Third Generation (MTG) will be critical to provide weather and climate information over Africa for the next two decades, in synergy with Copernicus data. The African Union recognises the need to strengthen African capacities in order to ensure that Africa fully benefits from MTG as it works in partnership with the European Union and EUMETSAT. Also, the European Space Agency (ESA) Earth Observation Strategy 2040 and the ESA 2025 Agenda highlights the role of international cooperation and partnerships to leverage Earth Observation from space for the ongoing green and digital transformation of society and economy around the world including in particular Africa.

We also consider the critically important role of the numerous initiatives on Earth Observation over the last few years, both in Africa and Europe, namely those promoted by space agencies, national programmes and the European Union, oriented to provide valuable Earth Observation data and services. In particular, we acknowledge the establishment of the African Space Agency to coordinate African space activities and to accordingly create regulatory framework. We also acknowledge the establishment of the *Atlantic International Research Centre* – AIR Centre in 2018 to promote a collaborative and integrative ap-

proach to climate science from a space-based perspective and the related international dialogues on “Atlantic Interactions”, to further develop an “Atlantic Constellation” of low-altitude microsatellites, as well as the promotion of advanced Earth Observation systems for the inclusive benefit of all Atlantic regions.

In addition, through this Manifesto, we encourage:

1 • Considering the development of innovative and advanced Earth Observation systems and their integration with user-driven, citizen-based information systems of critically social and economic relevance while also considering addressing the current free and open data policy in a broader context and the necessity to evolve towards a system of **high resolution data** generation to support a large number of spatial applications of Earth Observation that require high resolution data such as cartography, urban and territory cadastre, urban planning, precision agriculture, security, intelligence, among others.

2 • Considering **links between space and non-space sectors**, strengthen use of space data within institutional research programs such as Horizon 2020 and Horizon Europe in view of research breakthrough benefiting both Africa and Europe, fostering space-related entrepreneurship and economic growth and **strengthening a coherent African-European space cooperation**. Space should evolve towards cost reduction, commercialization, more flexibility and agility, as well as more spin-in innovation including AI. It is also important to foster the creation and development of **innovative SME’s in this “New Space” domain**, either in the area of applications, small micro or nanosatellites, or in the field of private small launcher development, among many other elements associated with “New Space”.

3 • The intention to set-up and contribute to the necessary frameworks to promote and to facilitate a joint dialogue on space science, technical and innovation cooperation to:

Facilitate the uptake of space data and assets, as well as services and information derived from space data, including through establishment of regional data hubs, in support to the Africa-EU Partnership and policies of both continents;

Exchange regularly information on their respective programmes and activities and strengthening African and European cooperation, with the possibility of a collaborative Roadmap on EO to include new actors (e.g. AIR Centre) and programmes, and continue the success and the implementation of the GMES and Africa Action Plan;

Identify cooperation areas/initiatives and follow their implementation, notably in secure connectivity and satellite-based augmentation services;

Evaluate the need to incorporate new types of data with a higher spatial and temporal resolution and a wider spectral resolution, such that the challenge imposed by the new trends in EO (Artificial Intelligence, cloud computing, near real-time applications) can be fulfilled and the downstream market segment can develop new applications for the benefit of the European and African citizens and taking all the potential to foster economic growth and high skill job creation;

Propose to extend the lines of collaboration beyond the downstream applications sector with common Africa-European projects in the space segment and ground segment of new Earth observation missions;

Facilitate access to new types of data with a higher spatial and temporal resolution and a wider spectral range from existing institutional programs in Europe and Africa, including GMES&Africa, Copernicus and MTG;

Mobilize institutions and relevant stakeholders to contribute together in research, education, capacity building, innovation & entrepreneurship in downstream applications.

Lisbon, 11th of June 2021



PORTO DECLARATION ON HIGHER EDUCATION AND CULTURE: TOWARDS THE CONSTRUCTION OF A EUROPEAN CULTURAL CORRIDOR

The Porto Declaration on Higher Education & Culture results from the collaborative work dynamics created by the EU University & Culture Summit: Fostering the Union through Culture and the Arts, held online on the 29th and the 30th of March 2021.

Jointly hosted by the University of Porto and the Portuguese National Plan for the Arts in the framework of the Portuguese Presidency of the Council of the European Union, the Summit aimed at discussing a cultural agenda for Higher Education Institutions capable of fostering the Union by creating new attitudes towards issues that are focal societal challenges for Europe and the world.

Available for signature at: www.University-and-culture.pt

The undersigned call for collective efforts and action throughout Europe towards the **creation of a European Cultural Corridor** for Higher Education students covered by the ERASMUS+ Programme. The Corridor is to be the main output of a **common cultural plan** that engages Higher Education Institutions (HEIs) in the democratic reform of Europe.

We believe that, in the context of the post-COVID-19 crisis, when **HEIs are realigning their priorities to respond to the pandemic's effects**, and several funding programmes are available to build a resilient European Union, this is a **historic opportunity for Culture**. We subscribe to the idea, stated in several documents published by the European Commission, such as *A New European Agenda for Culture* (2018) and the *Strategic Plan 2020-24 – Directorate-General for Education, Youth, Sport and Culture* (2020), that **culture is the basis for social cohesion**, the vision that binds us together; it is an instrument of soft power, capable of (re)shaping identities, activating citizenship awareness and engaging communities – and it is part of the **solution to the problems the EU is experiencing today**.

We consider that in a **society** that is becoming increasingly **plural and complex**, **HEIs need to assert their cultural vocation and be open, transformative spaces**, fostering enthusiasm for community life, the celebration of diverse cultures and perspectives, and awareness that we are all connected and share responsibility for the society to which we belong. This requires that HEIs define a cultural plan based on a **shared vision of social and ecological justice**, promoting affective bonds with places and communities, and creating a spatial and organizational environment that favours the free circulation of ideas and fosters **students' creativity and civic engagement**.

We acknowledge that HEIs across Europe already offer their students a remarkable variety of cultural activities. This does not mean, however, that they have a plan for culture, which implies a continuing, coordinated and systematic process of formulations and practices. It is **urgent that HEIs define a plan for culture in the medium and long term**, involving both the **academic and non-academic communities** in the process.

We stand for the idea that HEIs need to invest in a transformative and **two-way relationship with society**, participating in the construction of the communities but also **providing space for the communities to participate in the construction of the HEIs**. This means, on the one hand, that **students must go beyond the walls of the HEIs and learn with local cultural institutions**, and, on the other hand, that the social and cultural values of both HEIs and local cultural institutions are fine-tuned, ensuring the integration, into their cultural agendas, of pressing themes such as the need for inclusion, accessibility, and ecological justice.

We further believe it is **essential that the higher education system does not replicate the social and economic inequalities** that dominate the world outside academia. Democratic access to higher education needs to go beyond providing students with equal opportunities for specialized training and include **democratic access to Culture**. Only in this way will Europe be able to neutralize the social and economic drivers of inequality.

We thus propose the construction of a **European Cultural Corridor**, integrated by **cultural institutions providing free access, or at a significantly reduced price**, to holders of the European Student Card. We firmly believe that the Corridor will be an invaluable tool for promoting social equity and introducing students to new worlds, aesthetic sensibilities and worldviews that will eventually foster **intercultural competencies**; and that it will contribute to **higher levels of cultural participation** for future generations.

In this light, we, the undersigned, commit ourselves to:

Creating the means and conditions in which **culture becomes transversal** to our three main missions and **gives meaning**, nuance and enriching perspectives to **multidisciplinary training, research and societal innovation**.

Networking with local non-academic cultural institutions towards the construction of a **European Cultural Corridor** on the basis of a mutually beneficial relationship between institutions of knowledge, working and safeguarding their **long-term commitment** to the plan and to the social and cultural values that bind us together.

Reaffirming that we are determined to contribute to the construction of a more resilient post-pandemic European society, we:

Invite all HEIs across Europe to join the European Cultural Corridor, engaging in a dialogue with museums, art galleries, theatres, concert venues, and other performance spaces, and networking with them towards the implementation of this innovative project. This specifically requires that HEIs (1) **map** the cultural institutions pertaining to the European Cultural Corridor; (2) organise and post the **information online**; and (3) ensure the **fine-tuning of the social and cultural values** of all participating institutions and their convergence with the social and ecological aims of the HEIs.

Call on non-academic cultural institutions, public or private, to provide European Student Card holders free **access**, or at a very reduced price, to their cultural spaces and performances, thus contributing to this innovative process of **cultural democratization**. We further **encourage non-academic** institutions to approach HEIs with **challenging, meaningful cultural projects that may contribute to the improvement and development of the Cultural Corridor**.

We, the undersigned, **call on the European Commission** to **encourage** HEIs, non-academic cultural institutions and any other potentially interested parties to join this project by:

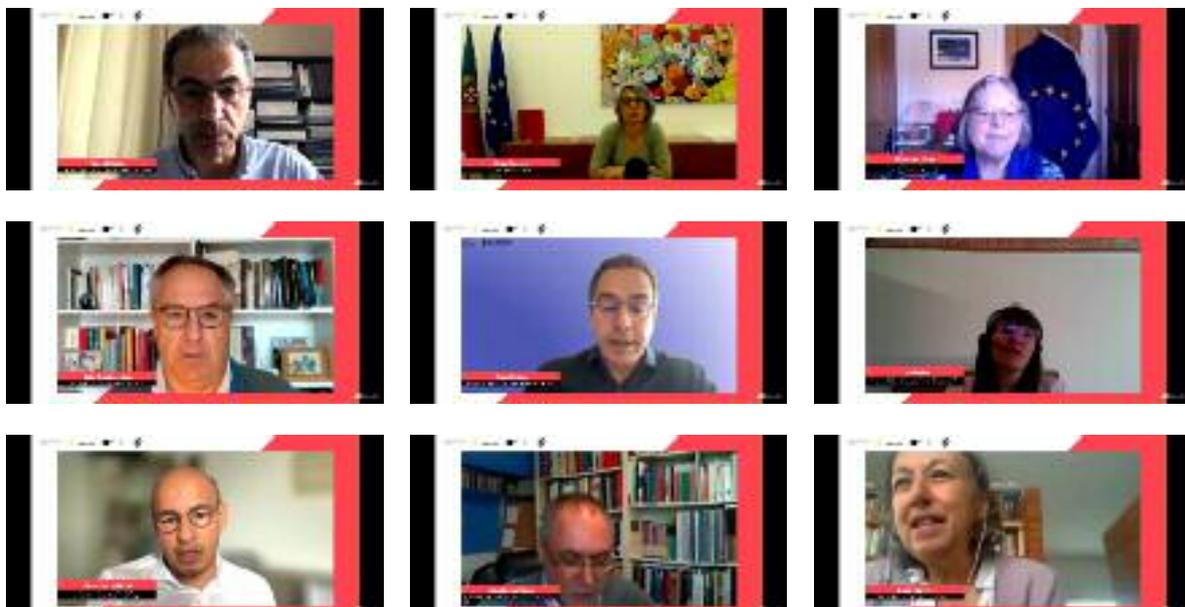
Promoting a **dedicated call related to the European Cultural Corridor** that encourages, on the one hand, **HEIs to collaborate with each other and with non-academic cultural institutions**, at the regional, national and European level, and, on the other hand, that **compensates non-academic cultural institutions** for the financial effort entailed by their participation in the Corridor.

Publishing any **dedicated calls or supporting measures** that may contribute to further developments and to the **sustainability of the European Cultural Corridor**.

A copy of the Declaration was handed on June 17 to Mariya Gabriel, Commissioner for Innovation, Research, Culture, Education and Youth.

This *Declaration* is open for signing by citizens and institutions at:

<https://university-and-culture>



LISBON MANIFESTO ON CITIZEN-CENTERED, RESEARCH-DRIVEN CREATIVE INDUSTRIES

This manifesto was prepared in the context of the high level round table on “*Research and Innovation for Creative Industries*”, June 17, 2021, organised by the Portuguese Presidency of the European Union Council in collaboration with members of the European Parliament and the European Commission, at the Knowledge Pavilion Ciência Viva, Lisboa, Portugal

The manifesto is available for open signature at: <https://www.cienciaviva.pt/>

The undersigned call for a collective action throughout Europe towards a comprehensive research and innovation approach focused on **citizen-centered, research-driven creative industries** and covering the entire research and innovation continuum, from fundamental research on the humanities, computer science and natural sciences, among other disciplines, to applied research and innovation across disciplines. This requires specific actions to strengthen the emerging regional networks of creative industries in terms of a well distributed and interconnected high-quality European network of innovative creative industries, ensuring that science-driven and social innovations benefit European citizens throughout the entire European Union.

We consider that such a European-wide deployment of research-driven creative industries has the potential to help achieving the twin digital and green transitions in the coming decades, taking into account that:

- Europe greatest assets rely on its creativity and cultural diversity, so that cultural and creative industries play a critical role on rising challenges that can only be best addressed through research and innovation. These challenges can foster European identity and cohesion, European employment, economic resilience, and smart growth, as well as strengthen Europe as a global actor in research and innovation;
- Cultural and creative industries are a diverse sector that includes areas from audiovisual, music and cinema to architecture, design, fashion and cultural heritage, encompassing millions of jobs in Europe;
- The pandemic we all confronted over the last year demonstrates the importance of knowledge and science to be able to ask more accurate and difficult questions, and to better understand the risks we face, as well as to evolve in the new geological era of the “Anthropocene”. This requires the promotion of creative thinking and new approaches to engage and empower citizens throughout every European region and leaving no one behind, in order to imagine and create new ways of inhabiting the Earth and relating to one another;
- The uniqueness of creative industries depends on the diversity of their concepts, methods, traditions and experiences, and on their productive relationship with the humanities, the social and the natural sciences, including through innovative forms of transdisciplinarity;
- New scientific knowledge on interactions to effectively support the challenges of the green and digital transitions that are seizing opportunities across all disciplinary areas, including the humanities, will benefit from opening creative industries to research communities across the entire spectrum of disciplines, strengthening the overarching importance of interpreting and reinterpreting what it means to be human in the face of a world in transformation;
- Innovation across the current institutional landscape and with diversified stakeholder groups, building the necessary economic and environmental resilience, but also addressing the social context and, above all, the inequalities that persist across our societies, will gain from a European-wide deployment of well coordinated innovative creative industries in all European regions;
- The advancement of scientific culture and the public understanding of science, which will help guide our common future, together with the increasing participation of citizens on the digitalization and greening of our societies, requires empowering citizens engaged on creative activities with research communities to support sustainable development, and adequately monitor and act on climate change through the arts.

We acknowledge the enormous success of the evolution of the several European Research and Innovation Framework Programmes over the last decades, as well as the emerging Horizon Europe Program, 2021-27, launched in February 2021 under the Portuguese Presidency of the European Union, and the impact on the commitment to further foster world-class research and innovation across disciplines. We particularly welcome the recognition of the value of research and innovation for and by the creative industries under Horizon Europe’s Cluster on “Culture, Creativity and Inclusive Society”, supporting the efforts of the creative industries towards the twin digital and green transitions.

We recognise the important role of the initiative New European Bauhaus – NEB launched by the President of the European Commission in October 2020, which will foster links with cultural heritage as well as with the cultural and creative industries in Europe, further promoting disruptive solutions for Europe. We believe that the NEB should effectively engage culture and creative industries, as they are relevant for the society and can play a fundamental role in shaping a better future.

We acknowledge the recent enlargement of the scope of the European Institute of Technology – EIT, as achieved in January 2021 under the Portuguese Presidency of the European Union, through a new Knowledge and Innovation Community – KIC on culture and creativity. It will foster network opportunities and will catalyse the conditions for the creation and scale up of new ventures in innovative ecosystems and will also allow further cross-fertilization with other economic and industrial sectors. In this context we also believe that the Knowledge and Innovation Community on culture and creativity should be built on existing European, national and regional initiatives and should be complementary to other Union initiatives, such as Horizon Europe, as the need to develop new products relies heavily on cultural and creative industries. This KIC should continuously foster synergies with the member states policies, with Smart Specialization Strategies (S3) and the Cohesion Policy Funds.

We recognise the important role of the European Creative Business Network, as well as of the extensive research and innovation activities underway in Europe to support the digitisation of libraries and archives, virtual tours of museums and archaeological sites, but there is need to expand and further support the application of digital tools to preserve cultural heritage and to make it widely accessible. Actions should develop digital facilities that will allow the construction of shared infrastructures, provide specialized trainings and courses and facilitate knowledge and know-how exchange to address real needs in the field of cultural heritage. Projects should thus increase the use of existing tools and cutting-edge technologies, such as virtual and augmented reality or artificial intelligence, to lessen limitations of access to and knowledge of cultural assets. A common *European Cultural Heritage Collaborative Space* should be at the center of these activities.

It is in this context that we acknowledge the significance of the high level round table on “Research and Innovation for Creative Industries”, taking place at the Knowledge Pavillion – Ciência Viva on June 17, 2021, conveying an important message about our scientific and innovation cooperation and common achievements for the benefit of the European Union and its people, so that they can trust science and its use for them and for building a sustainable future. In particular, we highlight the multiple sectorial perspectives discussed in the round table, combining a mission-oriented, demand-driven and problem-solving approach, which incorporates key stakeholders and covers diverse geographies, cultures and technology readiness levels.

The undersigned agree to work towards the promotion of **citizen-centered, research-driven creative industries in Europe and:**

- Invite scholars and entrepreneurs to mobilize their institutions and relevant stakeholders to guarantee that every single youngster throughout Europe has wider access to creative industries by 2025, contributing effectively to increase awareness of cultural and creative industries throughout all European regions;
- Further request higher education and research institutions to reach out to a wide range of cultural and creative industries, through education, research and innovation initiatives aimed at sustainable innovation, co-designed with local communities, building from the humanities and their interaction with sciences and technology;
- Invite municipalities and regional and local policymakers to emphasize the role of local museums and new ways of participatory cultural management, to help museums and other cultural institutions become fully embedded in cities’ life, also taking into account the differences between metropolis and small towns. Digital strategies might be developed as part of local and regional management practices, including sustainable ways of sharing knowledge and facilities to communicate through and about objects and collections of both tangible and intangible cultural heritage;
- Further encourage a close interaction with local, regional and national communities and authorities, as well as cooperation with research institutions and the cultural and creative stakeholders (e.g. artists, actors, interpretation specialists, designers) to attract and engage the public and in particular young people;
- Invite researchers to facilitate and widen access to cultural assets through digital and cutting-edge technologies and tools, further exploring the role of digital tools, such as 3D/4D simulations, and virtual and augmented reality technologies in engaging with cultural heritage and providing efficient and global solutions to the real needs of accessing, protecting and preserving cultural heritage;
- Invite museums and libraries to further offer broader access to their collections and engage in collaborative joint ventures including fundamental science and innovation to create breakthroughs across high impact areas, such as energy, climate, sustainable cities, cybersecurity, biomedical sciences, basic sciences and engineering, as well as social sciences and the humanities;

Engage citizens to further help the promotion, exchange, and adoption of best practices to balance gender participation at all levels of operation, management, and exploitation of creative industries.

The undersigned invite the European Commission to participate in this endeavour and work with the signatories to best support it at the EU level, including:

- Promoting a dedicated call on a coordination and support action, enabling citizen-centered, research-driven creative industries in Europe to coordinate among each other and promoting a pan-European ecosystem of the actors in the sector, specifically focused on the innovative solutions they can create. This will also contribute to the necessary awareness-raising for the new funding opportunities in Horizon Europe (2021-27), as well as defining a medium/long-term strategy for the citizen-centered, research-driven creative industries in Europe together with the stakeholder community;
- Setting up a Cultural Heritage Partnership linking initiatives at EU and national levels, foreseen for Horizon Europe (2021-27), and in a way to further promote the European Cultural Heritage Cloud to foster links across research, education, digital skills and high-performance computing in Europe.

A copy of this Manifesto was handed at the end of the event of June 17 2021 to Mariya Gabriel, Commissioner for Innovation, Research, Culture, Education and Youth.

The Manifesto is open to be signed by citizens and institutions, at <https://www.pavconhecimento.pt/creative-industries/>



MINHO MANIFESTO ON EUROPEAN HIGH-PERFORMANCE COMPUTING FOR SCIENCE AND INNOVATION

A EuroHPC Petascale Coordination Network fostering research and innovation throughout Europe

This manifesto was prepared in the context of the high level round table on “High-Performance Computing for Science and Innovation”, June 18, 2021, co-organised by the new five European HPC petascale systems in close collaboration with the Portuguese Presidency of the European Union Council and the European Commission, at the *University of Minho, Guimarães, Portugal*

The undersigned call for a collective action throughout Europe towards a comprehensive research and innovation approach focused on High-Performance Computing (HPC) and covering the entire research and innovation continuum, from fundamental science to market-driven research and innovation. This requires specific actions to strengthen the emerging network of the new five European HPC petascale systems in terms of a well distributed and interconnected high-quality European infrastructure ensuring that science-driven and social innovations benefit European citizens throughout the entire European Union.

We consider that such a European-wide deployment of High-Performance Computing infrastructures has the potential to help achieving the twin digital and green transition in the coming decades, taking into consideration that:

- The pandemic with which we now live demonstrates the importance of knowledge to be able to ask more accurate and difficult questions and better understand the risks we face, as well as to evolve in this new geological era of the “Anthropocene”. This requires the advanced processing of massive amounts of data, which can only be achieved through High-Performance Computing;
- New scientific knowledge on interactions to effectively support the challenges of the green and digital transitions that are seizing opportunities across all disciplinary areas. This will benefit from opening High-Performance Computing to research communities across the entire spectrum of disciplines;
- Innovation across our current institutional landscape and with diversified stakeholder groups, building the necessary economic and environmental resilience, but also addressing the social context and, above all, the inequalities that persist across our societies. This will gain from a European-wide deployment of well coordinated High-Performance Computing infrastructures;
- The advancement of observation and monitoring methods, which will help guide our common future, to better understand climate changes, and to act on ecological impacts, including the development of early warning and monitoring systems for a clean and predictable future. It requires the creation of high precision digital models of the Earth to visualize, monitor and forecast natural and human activity on the planet aimed to support the sustainable development and adequately monitor and act on climate change and also to include Earth Observation, but equally other elements such as communication. Again, this can only be achieved through the processing and analysis of massive amounts of data.

We acknowledge the enormous success of the Rome Declaration, signed on March 23, 2017, and the impact on the consequent mobilization of an effective European task force for the creation of the European initiative “EuroHPC- European High-Performance Computing”, a European “Joint Undertaking”, that assumed the commitment to participate in the joint European project to develop and deliver a world-class supercomputing infrastructure.

We recognise the important role that EuroHPC Joint Undertaking (EuroHPC JU) is playing since 2018 to foster research and innovation throughout Europe and, in particular:

- We highlight both the scientific and societal impact of High-Performance Computing, connecting many scientific groups in recent years, with relevant results to the scientific community and our citizens;
- We consider this cooperation instrumental to respond to the challenges and ambitions stated in national and global strategies to ensure the sustainability of our common future;

We recognise that the new five European HPC petascale systems are being installed aiming to be a world leading example of environmental sustainability in high performance computing (i.e., “green supercomputing”), uniquely combining the digital and green priorities established by the European Union.

It is under this context that we acknowledge the symbolic significance of a high level round table on “High-Performance Computing for Science and Innovation”, taking place at the University of Minho on June 18, 2021, conveying an important message about our scientific cooperation and common achievements for the benefit of the European Community and people, so that they can trust science and its use for them and for building a sustainable future. In particular, we highlight the multiple sectorial perspectives discussed in the round table, combining a mission-oriented, demand-driven and problem-solving approach, which incorporates key stakeholders and covers diverse geographies, cultures and technology readiness levels.

The undersigned agree, in the context of the EuroHPC JU, to work towards the establishment of a network to coordinate:

- the interoperation of the new five European petascale systems as a distinctive pillar of the EuroHPC integrated exascale supercomputing infrastructure;
- the further development and promotion of environmentally sustainable high-performance computing infrastructures and operational practices, leading to a “European Green Supercomputing Network”;
- the complementary availability of the new European petascale systems serving complex modelling and computational intelligence, both key to fundamental science and innovation breakthroughs across high impact areas, such as energy, climate, sustainable cities, cybersecurity, biomedical sciences, basic sciences and engineering, as well as social sciences and the humanities;
- the development of High-Performance Computing (HPC) and High-Performance Data Analysis (HPDA) test-beds and services, thereby scaling up and diversifying the new European petascale systems to better address the needs of scientific players, public administration and industrial users. This requires an inclusive and networked approach able to structure capacities and demand across Europe, with clear and fair access rules. In addition, it needs to be flexible, allowing customised solutions to answer to the needs of the individual stakeholders.
- public administration and society’s mobilisation towards the use of bigdata enabled and computational intelligence-based applications aimed at promoting Europe’s well-being, sustainability and resilience. This needs to be complemented by advanced, user-driven, citizen-based information systems, including massive data processing and the use of artificial intelligence;
- the role and contribution of the new European petascale systems to educating and training highly skilled scientists, developers, and users of HPC and HPDA systems;
- the promotion, exchange, and adoption of best practices to balance gender participation at all levels of operation, management, and exploitation of the new European petascale systems.

The undersigned invite the European Commission to participate in this endeavour and work with the signatories to best support it at the EU level.

Signed in the University of Minho, Portugal, on June 18, 2021, by:

Stoyan Markov, Discoverer, Petascale Supercomputer Consortium, Bulgaria:

Vit Vondrak, Karolina, IT4Innovations National HPC Centre, Czech Republic:

Pascal Bouvry, MeluXina, LuxProvide, Luxembourg:

Andrej Filipčič, Vega, Institute of Information Science in Maribor, Slovenia:

Rui Oliveira, Deucalion, Minho Advanced Computing Center, Portugal:

Paulo Quaresma, Science and Technology Foundation, Portugal:

Manuel Heitor, Minister for Science, Technology and Higher Education, Portugal:

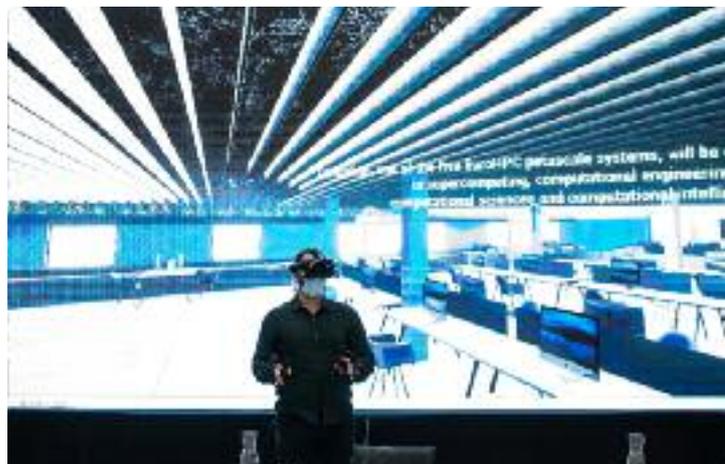
Simona Kustec, Minister for Education, Research and Innovation, Slovenia:

With the following testimonies:

Anders Jensen, Executive Director, EuroHPC JU

António Cunha, President, North of Portugal Coordination Commission (CCDR Norte)

A copy of the Minho Manifesto was handed at the end of the event to Mariya Gabriel,
Commissioner for Innovation, Research, Culture, Education and Youth



CHAVES MANIFESTO ON EUROPEAN MINERAL WATER RESEARCH, INNOVATION AND VALORISATION

This manifesto was prepared in the context of the “AQUAFORUM – European Mineral Water Research, Innovation and Valorisation Forum”, 18-19 June 2021, and the establishment of “AQUANET – European Mineral Water Research, Innovation and Valorisation Network”, at the Vidago Palace Hotel, Chaves, Portugal

The manifesto is available for pen signature at <https://aquavalor.pt/aquaforum/>

The undersigned call for a collective action throughout Europe towards a comprehensive research and innovation approach focused on mineral water and covering the entire research and innovation continuum, from fundamental mineral water research to market-driven research and innovation. This requires specific actions to strengthen the mineral water potential in terms of well-distributed and interconnected high-quality research infrastructures, ensuring that science-driven and social improvements benefit European citizens throughout the entire European Union.

We consider that such an European-wide development and implementation of scientific, technical and social knowledge on mineral water has the potential to help achieve the *digital twin* and *green* transitions in the upcoming decades, taking into account that:

- The pandemic we all faced over the last year demonstrated the importance that knowledge has in our ability to ask more accurate and challenging questions and to better understand the risks encountered. Hence, the **promotion and reflection regarding the impacts of thermalism on European national health services is required**;
- The generation of scientific and technical knowledge to effectively support the challenges of the green and digital transitions that are seizing opportunities across all disciplinary areas is urgently needed. The discussion of the **digital transformation focused on the mineral water sector** (i.e., “Thermal Water 4.0”) will benefit from opening this debate to research communities across the entire spectrum of thematic areas;
- Innovation across the current institutional landscape and with diversified stakeholder groups is essential in order to build the necessary economic and environmental resilience, to address the social context and, above all, the inequalities that persist across our societies. This will provide an European-wide application of well-coordinated innovative purposes of **mineral water as a geothermal energy source and a decisive asset for regional sustainability**;
- There is a need to improve the scientific culture and the public understanding of science, which will help guide our common future, create knowledge, share methodologies and deepen **people comprehension concerning the therapeutic use of mineral water**;
- The uniqueness of natural resources depends on the creation and the **development of knowledge and innovation on mineral water to revitalize the sector and European inherent regions**, through innovative forms of transdisciplinarity.

We acknowledge the enormous success at the European level of a few research and higher education institutions focused on innovation in thermalism, including entrepreneurial actions aimed at developing educational and research activities focused on improving personalised SPA treatments. In addition, the potential evolution of thermalism and its emerging convergence with the tourism sector requires effective innovative actions to foster new products and systems based on mineral water and their effective dissemination and valorization in global markets.

We recognise the important role of AQUAFORUM in triggering and expanding European networks on mineral water, as well as to act as a vehicle for the establishment of new partnerships that might lead to new knowledge, new developments and new applications and uses in different markets. These markets will leverage the regional and national European economies, as they are relevant for the society and can play a fundamental role in shaping a better future.

We recognise the complexity, transdisciplinarity and diversification associated with research and innovation activities related to mineral water and consider that an important step towards the increasing relevance of thermalism in Europe is the imple-

mentation of a **European network focused on leading mineral water research and innovation**. This European network is oriented towards collaborative and cooperative activities to foster the use of mineral water and of sustainable solutions that boost citizens wellbeing and regional development.

It is under this context that the establishment of the **AQUANET – The European Mineral Water Research, Innovation and Valorisation Network** considers a wide set of entities focused on further developing mineral waters and related products, systems and equipments, as well as their technical and social adoption throughout Europe and the world.

The undersigned agree to work towards the promotion of **AQUANET together with citizen-centered, research-driven thermal water innovation in Europe** and:

- Implement **cutting edge scientific research** in order to be internationally recognized as a network of experts on mineral water that has a powerful and cooperative ability to foster innovation and development of **novel solutions and uses of natural resources**;
- Foster **collaborative and multidisciplinary ventures** engaging thermal SPAs and associations, research and innovation centres, natural mineral water companies, medical hydrology societies, geothermal energy companies and digital transformation consulting agencies in a way to promote the **development of new and innovative European products, systems and equipments, as well as their technical and social adoption throughout Europe and the world**;
- Develop both theoretical and practical research and innovation activities and establish **thematic partnerships** to apply for funding, solve specific issues, and idealize potential future usages of mineral water.
- Foster **regional collaborative platforms among European regions with mineral water resources**, guaranteeing their inclusive and sustainable development based on knowledge-driven, research and innovation activities leading to sustainable job creation and the attraction of skilled human resources, in close association with sustainable economic activities.

The undersigned invite the European Commission to participate in this endeavour and work with the signatories to best support it at the EU level.

*This Manifesto is open to be signed by citizens and institutions, at <https://aquavalor.pt/aquaforum/>
It was launched at Chaves, Portugal, on June 18th, 2021, by:*

Manuel Heitor, Minister for Science, Technology and Higher Education, Portugal:

Pedro Cantista, Sociedade Portuguesa de Hidrologia Médica e Climatologia/
International Society of Medical Hydrology and Climatology – ISHM, Portugal:

Umberto Solimene/Massimo Boaron, World Federation of Hydrotherapy and Climatotherapy – FEMTEC, Italy:

Christian-François Roques, Association Française pour la Recherche Thermale – AFRETh, France:

Marco Vitale, Fondazione per la Ricerca Scientifica Termale – FoRST, Italy:

Claude-Eugène Bouvier, Conseil National des Exploitants Thermaux – CNETh, France:

Gerardo Fidalgo, Eurocidade Chaves-Verin, Portugal:

Manuel Baltar, European Historic Thermal Towns Association – EHTTA:

Ása Brynjólfsdóttir, Blue Lagoon, Iceland:

Müfit Zeki Karagülle, Istanbul Medical Faculty, Istanbul University, Istanbul:

Tamás Bender, Buda Hospital of the Hospitaller Order of Saint John of God, Hungary:

Universidade de Vigo, Spain:

Francisco Maraver, Sociedad Española de Hidrologia Médica – Universidade Complutense de Madrid, Spain:

Gisèle Kanny, Société Française de Médecine Thermale, France:

Antonella Fioravanti, Organisation Mondiale du Thermalisme, Italy:

Jacek Chojnowski, Polish Association of Balneology and Physical Medicine, Poland:

Olga Surdu, World Federation of Hydrotherapy and Climatotherapy – FEMTEC, Romania:

Thierry Dubois, European SPAs Association, ESPA, :

Massimo Caputi, Federazione Italiana delle Industrie Termali e delle Acque Minerali e delle Benessere Termale – FEDERTERME, Italy

Frédéric Bauduer, Institut du Thermalisme de l'Université de Bordeaux, Campus Santé Dax, France:

Direção Geral de Energia e Geologia de Portugal – DGEG, Portugal

L'Óreal, Portugal

Marisol Espiño, Asociación de Balnearios de Galicia – BALNEGAL, Spain:

Laboratoires Dermatologiques d'Uriage, Portugal

Miguel Mirones Díez, Asociación Nacional de Balnearios – ANBAL, Spain:

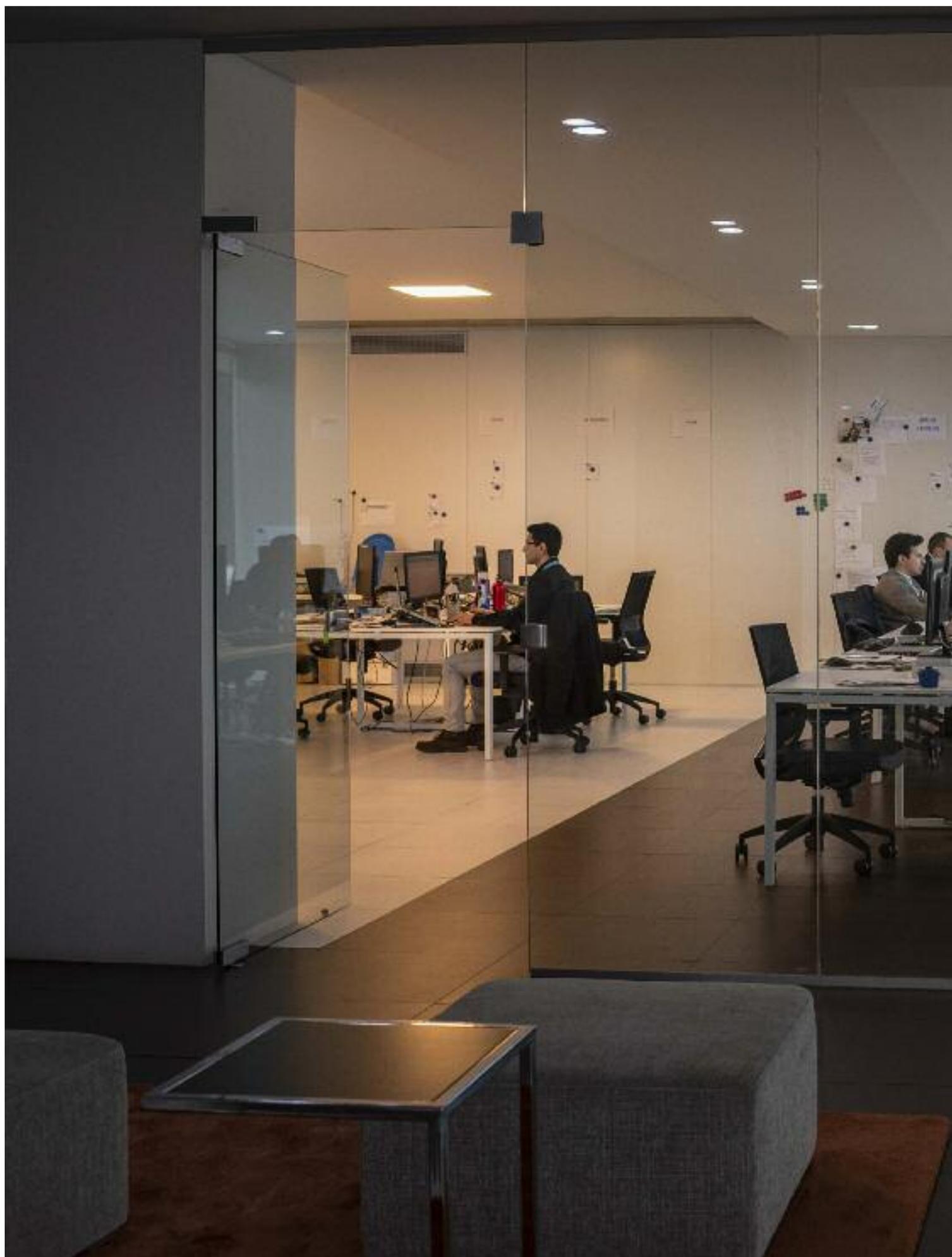
Fernando Queiroga, AquaValor - Centro de Valorização e Transferência de Tecnologia da Água, Portugal:

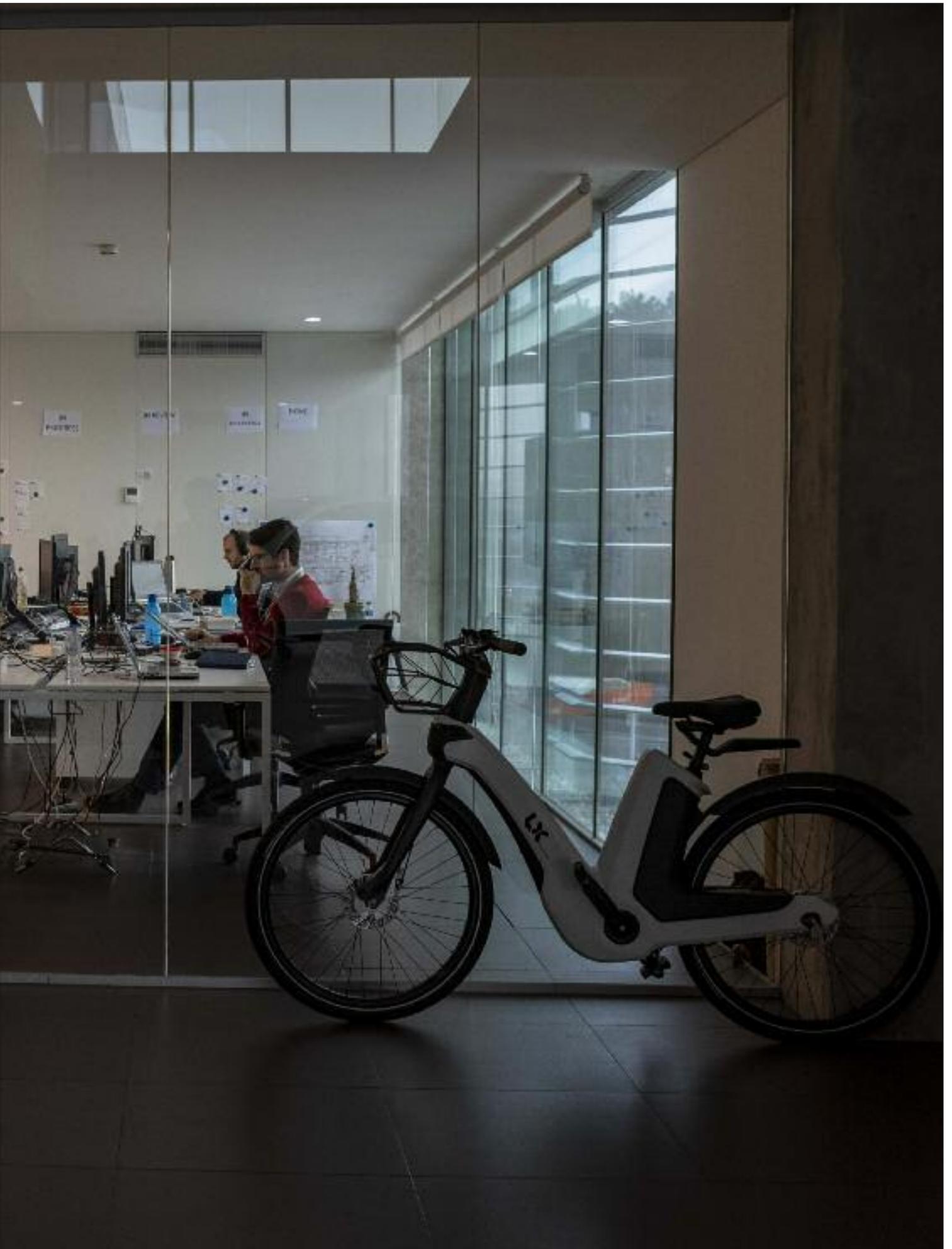
Victor Leal, Associação de Termas de Portugal, Portugal:

Joaquim Luís Galego Lopes, Associação Portuguesa de Geólogos, Portugal

EDA – Electricidade dos Açores, Portugal

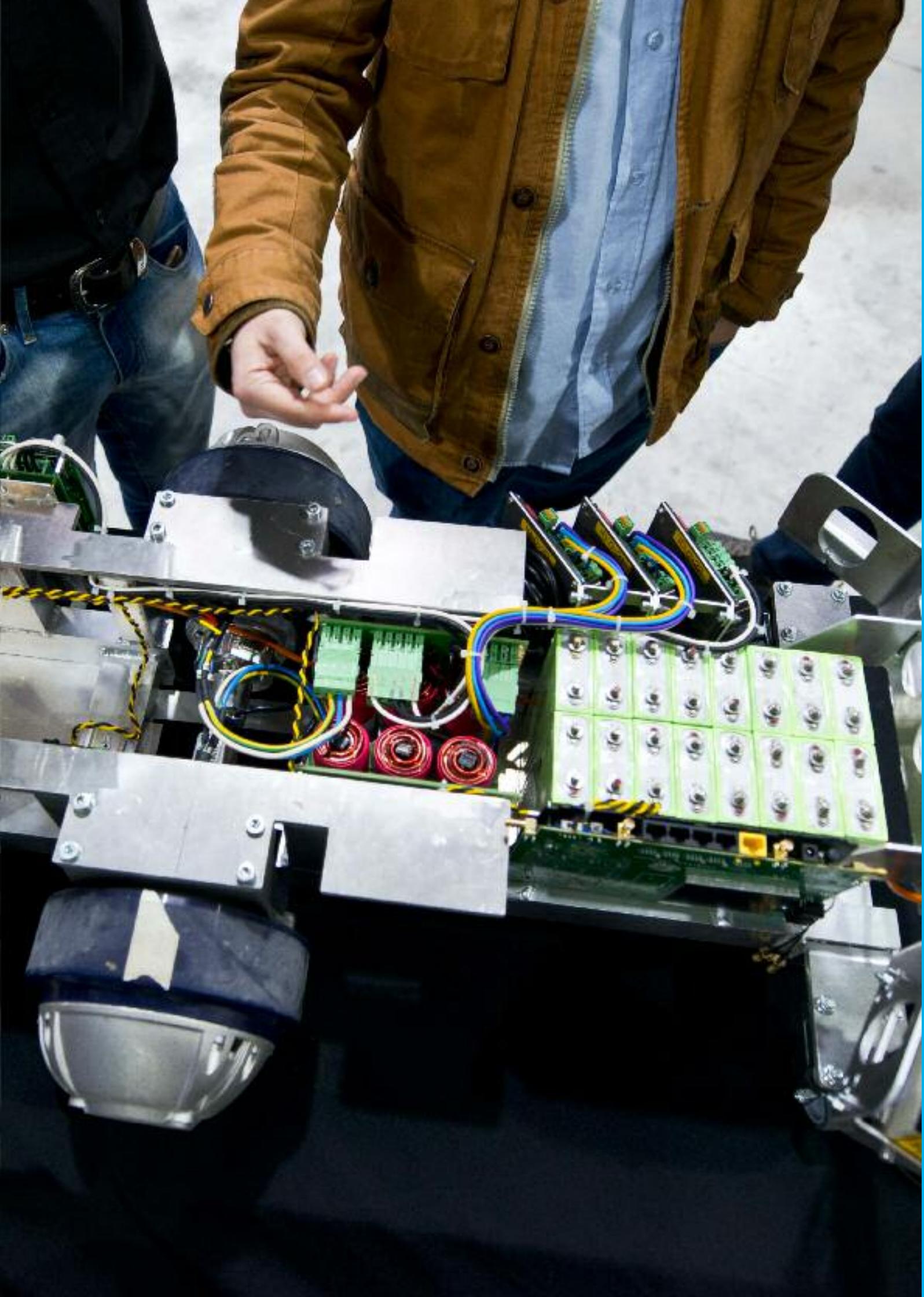












Part 4:

Main events and issues discussed during the Portuguese Presidency of the Council of the European Union, 2021, in the areas of Research, Innovation and Higher Education

TITLE	DATE / LOCATION	SHORT DESCRIPTION
<p>Inaugural concert of the PPUE in the field of research, innovation and higher education</p>	<p>Lisbon 6 January</p>	<p>Concert "Les Indes Galantes – Indian Classical Music Meets French Baroque" of Helsinki Baroque Orchestra, in collaboration with Músicos do Tejo. Maestro Marcos Magalhães with the participation of Indian musicians Shashank Subramanyam, flute and Patri Satish Kumar, mridangam and kanjira.</p> <p>Streaming: https://www.youtube.com/watch?v=w-0CQVPQQQ0</p>



<p>Informal Videoconference of Education Ministers</p>	<p>CCB/Online 22 January</p>	<p>The meeting happened under the theme “The road to the Social Summit in Porto: the contribution of Education and Training” and was hosted by the Portuguese Minister for Science, Technology and Higher Education and Minister of Education, with participation of Education Ministers from EU Member states, the European Commissioners for Innovation, Research, Culture, Education and Youth and Commissioner for Jobs and Social Rights,.</p> <p>Website: https://www.2021portugal.eu/en/news/informal-video-conference-of-education-ministers/</p>
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<p>European ENGAGED University</p>	<p>Bragança 26-27 January</p>	<p>Launching of European Engaged University, one of the 41 Alliances of European Universities, with the participation of Instituto Politécnico de Bragança and higher education institutions from the Netherlands, Romania, Ireland, Finland and Germany.</p> <p>Website: https://atualidades.ipb.pt/sistema/anexos/1287_1611597552.pdf</p> <p>Streaming: https://youtu.be/BGARPsCOKpl</p>
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TITLE	DATE / LOCATION	SHORT DESCRIPTION
European Launch of Horizon Europe	CCB/online 2 February	<p>Launching of Horizon Europe, the EU's main initiative aimed at supporting R&I, from initial conception to marketing, and complements national and regional funding. The goal is to mobilise all of Europe, promoting coordination with the national recovery and resilience programmes, which are being prepared under the scope of the "Next Generation EU" programme. The Horizon Europe programme has a projected budget of EUR 95.5 billion, to be distributed between 2021 and 2027.</p> <p>Streaming: https://www.youtube.com/watch?app=desktop&v=UyjoJv-Kqe4f</p>



Videoconference Informal Meeting of Competitiveness (research)	CCB/online 3 February	<p>Research ministers had the opportunity to exchange views on the priorities identified by PPUE in this area, namely:</p> <ol style="list-style-type: none"> 1 – The relationship between research and innovation and the creation of new jobs in the European Union, particularly through the synergies to be created between the Horizon Europe programme for 2021-2027, the national economic recovery programmes (Next Generation EU, 2021-2027) and the structural funds for the coming years. 2 – The need to encourage open cooperation, to generate new skills and expertise in the European Union, based on inter-institutional cooperation and on innovative observation methods, at the same time as opening up new horizons for research and innovation. 3 – Stimulus for attracting, increasing and promoting qualified human resources in the area of European research, in public and private institutions, including strengthening the synergies between national research agencies and the European Commission. <p>Website: https://www.2021portugal.eu/en/news/informal-video-conference-of-competitiveness-ministers-research/</p> <p>Press conference - Part 1 https://newsroom.consilium.europa.eu/permalink/223823</p> <p>Press conference - Part 2 https://newsroom.consilium.europa.eu/permalink/223839</p>
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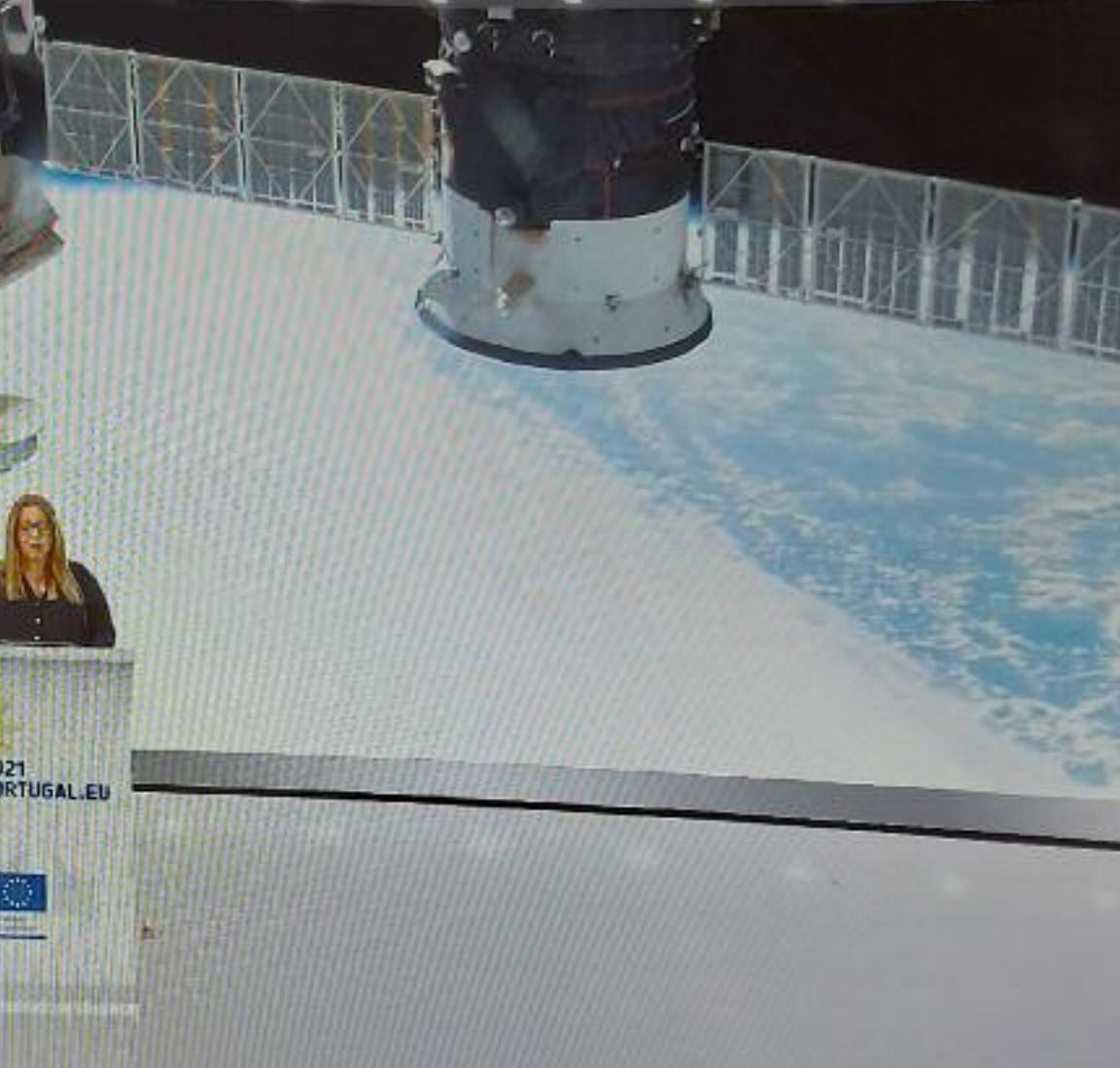
TITLE	DATE / LOCATION	SHORT DESCRIPTION
Clinical Academic Centers: the impact on clinical research	Loulé 10 March	<p>International conference attended by representatives of different Clinical Academic Centres (CACs), who discussed the role of CACs in clinical research sharing experiences on specific clinical cases, practices and operating models in CACs in Europe.</p> <p>Website: https://abcmedicalg.pt/pt/formacao/11 Streaming: https://www.youtube.com/watch?v=HHyqx82pnJY</p>
41 st European Students Convention	Online 15-17 March	<p>International conference organised by ABC (Algarve Centre for Biomedical Academic, Training & Research) and AICIB (National Agency for Clinical Research and Biomedical Innovation) attended by representatives of different Clinical Academic Centres (CACs), who discussed the role of CACs in clinical research sharing experiences on specific clinical cases, practices and operating models in CACs in Europe</p> <p>Website: https://abcmedicalg.pt/pt/formacao/11 Streaming: https://www.youtube.com/watch?v=HHyqx82pnJY</p>
Launch ceremony of the European Innovation Council	Online 18 março	<p>The European Innovation Council (EIC) is a key novelty of Horizon Europe and represents the most ambitious innovation initiative that Europe has taken, with a budget of €10 billion for the period 2021-2027. The EIC has a mission to identify, develop and scale-up breakthrough technologies and disruptive innovations. The EIC will support startups, SMEs and research teams developing high-risk, high-impact breakthrough innovation, with a particular focus on scaling up game-changing solutions that contribute to the objectives of the European Green Deal and the Recovery Plan for Europe.</p> <p>Website: https://eic.ec.europa.eu/index_en</p>
Conference on Medical Training: What kind of doctor do we want for the future?	Online 18 March	<p>The Federation of European Academies of Medicine (FEAM), with support of the Portuguese Academy of Medicine, organised the digital conference focused on the future of the medical profession, from the training of young professionals to the challenges on the integration of academic medicine in medical practice.</p> <p>Website: https://www.feam.eu/conference-on-medical-training/.</p>
Launching of the European University Network E ³ UDRES ²	Setúbal 22-23 March	<p>Launching of E³UDRES²- <i>Engaged and Entrepreneurial European University as Driver for European Smart and Sustainable Regions</i>. One of the 41 networks of European universities with the participation of the Instituto Politécnico de Setúbal and HEI from Austria, Hungary, Belgium, Romania and Latvia.</p>
Arctic Science Summit Week 2021	Online 20 a 26 March	<p>The Arctic Science Summit Week was launched in 1999, with the aim of providing opportunities for coordination, cooperation and collaboration between the different scientific organisations involved in research in the Arctic, so as to discuss the scientific advances regarding the region. Portugal was the host country for ASSW 2021, on the theme of "The Arctic: Regional Changes, Global Impacts". The event was organised by Fundação para a Ciência e a Tecnologia, Ciência Viva agency, AIR Centre, the Portuguese Arctic community and the IASC.</p> <p>Website: https://assw2021.pt/</p>



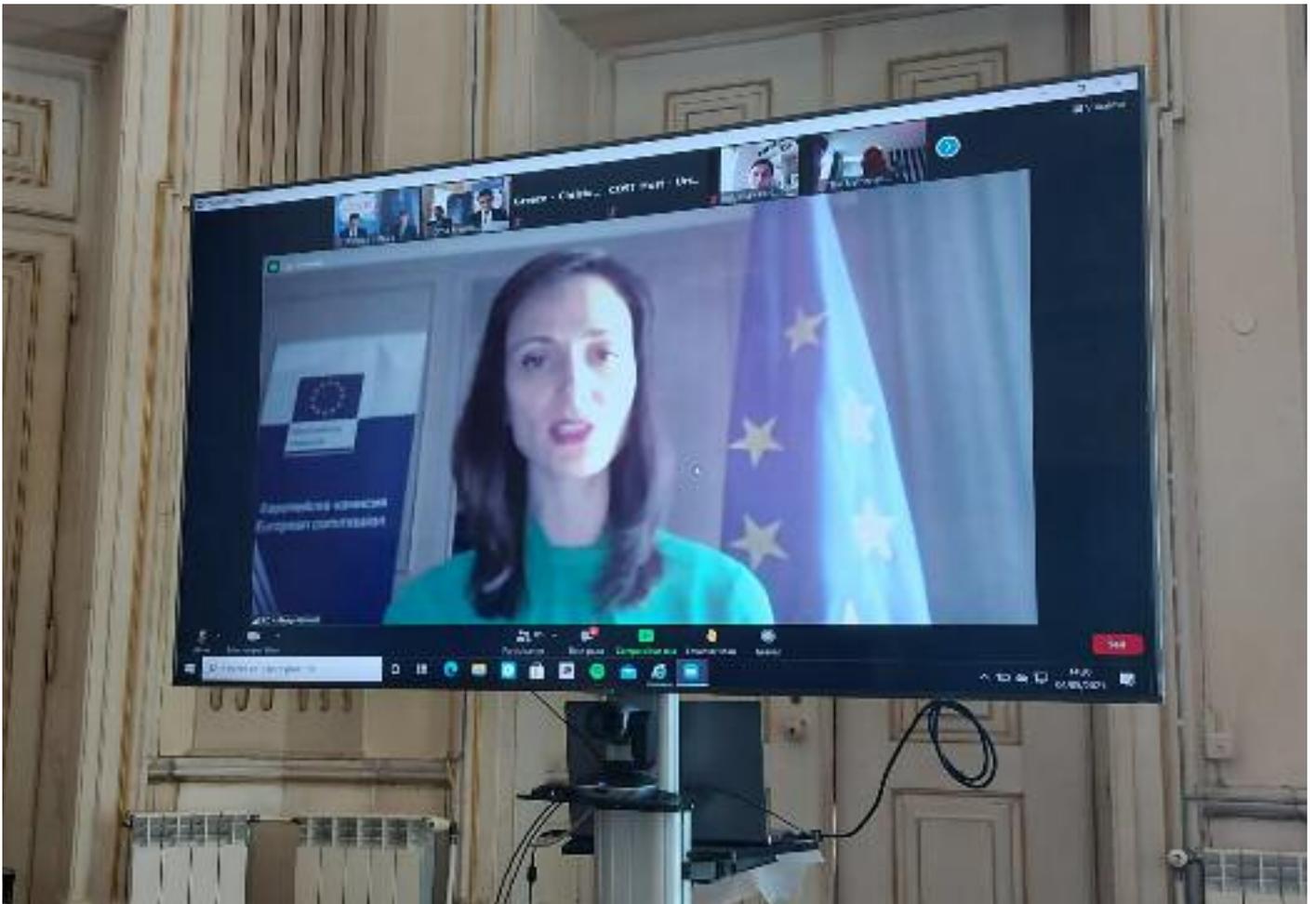
TITLE	DATE / LOCATION	SHORT DESCRIPTION
EuroHPC Summit Week	22 a 26 March Online	<p>EuroHPC Summit Week (EHPCSW) 2021 brought together all the European entities involved in High Performance Computing (HPC), from technology and infrastructure providers to HPC scientific and industrial users.</p> <p>https://events.prace-ri.eu/event/1018/overview</p>
EU University & Culture Summit: Fostering the Union through Culture and the Arts	Online 29 e 30 March	<p>This summit brought together representatives from all European Union (EU) countries to map out good practice and discuss the crucial and democratic role that the arts can play in the repositioning of EU universities in the world. It is hoped that this will be the first step in the construction of a cultural corridor for higher education students in the EU.</p> <p>https://www.university-and-culture.pt/2021/web/home.php</p>
Meeting of the Directors General for Higher Education	Online 8-9 April	<p>Official Meeting of Directors General for Higher Education, with over 100 participants from all Member-states, the European Commission and various stakeholders. Discussions centered on:</p> <ol style="list-style-type: none"> 1. the transformative agenda for Higher Education - European Universities as testbeds of good practices for teaching and research; 2. Mobility and the challenges ahead with the contribution of the Erasmus+ to widening the social inclusion across Europe, reducing inequalities and opening up more opportunities of mobility for all; 3. Linking Higher Education and the labour market - Labour Market Relevance and Outcomes of Higher Education project – LMRO - (EC&OECD) and micro-credentials promoting new ways to learn and teach, converting and acquiring new skills 4. Education for environmental sustainability – contributions, perspectives and best practices
Conference Heritage and Culture exchange Routes: to debate, preserve and enhance	Tomar 12-13 April	<p>Conference focused on the academic and societal debate on cultural heritage, its relevance, diversity and social meaning in a context of a European population which is more diversified and mobile. Event organized by Instituto Politécnico de Tomar in collaboration with CCSISP, CIPSH, UNESCO-MOST, APHELEIA, research centers of IPT (FCT network), Erasmus Mundus masters and various cátedras UNESCO and CIPSH.</p> <p>Website: https://www.pric.ipt.pt/pt/programa/</p>
Conference “European Universities: pioneering transformation in education, research and innovation	Leiria 14 April	<p>Conference focused on the importance of European universities as international networks of knowledge, co-creation, collaborative and connected training (i.e. European degrees), regional development and European cohesion, as well as the promotion of a European identity through the ecosystems of knowledge and innovation.</p> <p>https://euconference.ipleiria.pt/</p>
Meeting of the Bologna Follow up Group (BFUG)	Porto 15-16 April	<p>Official meeting of BFUG, with representatives from 46 European countries and the European Commission.</p>

TITLE	DATE / LOCATION	SHORT DESCRIPTION
<p>Europe: a Knowledge and Science Bridge Towards a Global Circular Economy</p>	<p>Oliveira do Hospital 20-21 April</p>	<p>International conference presenting a series of sessions based on the main priorities of the Portuguese Presidency, "Promoting a European recovery leveraged by the climate and digital transitions", focusing particularly on the circular economy. The sessions, were organised within six main topics: Green and global Europe; Knowledge and science: The pillar and the basis for the development of the circular economy; Green funds and financial instruments; Regional symbioses; Younger generation; and Contribution of the circular economy to a sustainable economic recovery post-COVID-19.</p> <p>Website: https://www.ecolab.pt/events/ppue/</p>
<p>High Level Conference on Climate Science from Space: Synergies for a greener innovation economy</p>	<p>Matosinhos/ online 21-22 April</p>	<p>This international conference aimed to build bridges between space data collection technologies and services and climate ecosystems as a contribution to a greener and more resilient economic and social transition to climate change. It addressed specific examples of development and innovation in various sectors, with the aim of showing how space-data-based services are of fundamental importance to our improving daily life and helping to protect our planet. The conference brought together policy makers, stakeholders from international organizations, academia, major industries, SMEs, research centres and civil society, so as to encourage open debate on space-related activities and climate action.</p> <p>Website: https://www.climatesciencespace.eu/</p>
<p>EIT Culture & Creativity - Webinar on new innovation opportunities</p>	<p>Online 21 April</p>	<p>The EIT's new strategy for 2021-27 presents the creation of a new EIT Knowledge and Innovation Community (KIC) in the Cultural & Creative Sectors and Industries. By uniting cultural and creative organisations from business, higher education and research in a pan-European innovation ecosystem, this new EIT KIC will deliver innovative solutions to help these sectors and industries become stronger and more resilient. EIT Culture and Creativity will create new opportunities for entrepreneurial education, innovation, business creation and acceleration to power Europe's next generation of innovators and creatives.</p> <p>Website: https://eit.europa.eu/news-events/events/eit-culture-creativity-webinar-new-innovation-opportunities</p>
<p>Green and Digital Transition in the Recovery Plans: The sovereignty of technology and innovation</p>	<p>Online 26 April</p>	<p>Event devoted to discussing the green and digital transition in the recovery plans, particularly addressing the role of technology and innovation in the development and promotion of regional, national and European technological capabilities. Organised by the Portuguese National Innovation Agency, in association with the European Association of Research & Technology Organisations (EARTO).</p> <p>Website: https://green-digital-transition-recovery-plans2021.pt</p>





TITLE	DATE / LOCATION	SHORT DESCRIPTION
<p>Conference: Emerging Infectious diseases and related environmental, clinical and translational challenges</p>	<p>Coimbra 27 April</p>	<p>Conference co-organised by the Portuguese Presidency of the Council of the EU through the University of Coimbra and AICIB and by the European Molecular Biology Laboratory, focusing on key aspects that have emerged in the area of infectious diseases in recent years, but that have become more acute since the COVID-19 pandemic. It was attended by well-known international experts in the area of molecular biology of viruses, infectious diseases, immunology and the development of vaccines in order to present the progress the scientific community has made in its response to the COVID-19 pandemic and to discuss the importance of scientific infrastructure and research funding.</p> <p>Website: https://www.uc.pt/en/2021PortugalEU/EIDConferenceStreaming: https://www.youtube.com/watch?app=desktop&v=A8KiCwd3YY</p>
<p>Em Abril, digitais mil!</p>	<p>Viseu 29 April</p>	<p>Organised by the Instituto Politécnico de Viseu. One of the priorities of the Portuguese Presidency of the Council of the EU is to speed up the fair and inclusive digital transition.</p> <p>The role to be played by institutes of higher education in order to achieve European leadership in the digital economy includes reinforcing digital skills in three areas: citizenship, knowledge and employment, to which we have added the concept of digital democracy.</p> <p>Website: www.abrildigital1000.ipv.pt</p>
<p>European Cancer Research Summit</p>	<p>Porto, 3 May</p>	<p>The European Cancer Research Summit , an initiative by the Ministry of Science, Technology and Higher Education in association with the Health Ministry, in a context where the subject of cancer takes on particular relevance by the current Trio of Presidencies, which have signed in October 2020 on a joint declaration ‘ Europe Unite Against Cancer’ in the cancer research area, while also adopting Europe’s Beating Cancer Plan.</p> <p>Website: http://ipoporto.pt/en/evento/european-cancer-research-summit-2021/</p>
<p>Meeting of the High Level Group on Education and Training Policies</p>	<p>Online 3 May</p>	<p>Meeting of Member States representatives responsible for Education, Training and Higher education as well as the European Commission.</p>
<p>COST European Cooperation in Science & Technology Ministerial Conference</p>	<p>Porto 4 May</p>	<p>Portugal has presided over the COST Association since 2019 and, in 2021, COST celebrates its 50th anniversary as a critical instrument in the European Research Area for the creation of knowledge networks.</p> <p>Website: https://www.cost.eu/</p>





TITLE	DATE / LOCATION	SHORT DESCRIPTION
EuroNanoForum	Braga/Online 5-6 May	<p>The EuroNanoForum 2021 is the benchmark European event in the areas of nanotechnology and nanoscience, as well as advanced materials. The event promoted the role of the nanoindustry on the road to a greener, more resilient Europe. Conference brought together experts from different sectors to identify priorities, share views on technical, industrial and social challenges and define the extent to which nanotechnology and advanced materials will play a part in the solutions Europe needs.</p> <p>Website: https://euronanoforum2021.eu/</p>
European Humanities Conference	Lisbon 5 - 7 maio	<p>Following the <i>World Humanities Conference 2017</i>, the European Humanities Conference, organized by UNESCO, CIPSH and FCT entitled "European Humanities and Beyond", this initiative is aimed at better coordination of national and European R&D strategies in order to enable a joint, more effective response to societal problems in Europe, including European responsibilities beyond its borders, particularly in terms of global crises.</p> <p>Website: http://www.europeanhumanities2021.ipt.pt/</p>
High-level Roundtable on Nano Technologies and Materials	Braga/online 5 May	<p>High level Roundtable organized by the European Commission and the Portuguese Presidency with the participation of leading CEOs of European companies CEOs and Research Technology Organizations in the nano and material fields.</p>
1 st EuropaBio NAC Summit 2021: Building on biotechnology: From vaccines to economic growth for Europe	Online 10 May	<p>Event organized by NAC – National Council of European Biotechnology Associations in collaboration of P-Bio – Portuguese Association of Bioindustries, reflecting the priorities for the commercial development of sector in Europe.</p> <p>Website: https://www.europabio.org/event/building-on-biotechnology-from-vaccines-to-economic-growth-for-europe/</p>
Sustainable Tourism: Contributes for the local and regional development	Online 12 May	<p>Roundtable organized by the European Commission with the Support of the Presidency, with CEOs of leading European companies focused on the European priorities for R&D in the nuclear field and the attraction of talents to this sector.</p>
The relevance of Society for Science/ Caminhos do conhecimento	Tavira 14 May	<p>Event organized by Agência Ciência Viva in partnership with ECSITE - European network of museums and science centers.</p> <p>Website: www.streamsofknowledge.org/en/2021/</p>
Conference Clinical Academic Centers in Europe: Challenges and Opportunities	Covilhã 19 May	<p>CACs are a unique opportunity to aggregate and consolidate research, teaching and healthcare provision in a collaborative strategy aiming at achieving excellence at all of those levels. This implies well-defined institutional vision and aims, as well as nationally and internationally aligned strategies bringing together the work of institutions integrated in the different formats of CAC. Event was organised by the University of Beira Interior and AICIB. Participants debated the development of Clinical Academic Centers in their various dimensions.</p> <p>https://www.ubi.pt/Entidade/clinical_academic_centers_in_europe</p>

TITLE	DATE / LOCATION	SHORT DESCRIPTION
30 th Anual Conference EURASHE	Online 20-21 May	<p>Annual event of EURASHE - European Association of Institutions of Higher Education. Organised in partnership with CCISP (Portuguese Polytechnics Coordinating Council) and the Instituto Politécnico do Porto with the main theme: 'Professional Higher Education for Sustainable Development: Creating a Change that Endures'.</p> <p>Website: https://www.eurashe.eu/events/annual-conferences/30th-annual-conference-online-20-21-may-2021/</p>
Waste Biorefinery towards Decarbonization	Portalegre 24 May	<p>Organised by the Instituto Politécnico de Portalegre and its Research Center VALORIZA. Participants analysed the challenges and opportunities brought by the development of waste biorefineries as a strategy for environmental valorisation, decarbonisation and increased circular bioeconomy.</p> <p>Website: https://www.ipportalegre.pt/pt/2021/05/24/conferencia-no-ambito-da-presidencia-portuguesa-do-conselho-da-uniao-europeia/</p>
From the Sea to Society	Peniche/online 25 May	<p>Conference focusing on the need to share and place greater importance on knowledge and technology for sustainability, and to raise the importance of marine resources for the socio-economic development of coastal communities. The conference addressed specific examples of innovation in industrial sectors of the blue bio-economy (e.g. fishing, fish farming, and fish processing), partnerships between scientists and actors in the blue economy, and the differing approaches of coastal communities with an impact on tourist and industrial activities.</p> <p>Website: https://sea2society.ipleiria.pt</p>
Agri-food Ecosystem 2021	Santarém 26- 27 May	<p>Organised by Instituto Politécnico de Santarém. Participants debated the promotion of a Research and Innovation Strategy which advances the sustainable ecological transition of agro food systems.</p> <p>Website: https://www.ipsantarem.pt/pt/agri-food-ecosystem-2021/</p>
One Health: new insights and challenges of zoonotic diseases	TVila Real /online 1-2 June	<p>International One Health conference focusing on global trends and challenges related to the relationship between human health and animal health, taking a close look at zoonotic diseases.</p> <p>Website: https://eventos.utad.pt/evento/one-health/</p>
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All-Atlantic R&I for a Sustainable Ocean: Ministerial High-level & Stakeholders Conference	Ponta Delgada 3 - 4 June	<p>The conference promotes transatlantic cooperation in marine research and innovation (R&I) from “pole to pole” and was attended by high-level representatives and stakeholders in marine R&I, along and across the Atlantic Ocean, in a dialogue that will contribute to reinforcing the scientific diplomacy efforts which began in Europe in 2011, with the launch of the Atlantic strategy and its first action plan and the signing of declarations in Galway and Belém. It was a step forward in transatlantic cooperation, as well as an opportunity to discuss the progress made in this area so far, endorsing a vision for the coming years and launching a “Pledging Platform” as a new approach to existing cooperation.</p> <p>Website: https://www.allatlantic2021.eu/ Streaming: https://youtu.be/_jEtKac2CPk</p>
Riding the Next Wave of Research Data: Leveraging the COVID-19 response towards advancing data interoperability in priority areas	Lisbon 7 June	<p>The COVID-19 pandemic has shown the importance of global cooperation and prior data and information sharing. Data interoperability is imperative in public emergencies, when the right answers need to be identified quickly, such as the development of COVID-19 vaccines or treatments that depend heavily on the capacity to integrate different types of data from laboratories, hospitals and industrial environments.</p> <p>Website: https://www.fccn.pt/en/interoperability-workshop</p>
New Space Atlantic Summit	Coimbra 8-9 June	<p>Conference on New Space with a focus on Earth observation and downstream applications. The Presidency will assure the launch of the European Union Space Programme, paying particular attention to the development of New Space, including the use of space technologies and applications in non-space sectors and in public policies, given their impact on European productivity and competitiveness.</p> <p>Website: https://newspaceatlanticsummit.com Streaming: https://www.youtube.com/watch?v=7eR1E6n_Elo</p>
28th Annual Joint Meeting of the ENIC-NARIC Networks	Online 9 June	<p>National representatives of the ENIC (European Network of Information Centres in the European Region)-NARIC (National Academic Recognition Information Centres in the European Union) networks debated the impact of COVID 19 on higher education and the future of recognition and the future of recognition after COVID 19.</p> <p>Website: https://enicnaric2021.com</p>
AEuCNC 6G 2021 Communication Networks	online 9-11 June	<p>The European Conference on Networks and Communications and 6G – 2021 EuCNC & 6G Summit addressed relevant topics in telecommunications, including communications systems and networks, experimentation and implementation and services and applications in the areas of 5G, mobile IoT and 6G.</p> <p>Website: https://www.eucnc.eu/</p>





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Europe- Africa Space Earth Observation High-Level Forum	Lisbon 10-11 June	<p>The initiative co-organised by the Portuguese Presidency, the African Union Commission, the European Commission, the European Space Agency, the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), the Portuguese Space Agency and the AIR Centre. On the subject “Space as an enabler for the digital and green transitions, with earth observation fostering sustainable development, new skills and job creation”, it boost cooperation between Africa and Europe and to develop data processing systems.</p> <p>https://africaeurope-eoforum.eu</p>
Launch event for the Strategic Innovation Agenda of the European Institute of Innovation and Technology (EIT) 2021-2027	online 14 June	<p>The EIT has big ambitions for the coming years, as presented in the EIT Strategic Innovation Agenda (SIA) for 2021-2027. To raise awareness of these new opportunities, and to provide a platform for an exchange of views with stakeholders, the EIT together with the Portuguese Presidency of the Council of the European Union organized this event to mark the launch of the new EIT Strategy.</p> <p>https://www.youtube.com/watch?v=W3K5uB4lco&t=21s</p>
Anthropocene Summit 2021	Foz Coa 15-17 June	<p>The Anthropocene Forum 2021 addressed the need for an inclusive EU agenda to deal with the challenges of a rapidly changing world, promoting critical knowledge, sustainable innovation and a new educational paradigm. Some of the most renowned experts in the world took part in the discussions on the Anthropocene geological epoch, recently supplemented by the Human Development Report 2020, released by the United Nations Development Programme (UNDP), on the subject of “The next frontier. Human development and the Anthropocene”.</p> <p>Website: https://anthropoceneforum.ciuhct.org</p>
Sustainability through agriculture 4.0: European wine sector greatest challenge	Vila Real 16 June	<p>Organized by COLAB Vines & Wines. Included the latest developments in digitalisation and mecanisation and its application towards sustaibale viticulture.</p> <p>Website: https://www.colabvinesandwines.pt/en/</p>
Citizen-centered, Research-driven Creative Industries for Europe: Launching the Lisbon Manifesto	Lisbon 17 June	<p>A European round table on research and innovation for creative industries, co-organised by the Portuguese Presidency of the European Union Council, in collaboration with the European Parliament and the European Commission</p> <p>Website: https://www.pavconhecimento.pt/creative-industries/</p>
High-Performance Computing for Science and Innovation	Guimarães 18 June	<p>A high-level round table co-organised by the European Commission and the Portuguese Presidency of the European Union Council , bringing together the new five European HPC petascale systems Bulgaria, Czech Republic, Luxembourg, Slovenia, and Portugal.</p> <p>Streaming: https://www.youtube.com/watch?app=desktop&v=zzmpEMd0Xuw</p>



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<p>High Level Conference on Research and Innovation in Thermal Waters: opportunities for European regions</p>	<p>Chaves 18-19 June</p>	<p>Conference organised by AQUAVALOR (Center for the Valorisation and Technology Transfer of Water) brought together thermal waters' R&D teams of different European countries, promoting collaboration in future research projects and the internationalisation of the sector.</p> <p>Website: https://aquavalor.pt/aquavalor-organiza-evento-europeu-dedicado-a-agua-mineral/</p>
<p>European Launching of Erasmus +</p>	<p>Viana do Castelo 18 June</p>	<p>Erasmus+ is the EU's programme to support education, training, youth and sport in Europe. The New Erasmus+ has an estimated budget of €26.2 billion. The 2021-2027 programme places a strong focus on social inclusion, the green and digital transitions, and promoting young people's participation in democratic life. It supports priorities and activities set out in the European Education Area, Digital Education Action Plan and the European Skills Agenda. The programme also supports the European Pillar of Social Rights, backs European cooperation in education and training, implements the EU Youth Strategy 2019-2027 and develops the European dimension in sport.</p> <p>Streaming: https://www.youtube.com/watch?v=_4_B8wWeaS0</p>





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Workshop on Foresight in Research & Innovation	Online 22 June	Event co-organised with FCT and the European Commission with participation of European Member states . Issues debated included: From Megatrends to Global Uncertainties on R&I and The Importance of Global Uncertainties and Actions to Cope with Those –Perspectives across Countries.
Symposium on Advancing European Universities	Online 22 June	Event organised by CEASER, which unites over 50 leading research-intensive specialised and comprehensive universities of science and technology in Europe and beyond. Participants debated the development of the European Universities initiative, the role of the alliances in the European Strategy for Universities and transformation of higher education.
Digital Literacy for Labour market inclusion	Santarém 25 June	Event promoted by Instituto Politécnico de Santarém within the framework of the European project Starting Up 4 Inclusion, with partners in Croatia and Spain. It was also presented the diplomas to the final year students of the course Digital Literacy for Labour market and launched the First Escape Room in a HEI environment .



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