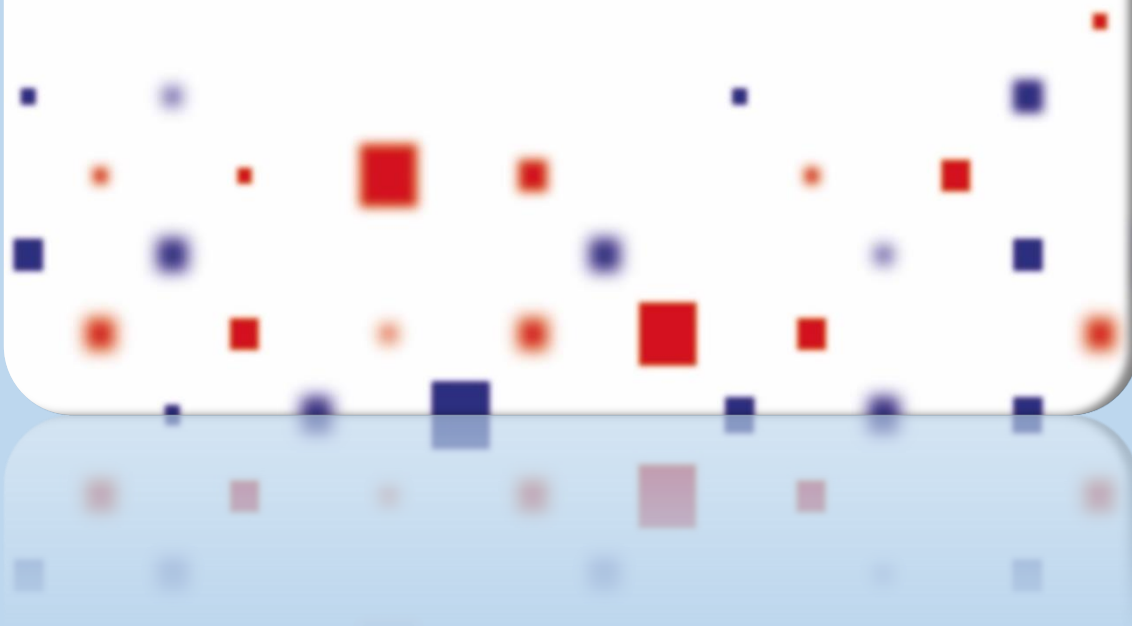


ZAGREB CALL FOR ACTION ON BRAIN CIRCULATION 2020



Hrvatsko predsjedanje
Croatian Presidency of the
Vijećem Europske unije
Council of the European Union





Croatian Presidency of the
Council of the European Union

Talents are distributed evenly, but opportunities are not!

Prof. Blaženka Divjak, PhD, minister



Croatian Presidency of the
Council of the European Union

This document is the result of the initiative on brain circulation of the Croatian Presidency of the Council of the European Union in 2020.

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Our special appreciation goes to all the members of the Croatian Task Force on Brain Circulation who worked diligently on this document during these exceedingly challenging times in Croatia.

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Significance and challenges of brain circulation for Europe

Brain circulation, connects excellence with international mobility and realization of researchers' full potential, contributing to Europe's competitiveness on a global scale. It provides the most necessary stimulus to the knowledge and innovation exchange, contributes to the national and European socio-cultural progress, and strongly supports the institutional progress and economic development. Combined with excellence, brain circulation tends to raise work standards and the overall R&D&I labour market, subsequently creating better research surroundings and frameworks for short-term and long-term cooperation.

Free circulation of researchers, scientific knowledge and technology are recognized as cornerstones for research and technological development of the European Research Area (ERA). Nonetheless, major disparities still exist between EU countries and regions, and in some cases, they are even becoming more pronounced. A growing demand for talents and uneven distribution of highly skilled workers are initiating concentration of research excellence. While science excellence pockets are magnets for highly talented researchers, an excessive imbalance in this clustering leads to significant out-migration and unwanted brain drain for some EU countries and regions, usually those with low R&I intensity. Furthermore, the fragmentation of the Union's national research systems hinders the possibility fully to exploit the potential for excellence as a prerequisite for competitive science and a high-tech economy in the EU. Although some of the best scientists and research groups are EU-based, especially considering the high-quality scientific output resulting from framework programmes and other EU-funded projects, the scientific research results are not sufficiently transformed into successful market stories in the Union. Consequently, urgent challenges include: inadequate funding system, heterogeneity of national research systems, a lack of incentives for knowledge, technology transfer and open science, differences in remuneration and research career opportunities, inadequate working conditions and reduced number of permanent positions, non-transparent and merit-based employment, a negligence of the importance of collaborative networks, a lack of facilitation for transferability of grants. In the absence

of complementary and coordinated actions to address these challenges, Europe will continue to lag behind countries like USA and China in R&I areas crucial for the economy of the future, while at the same time destabilizing the internal market, trust in the Union, and the well-being of all of its citizens.

In this regard, the *Zagreb Call for Action on Brain Circulation 2020* is a result of the efforts of the Croatian Presidency of the Council to address the balanced brain circulation at the EU level. While encouraging mobility and brain circulation, it is necessary to underline the importance of additional measures for safeguarding fair outcomes for all Member States. Creating a targeted educational and career opportunities to improve attractiveness of researchers' careers, conditions and training opportunities, together with the political support and increased Member States' investments in human capital, science and technology infrastructures, provide a resourceful way of mitigating the brain drain. The main goal of this document is to empower a fair and well-balanced brain circulation in Europe by developing a sustainable and suitable system of measures against the destabilizing effects of brain drain. Moreover, it is our intention to set a reminder of the necessity to include brain circulation and equality in opportunities as strong pillars of the European Research Area. This is a crucial path for the Union to take, in order to continue with the progression and advancement, while maintaining its relevance on the global scale.

The Presidency considers that by jointly addressing the topic of brain circulation and attractiveness of local ecosystems for talents, the Union and its Member States can move towards finding solutions that enable a more fair, inclusive and balanced brain circulation across the EU, as well as to attract and retain talents. In this document, we propose measures to mitigate the problem of brain drain for EU countries and regions, and seize the momentum created on this topic during the Croatian Presidency.

What is expected from the Zagreb Call for Action?

- Help in co-creation and co-design of Member States national R&I policies and EU support systems for mobility of researchers.
- Emphasize the important role brain circulation has for inclusiveness for the future European Research Area and a strong boost to innovation in EU.
- Anchor the concept of brain circulation around those who form it in terms of keeping, attracting, mobilizing, encouraging and rewarding talents in Europe.
- Foster the EU and national policies and simplify rules that enable synergies of structural funds with other EU funding instruments in the European Research Area.
- Feed into the work of the incoming Trio Presidency – Germany, Portugal and Slovenia – especially in relation to topics of the European Research Area and researchers’ careers.

Significance of Brain Circulation for Researchers

Researchers and policy makers are equally important for the effectiveness of brain circulation, and synergy between them should be achieved and maintained in the process. Significant aspects of brain circulation for researchers, and thus the areas for potential actions by policy makers, can be clustered into the four broad categories: (i) the prosperity of researchers, (ii) collaborative networks, (iii) enabling inclusiveness and participation and (iv) complementarity and responsibility on national levels. Each area is analysed by focusing on the existing problems, objectives, and concrete actions that should be launched.

(I) Improving the prosperity of researchers

The prosperity of researchers – such as researchers’ careers and their social security – is a foundation for the overall R&I progression and it requires addressing the existing obstacles and framing additional measures that will embody smart directionality. Various shortcomings diminish the attractiveness of researchers’ careers as well as the overall, often lacking, public recognition of the importance of research. There is insufficient effort

aimed at ‘fight for talents’ – in terms of attracting and retaining both EU and non-EU researchers – since the lack of progress towards a fully effective European Research Area remains short of tangible benefits for EU researchers. One of the reasons is the existence of fragmented legislative frameworks within the Union, which are often not suitable for mobile researchers’ needs to circulate freely without financial or any other disadvantages – including the lack of recognition of research as a profession and the interoperability of the careers between sectors and countries.

Being attractive to foreign researchers also imply being attractive to Europe’s own researchers from all geographical regions in Europe, as two sides of the same coin. This requires a transformation process involving EU, national, and local engagement. Beside the problem of the absence of complementary policies on portability of grants, social security and pensions, there is not enough progress regarding research funding and research autonomy as necessary preconditions for a more attractive work place.

Objectives:

- Stress the need for implementation of EU policies (as opposed to policies under national control) to avoid further fragmentation of national R&I systems without disregarding national specificities;
- Enable a new European Research Area, more tailored to suit the needs of researchers, creating attractive working conditions for more sustainable and appealing researchers’ careers, and consequently attracting and retaining excellent researchers;
- Raise awareness of the principles and methods for the implementation of the *Charter for Researchers* and the *Code of Conduct for the Recruitment of Researchers*;
- Adopt strategies to create conditions for excellent academic research and scientific knowledge production;
- Nurture innovation and a risk-prone R&D system that should allow for stronger integration of innovation in researchers’ careers, ensure scientific freedom and curiosity-driven research;

- Further promote intersectoral mobility and diversified career pathways;
- Enable a work-life balance and anchor gender equality;
- Demonstrate capacity to address specific requirements (e.g. providing the children of international talent with top-quality education at both national and international schools, dual careers opportunities, etc.);
- Develop a ‘culture of welcome’ based on greater openness and inclusion particularly for highly skilled immigrants or returning scientists.

Concrete actions:

- Monitor the system of salaries in R&I and recommend measures at Member States’ level that should lead to equating salaries in R&I funding;
- Increase national investments in R&D&I;
- Increase mobility incentives and incentives for research excellence at national levels; provide training for researchers to improve their employability and career prospects;
- Consider the revision of the *European Charter for Researchers* and the *Code of Conduct for the Recruitment of Researchers* and increase commitment of research organisations to the adoption and implementation;
- Embed an innovation-integrating set of skills and knowledge for researchers to attain and learn, including training of the researchers, mobility opportunities to non-academic sector;
- Strengthen the proposed Horizon Europe rules regarding geographical coverage in *ex-aequo* proposals and use them to reduce innovation divide within EU;
- Recognition and inclusion of research careers in the European qualifications framework (EQF), promotion of inclusive and transparent career development linked to the tenure track regime in the academy and standardization of research careers assessment beyond bibliometrics;
- Eradicate obstacles and improve policies on social security, portability of grants and pensions;

- Strengthen and revisit the existing EURAXESS Service Centres as instruments for further removing the barriers of mobility, assisting researchers and their families in smooth integration in the culture of the host country;
- Create functional cooperation among various stakeholders in the family and educational services in order to provide the youngest family members the best opportunities to prosper in the country of immigration or return;
- Create easily accessible and up-to-date practical information on the essential services related to the individual and family needs.

(II) Create and sustain more collaborative networks

The creation of collaborative networks between researchers enables the exchange of scientific knowledge and excellence, improvement of global standards for science and research, and the creation of impetus for better national policies on career management.

The positive effects of collaborative networks heavily build upon the adopted public policies on national levels. However, collaborative networks are often a neglected perspective of mobility for countries with low R&I capacity facing brain drain. Furthermore, there are tendencies to cluster the excellence in well-established networks and, consequently, there are significant differences in collaborative networks in framework programmes between EU countries and regions. To overcome this challenge and to exploit the effectiveness of collaborative networks, there is a need for openness and willingness to accept new researchers and new institutions, which are able to provide individual researchers with new knowledge and expertise into well-established networks.

Objectives:

- Strengthen and incite wider and more inclusive collaborative networks across the EU and across sectors;
- Enhance openness and transparency of the existing networks towards the global R&D community;

- Increase the effectiveness and sustainability of research infrastructures in the EU, and improve the exchange of information on the existing capacities;
- Monitor regularly the existing networks in Horizon Europe and employ corrective measures, if necessary;
- Facilitate new ways of diffusing knowledge and transfer of research results to the market, i.e. open science;
- Enhance the creation of collaborative networks with scientific diaspora.

Concrete actions:

- Increase utilization of existing funding programmes and initiatives that promote, facilitate and consolidate inclusive collaborative networks;
- Initiate new national measures and strategies for entering new international collaborative networks and large infrastructures; increase the participation in European strategic research infrastructures of those countries with low gross domestic expenditure on R&D (GERD);
- Teaming between the low and high performing Member States based on the scientific excellence in order to maximize the utilization of the most advanced research infrastructures and foster collaborative networks through creating new or significant upgrading of existing centres of excellence;
- Foster the creation or opening-up of new and existing collaborative networks that underpin and encourage researchers to study and work in their country of origin;
- Analyse the participation of Member States in EU framework programmes for research and innovation, and adjust future strategies for increasing participation accordingly with excellence and scientific impact as primarily selection criteria;
- Incentivize research collaborations and encourage new networks and social capital with scientific diaspora;
- Wide implementation in all parts of Horizon Europe of the additional *ex-aequo* selection criterion based on geographical diversity;
- Monitor and review measures aimed at facilitating collaborative links in the European Research Area;

- Foster the administrative capacity and support for international research projects.

(III) Increase inclusiveness and participation of all Member States

European countries with a well-developed industry and economy naturally attract talents from low performing countries simply by providing a better working environment and better challenges, with broader opportunities for career development in the research and technology sector. The European Union's R&I space is fragmented among numerous countries, with a tendency of uneven development and further growth of 'R&I pockets' in highly developed EU countries, which are in turn not big and strong enough to individually compete with other larger and stronger world economies. Creative R&I entrepreneurial talents, especially in low performing EU countries, leave both their home countries and the EU altogether to pursue their start-up idea and scale fast to timely become a relevant big market player.

The established clusters of excellence, although crucial for knowledge production, creates difficulties for balanced participation of all Member States. Measures for successful brain circulation will be ineffective if the broader economic and social environment of the EU is not taken into account. Therefore, more effort is needed to support wider participation of researchers across the Union in both European and national R&D&I programmes and initiatives in the future period. In the long run, it is crucial to reduce the gap between high and low performing countries in terms of attractiveness for researchers and providing a better business environment for high-tech, innovative and digital companies in low performing countries. This would attract a larger brain pool of both researchers and highly skilled professionals, but also international students who are the source of prospective future PhD students and researchers. Additionally, there is a clear need for further simplification of rules and procedures when it comes to participating in these programmes. Widening participation in the Union's framework programmes is a shared responsibility on both national and EU levels, and it needs to be addressed in a complementary and synergetic way, taking into account all available possibilities for more cohesive development. The rationale behind this picture also shows a lack of

synergies between national research systems and the available EU research support measures and lagging system-learning effects.

Objectives:

- Acknowledge the R&I networking diversity in order to develop a more inclusive and concurrent system throughout the EU while safeguarding excellence;
- Increase the attractiveness of low performing EU countries to high-tech R&D companies;
- Ensure alignment, simplification, complementarity and synergy of the EU framework programmes for research and innovation, ESI funds and national funds on strategic and operational levels;
- Equalize opportunities across Europe for transforming research results into the viable high-rate growth innovative start-ups;
- Raise the capacity of research institutions on the national level in order to enhance their eligibility and competitiveness in international scientific calls;
- Promote further transparency, impartiality and independence of the evaluation process, as well as ensure geographically balanced gender-balanced and diversified participation of evaluators in all parts of the framework programmes without compromising the principle of excellence.

Concrete actions:

- Emphasize Widening programmes in Horizon Europe and the links to structural and investment funds;
- Analyse the participation patterns of Member States with low participation and create strategies and measures to support researchers in participating in competitive funding programmes on European and national level;
- Increase national investment in research infrastructure and thus enhance competitiveness of the national institutions in the international networks;
- Increase measures for attracting newcomers in framework programmes;

- Create national policies and programmes that will stimulate the opening of branch offices of high-tech, innovative and digital R&D companies in low performing countries;
- Increase measures to promote intersectoral mobility of researchers and procedures to ensure better opportunities for cooperation with the industry (introducing generalized intersectoral experience at early stages of research);
- Invest into the entrepreneurial and start-up infrastructure to reach and keep scientific excellence and networks, especially in low performing countries with a focus on commercialization of R&I results;
- Reinforce the existing support network, in particular the National Contact Points, to ensure high-quality support systems for applicants;
- Improve conditions for ‘know-how’ in application writing to increase the success of applications in framework programmes and competitive funding;
- Increase the transparency and independence of the evaluation process within framework programmes; ensure a balanced geographical and gender coverage within the evaluation processes without compromising excellence as primary selection criterion.

(IV) Strengthen complementarity and responsibility on national levels

It is generally acknowledged that creating better national research and innovation ecosystems will lead to the enhancement of the Union’s competitiveness and growth.

While there is a clear recognition of the benefits of balanced brain circulation among Member States, the appropriate weight of responsibility needs to be put on individual Member States that ought to analyse and locate the challenges that directly affect the inflows and outflows of researchers in respective Member States. Moreover, the national R&I systems are insufficiently aligned and are lacking complementarity with Union’s policies and measures. There needs to be a clear commitment of Member States to invest far more in research and innovation and to reform national science systems in order to build strong frameworks for excellent, and internationally relevant, research.

Comprehensive and more coherent interaction of the policy-making processes, objectives and differentiation in contribution between the European and national levels needs to be fully exercised. Additionally, low performing EU regions and countries are often unattractive for researchers, engineers and students not only due to worse financial rewards and working opportunities (e.g. less attractive scientific institutions and infrastructures), but also due to unnecessary administrative (usually national) barriers. The evidence-based approach shows that there is a negative correlation between a country's performance and administrative brain circulation obstacles, meaning that typically low performing countries impose higher administrative obstacles for brain circulation, at their own expense in the end.

Objectives:

- Increase investment in R&I in Member States leading to increasing the investment at the EU level;
- Enhance national commitments to the full adoption and implementation of the renewed European Research Area;
- Reform the relevant parts of national funding systems to make them more align within the EU funding system;
- Assess and adjust national policies for research mobility and improve return migration programmes providing necessary incentives;
- Also remove administrative barriers, explicit and soft (language issues on interviews, validation of academic titles, etc.) to promote the incorporation of researchers from other MS;
- Create more effective interaction between institutions, stakeholders and decision makers to unlock the full potential of brain circulation;
- Create effective and sustainable economic and social conditions to enhance the integration of graduates, researchers and professionals into their national and regional markets;
- Reduce national and EU administrative barriers for better circulation of researchers, engineers and students;

- Establish more productive national networks, consisting of institutions in charge of R&D, research organisations and industry.

Concrete actions:

- Develop systematic support to institutional reforms in organisations to improve the quality and its working conditions for scientists and to achieve positive effects upon the return of mobile workers;
- Enhance the national funding and award system to recognize and support mobility and promote the prospects and opportunities of mobile researchers (e.g. including mobility and participation in competitive programmes as promotion criteria);
- Reform the national funding system for back-up funding of non-funded EU applications;
- Emphasize Widening programmes in Horizon Europe and transparently link them to the structural and investment funds;
- Create policies and programmes for enabling synergies of structural funds and with other EU funding instruments in the European Research Area;
- Ensure stability and continuity of national calls for competitive funding for young researchers;
- Create upskilling and reskilling policies for researchers;
- Prepare and implement the set of commonly shared EU-level policies and guidelines in order to overcome its own historic burden and to unify national-wide procedures following similar practices in all EU countries for better mobility of researchers, engineers and students;
- Improve communication, implementation and monitoring of EU rules related to entry, residence and intra-EU mobility of students and researchers;
- Raise awareness of the need to communicate research actions and research results in a clearer manner towards general and expert public and industry;
- Improving intermediation mechanisms and institutions as a measure to encourage the collaboration of highly skilled workers with the productive, social and cultural actors (example of collaborative laboratories).