

NATIONAL ROADMAP
for the Integration of the Republic of Moldova into the European Research Area
for 2019-2021

INTRODUCTION

The Republic of Moldova is the first country from the Eastern Partnership and Central Asia region which showed the intention to get integrated into the European Research Area (ERA) through the association to the framework programmes of the European Union. The system for the organisation and administration of science and for financing the research and innovation activities has substantially changed in our country during the implementation of the Code on Science and Innovation of the Republic of Moldova No 259/2004 and of the partnership agreements between the Academy of Sciences of Moldova and the Government of the Republic of Moldova. Also, the tactical and strategic goals took a different course. Thus, the main direction was to increase and concentrate budget resources in order to carry out the most important research and innovation tasks, to ensure competitiveness and a high quality of national scientific products under international cooperation. In this context, the existing strategic documents in the fields of research and innovation provided for developing and improving the cooperation under regional and international scientific programs, including participation in EU programmes, which is one of the main strategic goals of the research and innovation policy of the country.

There followed a number of actions aimed at implementing the priorities of the European Research Area at national level, which helped obtain and use the status of country associated to the Seventh framework programme of the European Community for research and technological development including demonstration activities (2007-2013), and, subsequently, to the EU Framework Programme for Research and Innovation Horizon 2020 (2014-2020).

The Government Decision No 920/2014 on the 2020 Research and Development Strategy of the Republic of Moldova was approved in 2014 and it stipulated the reform stages and management method of the research and innovation system.

The review of the national research and innovation system of Moldova (funded by the European Commission under the Horizon 2020 Policy Support Facility) took place in 2015-2016. It was carried out by a panel of seven European experts who analysed the national research and innovation system and provided 24 recommendations and 7 policy messages on its improvement. It was the first time when an EU associated country volunteered to use the Horizon 2020 Policy Support Facility, a tool that provides governments with practical support in identifying, implementing and assessing the reforms needed to enhance the quality of research and innovation systems.

All the aforementioned documents represent the legal basis for the organisation and administration of the research and innovation system in the Republic of Moldova and highlight some stages on the journey of integration into the ERA.

Taking into account the Communication from the Commission to the European Parliament, the European Economic and Social Committee and the Committee of the Regions – ‘A Reinforced European Research Area Partnership for Excellence and Growth’ (COM (2012) 392 final), the February 2014 Competitiveness Council Conclusions on the progress report, and European Research and Innovation Area Committee Opinions on the 2015-2020 European

Research Area Roadmap (20 April 2015), the EU Member States drew up the European Research Area Roadmap (ERA Roadmap) at European level and indicators for monitoring and evaluation of the Roadmap's positive impact during 2015.

At the same time, the EU Member States and those associated to the EU Horizon 2020 Framework Programme for Research and Innovation (2014-2020) were invited to develop national strategies/roadmaps for the achievement of ERA priorities by mid-2016.

Starting from the main goal – integration into the ERA – the Republic of Moldova reviewed all the above-mentioned documents, which were developed at national and European level, in order to develop the National Roadmap for Integration into the European Research Area, a document of national interest, which will help achieve ERA priorities and promote the positive image of the national research and innovation system at national and European level.

The experience of developed European countries, such as Germany, Norway, Romania and others, was taken into account when developing the National Roadmap for Integration into the European Research Area.

I. VISION FOR INTEGRATING THE RESEARCH AND INNOVATION AREAS OF THE REPUBLIC OF MOLDOVA INTO THE EUROPEAN RESEARCH AREA

Subsequent to signing the Memorandum of Understanding between the European Union and the Republic of Moldova on 11 October 2011, our country has been granted the status of associated country to the Seventh Framework Programme of the European Community for Research and Technological Development including Demonstration Activities (2007-2013) (FP7), which was the first Community programme wherein our country has obtained the status of associated country.

A positive trend of involvement in European programme was noticed in 2011-2013 due to activities aimed at informing and stimulating the participation in projects undertaken by the community of researchers to capitalise on the status of country associated to the FP7 and the rights resulting from the new status. In total, more than 300 project proposals with participation of Moldovan research groups were submitted to FP7. Out of them, 58 obtained support from the European Commission – the funding amounted to EUR 4,150 thousand.

In line with the European Commission's Strategy on International Technical and Scientific Collaboration, the association of a non-EU country to the Community framework programme in the fields of research and innovation is the most advanced form of cooperation between the EU and the country in question in the technical-scientific field.

Considering that in 2014 the European Union launched the new EU Horizon 2020 Framework Programme for Research and Innovation (2014-2020) (hereinafter referred to as Horizon 2020 Programme), the Government supported, at the initiative of the Academy of Sciences of Moldova, the establishment of preconditions to continue the integration into the European Research Area in order to obtain the status of country associated to the Programme.

On 1 July 2014, the Republic of Moldova, along with the Western Balkan states (Republic of Macedonia, Montenegro, Serbia, Albania and Bosnia and Herzegovina), signed the Association Agreement to the European Union's Horizon 2020 Framework Programme for Research and Innovation (2014-2020) .

Thanks to the association, the Republic of Moldova obtained participation rights similar to the ones of the EU Member States, which allows it to cooperate and compete as an equal partner in all the calls announced under Horizon 2020; to become part of a European network of scientists, of the business community and of decision makers that set European objectives

and priorities in the field of research and innovation; to benefit from the European scientific potential and excellence in solving internal problems.

Thus, making best use of the associated country status is one of the most important actions on the Government's agenda in order to take over and transpose into national practice the EU generally accepted requirements and standards in the fields of research and innovation.

The means of achieving this purpose is the European Research Area – a unified research area open to the world, in which researchers, scientific knowledge and technology circulate freely. Through ERA, the European Union and its Member States will strengthen their scientific and technological bases, their competitiveness and their capacity to collectively address grand challenges.

In order to achieve the ERA principles, 5+1 priorities were set and actions aimed at achieving sustainable changes were developed for Moldova to reach the level of performance and effectiveness of European research:

1. ERA Priority 1: More efficient national research systems
2. ERA Priority 2: Optimal transnational cooperation and competition:
 - 2a. planning and implementing transnational cooperation
 - 2b. aligning the research infrastructure with the European level
3. ERA Priority 3: An open labour market for researchers
4. ERA Priority 4: Gender equality in research
5. ERA Priority 5: Optimal circulation, access to and transfer of scientific knowledge
6. ERA Priority 6: International cooperation

Against this background, the following actions are taken to achieve the integration into ERA:

1. More effective national research system

According to the European Commission Communication on the European Research Area, EU Member States are invited to:

- 1) introduce or enhance competitive funding through calls for proposals and institutional assessments as the main modes of allocating public funds to research and innovation, introducing legislative reforms if necessary;
- 2) ensure that all public bodies responsible for allocating research funds apply the core principles of international peer review.

The National Agency for Research and Development, which will manage the national funds allocated for research and innovation projects and funds from bilateral and multilateral programmes launched under cooperation agreements with international organisations and foundations, according to the Government's normative acts, was established by Government Decision No 196/2018. The purpose of setting up the National Agency for Research and Development is to increase the volume of financial resources allocated on the basis of the competitiveness principle.

The Academy of Sciences of Moldova is a public institution of national interest in the field of science and innovation, which brings together personalities with outstanding achievements in the fields of research and innovation. The Academy of Sciences of Moldova is the strategic consultant of the Government in setting priorities in the field of fundamental and applied research, as well as advises the Government on the establishment and development of public infrastructure in the field of research and innovation.

According to Article 60 of the Code of Science and Innovation of the Republic of Moldova No 259/2004, the central specialised state body shall develop national policies in the field of research and innovation, with a direct impact on the development of international scientific cooperation.

The funding of the research and innovation activities allocated from the state budget shall be managed by the National Agency for Research and Development, based on a competitive system through: research projects, projects for young researchers, bilateral and multilateral projects, infrastructure projects (including e-infrastructure), innovation and technology transfer projects, etc.

The National Agency for Assuring Quality in Education and Research is responsible for assessing the organisations in the fields of research and innovation and the researching, scientific and teaching personnel.

However, the funds allocated for research and innovation in the Republic of Moldova are considerably lower compared to the EU countries. Therefore efforts are made to stimulate participation in EU programs in order to attract investment into the national research and innovation system.

To increase the interest towards participating in the EU Horizon 2020 Framework Programme for Research and Innovation (2014-2020) and to accelerate the integration into the European Research Area, the Academy of Sciences of Moldova proposed three additional new programs, namely: 1) *Connect centers of excellence to the European research infrastructure*; 2) *Stimulate participation in the Horizon 2020 Programme by supporting researcher mobility and* 3) *European bonus to encourage drafting project proposals to fit Horizon 2020 Programme*. Independent foreign experts reviewed the projects.

Specific objectives:

1) increase the amount of funding for research and innovation coming from the public budget and stimulate the attraction of private resources;

2) enhance the role and status of the national research and innovation system as a resource for development and welfare, promoting excellence in research in the context of ERA priorities;

3) recognise at national level, the national science as a major priority for the development of the national economy and at the European level – strengthen the positive image through transparent and competitive administration and development of international cooperation;

4) set strategic priorities for science development in the Republic of Moldova, including cross-disciplinary fields by adopting the National Program for Research and Innovation for 2019-2022 developed. Participative identification of smart specialisation niches of the Republic of Moldova, together with academia, businesses and civil society, will allow resources to be concentrated in areas where our country has the potential for research and innovation but also the capacity to assimilate knowledge from the real sector of the economy;

5) increase the competitiveness of the Moldovan economy through innovation – support the performance of economic operators, the transition from cost-based to innovation-based competitiveness;

6) increase the Republic of Moldova's contribution to the progress of frontier knowledge – increase the international visibility of experimental research and development in the Republic of Moldova;

7) apply international assessment standards for research projects and major scientific initiatives; involve foreign experts in the review and assessment of project proposals;

8) apply performance-based funding principles to provide institutional financing;

9) ensure the continuity of the *Entrepreneurial Discovery Process* as part of the process of smart specialisation to connect the research and innovation to the economic development process;

10) focus a significant part of research and innovation activities on societal issues in order to develop the capacity of the public research and innovation system to perceive and respond to society's needs;

11) build a critical mass of researchers needed to transform the areas of research and innovation into a factor of economic growth;

12) develop high-performance research organisations, able to become regional operators;

13) ensure close collaboration of the research institutions from Moldova and the scientific-academic environment with the private and economic environments;

14) establish a cooperation between the decision-makers (central, local authorities) and research and innovation institutions.

Main Actions:

1) adopt the National Program in Research and Innovation for 2019-2022 and the Action Plan for its implementation;

2) adjust the procedures for organisation and conduct of the state budget-funded tenders to the European practices

3) learn from the experience of organising and managing the research and innovation system from the EU countries and improve the competitiveness-based funding process

4) develop performance indicators for scientific research;

5) create a critical mass of researchers in research and innovation and identify niche areas with a considerable advantage or contribution;

6) identify instruments for training entrepreneurs and opportunities to sell the results of research and innovation by creating partnerships between public and private operators;

7) concentrate resources in the economically relevant research and innovation areas and those with demonstrated potential for research and innovation, which would lead to creation and strengthening of public-public and public-private partnerships;

8) encourage public-public and public-private partnerships, fund science and assess its impact, develop new funding models to facilitate innovation;

9) align the research and innovation activities with the European standards;

10) carry out performance-based assessment of research institutions and researchers;

11) learn from the European experience of organising and managing a national research e-infrastructure with the access to GEANT network (pan-European research and education network linking national research and education networks in Europe).

2. Optimal Transnational Cooperation and Competitiveness:

a) Joint Programming Initiatives

According to the European Commission Communication on the European Research Area, EU Member States are invited to:

1) increase the efforts to implement joint research agendas to tackle major challenges; share the information on activities in the agreed priority areas, ensuring that adequate national funding is provided and strategically aligned at European level in these areas and that the joint ex-post assessment is being carried out;

2) ensure that mutual recognition of assessments that are in line with international peer-review standards is taken as the basis for national funding decisions;

3) remove legal and other barriers to cross-border interoperability of national programs to enable joint financing of actions, including cooperation with countries outside the EU, where relevant.

The international competitiveness of Moldovan research, the presence on the international markets of innovative products developed in the Republic of Moldova and the global opening of the research and innovation market depend on supporting the affiliation or participation of Moldovan research and innovation organisations to initiatives, bodies, programs or regional, European or international infrastructures.

Bilateral cooperation is one of the most efficient and traditional ways to develop scientific cooperation at regional, European and international level and represents an opportunity to implement joint agendas, create and strengthen partnerships to participate in scientific and technological research programs with considerable financial resources.

The Ministry of Education, Culture and Research together with the Academy of Sciences of Moldova, based on over 50 international collaboration agreements with various international organisations and funds in the field of research and innovation, supports the annual development of about 60 bilateral projects with Belarus, Italy, Germany, France, Romania, Russia and Ukraine.

Multilateral collaboration was possible once the association with the European Union's research programs took place. Moldova is part of two joint programming initiatives – 'Water Challenges for a Changing World' and 'Cultural Heritage and the Global Change: A new Challenge for Europe'. In order to have free access to joint European research opportunities, it is very important to participate in all Joint Programming Initiatives (JPI).

The Republic of Moldova does not have enough experience to participate in ERA-NET joint projects (previously participated in BS-ERA.Net, ERA.Net RUS and RUS Plus), which is a constant cooperation platform for participation in the EU framework programs through which multilateral partnerships can be developed. Unfortunately, the Republic of Moldova does not have the necessary experience to participate in the initiatives that fall within Article 185 and Article 187 of the Treaty on the Functioning of the European Union (TFEU).

Specific objective:

The main goal is to increase the participation in partnerships, joint programming initiatives and European technology platforms in areas where the Republic of Moldova has relevant scientific and innovation potential and which are important for solving the problems faced by the national economy and society.

Identify how to integrate the national research system by participating more actively in all activities supported by EU Framework Programs (ERA-NETs, Joint Programming Initiatives, initiatives that fall under Article 185: and Article 187 of the Treaty on the Functioning of the European Union).

Main Actions:

1) increase the awareness of the Moldovan scientific community about Joint Programming Initiatives (JPIs) and European technology platforms, designate the institutions responsible for the relationship with each JPI, organise information days and results dissemination events;

2) plan participation of Moldovan entities in the JPIs within the Medium-Term Budgetary Framework, which would cover the cost of participation in calls for proposals announced in various programs;

3) develop a single management framework model to be applied to the participation of Moldovan entities in multilateral calls for projects;

4) optimise transnational cooperation by intensifying efforts to implement joint research agendas on major societal challenges;

5) increase participation in transnational programs;

6) remove legal and other barriers to increase cross-border interoperability of national programs;

7) establish 'ERA Chairs' to attract renowned researchers or academics once research and innovation projects are won;

8) meet the commitments, including financial ones, assumed by the Republic of Moldova within the EU framework programs in the field of research and innovation.

To promptly finance the actions under the national programs developed for the conduct of joint transnational activities, the Ministry of Education, Culture and Research in cooperation with other central public authorities such as the Academy of Sciences of Moldova, the Ministry of Finance, the Ministry of Economy and Infrastructure and the National Agency for Research and Development, etc. is to analyse the current situation in the national research and innovation system to detect and remove legal barriers or other barriers to financial management.

b) Research Infrastructure

According to the European Commission's Communication on the European Research Area, European Union Member States are invited to:

1) confirm financial commitments for the establishment and operation of the European Scientific Forum for Research Infrastructure (ESFRI), global, national and regional research infrastructures of pan-European interest, especially when developing national roadmaps and the following structural fund programs;

2) remove the legislative and other barriers to access to cross-border research infrastructure.

In the Republic of Moldova, the development of the research infrastructure is supported by the national program for procurement of research equipment, financed from the state budget, and international projects under which scientific equipment is purchased. In most institutions of the national research and innovation system, the centers are endowed with sophisticated equipment, thanks to the participation of research teams in cross-border projects: NATO, FP7, Horizon 2020, etc. Unfortunately, the budget funds appropriated to the development of research infrastructure is not enough. Also, there's room for better in terms of the participation in the calls for infrastructure proposals announced under the Community programmes for research and innovation. During the reference period, there were problems regarding the co-financing from the state budget of some cross-border projects for procurement of research equipment. Starting with 2018, one of the priorities of the Ministry of Education, Culture and Research was to ensure the co-financing from the state budget. Planning cross-border projects under the Mid-Term Budgetary Framework (2019-2021) will increase the participation of the community of researchers from the Republic of Moldova in Community programmes. The new legal forms, platforms, committees, networks and European consortia (ESFRI, European Research Infrastructure Consortium (ERIC), Central European Research Infrastructure Consortium

(CERIC), Environmental Education Programs (EEPs) Research Networks, etc.) provide a set of useful tools for establishing and developing joint research infrastructure in Europe.

In this context, a new pilot program was developed to connect the centers of excellence from the Republic of Moldova to the European research infrastructures such as ESFRI, ERIC, CERIC, EEPs, Research Networks etc. This action was possible with the financial support of EU for the Republic of Moldova's participation in the Horizon 2020 Programme and needs to be continued to ensure the integration of the national excellence centers in the EU infrastructure.

The document will set a clear division of responsibilities for investment in the research infrastructure, and will explain the distinction between basic equipment and research infrastructure at national level.

Specific objective:

- develop the research infrastructure at national level and remove legislative and other barriers to access to cross-border research infrastructure; create and strengthen the research infrastructure and the proper use of the available infrastructure, enhance the resources allocated for the development of infrastructure for collective use and of major interest to the public and private environment;

- incentivize the participation in calls for the development of research infrastructure under the Horizon 2020 Program and activities initiated under the ESFRI for the integration into thematic consortia; connect the national infrastructure to regional and European infrastructure.

Main Actions:

- 1) map research infrastructure in research and innovation institutions and develop the necessary regulatory framework for its development, management and maintenance, avoiding duplication;

- 2) draw up a roadmap for the development of the research infrastructure in the research and innovation system;

- 3) participate actively in ESFRI activity;

- 4) associate with programs on cooperation with major infrastructures in the region;

- 5) create conditions for connecting to the European research infrastructure;

- 6) use various tools to ensure access to the European research infrastructure through mobility of Moldovan scientific community representatives to the European centres with advanced infrastructure;

- 7) participate in calls launched under the Horizon 2020 Programme;

- 8) develop national electronic research infrastructure integrated into the European electronic research area;

- 9) support the financing of research and innovation projects and infrastructure in public sector, create new infrastructures (laboratories, research centres, etc.) and expand pan-European research infrastructures in the Republic of Moldova (open infrastructures, of ESFRI type);

- 10) develop tools to motivate participation of businesses in research and innovation;

- 11) establish the National Electronic Register of Research and Innovation Infrastructures, which will provide increased access to infrastructure for both public and private environments, will create a market for scientific and technical services, will contribute to the international visibility of research results from the Republic of Moldova, as well as to the economic sustainability;

12) create opportunities for excellence and cooperation in research and innovation by consolidating NREN (National Research and Education Network) e-infrastructure of RENAM (*Research and Educational Networking Association of Moldova*) connected to the GEANT network.

3. Jobs accessible to researchers

According to the European Commission Communication on the European Research Area, Member States are invited to:

- 1) remove legal and other obstacles to the application of open, transparent and meritorious recruitment of researchers;
- 2) remove legislative and other barriers that hinder cross-border access to national grants and their portability;
- 3) support the implementation of the Commitment Statement of member of the EURAXESS Service Network to provide coordinated personalised information and services for researchers through the EURAXESS pan-European network;
- 4) create a favorable framework for implementing the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

To improve researcher mobility conditions, a key challenge is to narrow the gap between the domestic social security system and the social security systems of the EU. For researchers who decide to continue their scientific careers in an European state, the insurance procedure, and in some cases the transfer of social security rights (in particular, pension rights), is a competitive disadvantage. Therefore, the objective should be avoiding possible impediments when providing social security resulting from cross-border transfers and the provision of more attractive pensions to mobile researchers.

The access of PhD students, fresh doctors in science, as well as young researchers to research careers is still very limited. The possibilities in terms of personnel exchange between public and private institutions are also very limited.

In order to improve the situation, the Republic of Moldova signed on 3 October 2011 the Declaration of Commitment of the members of the EURAXESS Service Network. The Declaration contains provisions on the development of EURAXESS Network Service to create and maintain a national EURAXESS portal in the Republic of Moldova (www.euraxess.md), as a tool to promote this initiative to support research careers and facilitate the mobility of researchers in the entire of Europe.

On 1 December 2011, the scientific community of the Republic of Moldova has committed to observe the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, thus advancing in the process of integrating the country into the European Research Area. A favourable environment for the development of the career of domestic and foreign researchers was created this way. Beginning with 2012, Moldova is part of the network of states adhering to the EU Human Resource Strategy for Researchers (HRS4R), a forum for the exchange of experience in implementing the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers in EU member and associated states.

So far, 16 local contact points and 3 EURAXESS service centers have been nominated in the Republic of Moldova. Also, information materials were developed and several days of information and consultation were organised to promote the EURAXESS Network Program, with the EURAXESS logo being located in different institutions of the national research and

innovation system. In order to interact with young researchers, pages of EURAXESS Moldova were created on the social networks www.facebook.com and www.twitter.com, where news on the activities of EURAXESS is placed daily. The help-desk is available on www.euraxess.md to provide information to users and periodically place news on the website.

As a result of the measures taken to implement the provisions of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, the conduct of SWOT analysis was started as well as the integration of those provisions in the human resources strategies of the interested institutions. A questionnaire oriented on the quantification of indicators was distributed to determine the level at which the principles of the Charter and the Code are applied on the four key dimensions: 1) open recruitment of researchers and portability of grants; 2) social security; 3) attractiveness of employment and working conditions; 4) developing professional skills and training opportunities for researchers.

In December 2014, the State University 'Dimitrie Cantemir' obtained the logo 'Excellence in Research', being the first higher education institution in the Republic of Moldova that the European Commission allowed to use this logo (www.edu.asm.md). In July 2015, the State University of Moldova obtained the right to use the logo 'Excellence in Research' (www.usm.md), and in September 2015 this right was also granted to the National Institute for Economic Research (www.ince.md) the first institute of research and innovation that the European Commission allowed to use the logo. 'Nicolae Testemitanu' State University of Medicine and Pharmacy obtained this logo in April 2016 (www.usmf.md). The Institute for Information Society Development (www.idsi.md) obtained the logo 'Excellence in Research' in February 2017, and in August 2017 this logo was earned by the Academy of Economic Studies of Moldova (www.ase.md).

Specific objectives:

1) develop staffing policy for those who work in universities and research institutes in the context of the EU Human Resources Strategy for Researchers, which provides for the systematic development of staff development strategies;

2) create a favourable framework to enable successful career development in and outside the scientific field in accordance with the provisions of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

3) remove legislative and other barriers to the recruitment of researchers and which hinder the cross-border access to national grants and their portability.

4) partially rethink the education system for Phd students, increase internal and international mobility of researchers and wider openness of public research environment to researchers from the private environment and outside the country.

Main Actions:

1) implement the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers to develop human resource policies in research;

2) systematically implement the Declaration of Commitment by the members of the EURAXESS Service Network in research and innovation institutions and other structures related to research and innovation areas in the Republic of Moldova;

3) adjust the institutional regulatory framework in Moldovan research and innovation organisations to the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers and implement the EU Human Resources Strategy for Researchers;

- 4) integrate PhD students and young researchers into research and innovation projects;
- 5) maintain the Electronic Register of Moldovan Researchers;
- 6) promote young researchers in their pursuit of a scientific career;
- 7) include researchers in the private sector;
- 8) ensure transparency in researchers' employment and promotion.

4. Gender Equality in Research

According to the European Commission's Communication on the European Research Area, EU Member States are invited to:

- 1) create a legal and policy environment and provide incentives to:
 - a) remove legal and other barriers to the recruitment, retention and career progression of female researchers while fully complying with EU law on gender equality;
 - b) address gender imbalances in decision making;
 - c) strengthen the gender dimension in research programmes.
- 2) engage in partnerships with funding agencies, research organisations and universities to foster cultural and institutional change on gender-charters, performance agreements, awards;
- 3) Ensure that at least 40% of women participate in committees involved in recruitment/career progression and in establishing and evaluating.

Until now, gender equality in research has not been reflected as a major issue in the Republic of Moldova. Traditionally, more women than men are employed in science, while the situation is the opposite in leadership positions.

According to the statistics published on www.statistica.md/newsview, there were 1331 researchers with PhD scientific degree in 2017, of whom 633 (47.55%) were women. Researchers with the scientific degree of habilitated doctor accounted for 361 persons, the share of women being 20.22% – i.e. 73 women. The share of women in leadership positions at the research and innovation institutions was around 10%.

For every 100 male researchers, there are 94 female researchers.

Specific objective:

Create favourable conditions and optimise internal staff recruitment procedures to promote gender equality by offering equal opportunities for career development in research and participation in decision-making.

Main Actions:

- 1) develop tools intended for ensuring gender balance in research;
- 2) increase the number of women promoted to leadership positions, committees and working groups, in decision-making and other types of activities organized and carried out in the areas of research and innovation;
- 3) study and apply the relevant experience of developed countries by initiating a new 'Gender Balance in Research' National Program, which will ensure the appreciation of women in research and research management;

4) learn from the experience of European countries where standards of gender equality in research have been developed.

5. Optimal circulation, access to and transfer of knowledge

According to the European Commission Communication on the European Research Area, EU Member States are invited to:

- 1) define and coordinate their policies on access to (including the open one) and preservation of scientific information;
- 2) ensure that public research contributes to open innovation and knowledge transfer between public and private sectors through national knowledge transfer strategies;
- 3) harmonise access and usage policies for research and education-related public e-infrastructures and for associated digital research services enabling consortia of different types of public and private partners;
- 4) adopt and implement national strategies for electronic identity for researchers giving them transnational access to digital research services.

Transfer of knowledge is the most effective factor for successfully transferring ideas and scientific outcomes to innovations and thus creating economic value and competitiveness. Transfer of knowledge leads to transnational cooperation, while ERA has the best potential for increasing the impact of research on the economy.

Since knowledge transfer is developing very fast due to the use of digital technologies across all sectors of life, this ERA priority contributes to the development of the 'Digital ERA' phenomenon and to expansion of Open Access to publicly financed scientific outcomes and data. Open access is a European priority under the Horizon 2020 Program.

Contribution to policy-making for strengthening the link between science and industry and enhancing the role of public and private sector research in *Open Innovations*, as well as for ensuring open access to scientific outcomes and services is of top priority for the Republic of Moldova.

This ERA priority focuses in particular on strengthening the network between science and industry and on the public sector research component in 'Open Innovation'. This means that higher education institutions and research institutes must act in accordance with the European Charter tackling intellectual property on the basis of relevant comprehensive strategies and demonstrate professionalism in their knowledge transfer and technology transfer activities to enable cooperation with industry on equal footing.

Both productive cooperation in research and innovation and development depend on access to scientific outcomes. Where research is publicly funded partially or fully, access to research results and scientific publications must be ensured to the extent possible by the structures involved in science management. To ensure free access, appropriate policies and mechanisms must be developed.

Specific objectives:

- 1) ensure open access to state-funded scientific outcomes through the introduction of digital technologies in all areas of the research and innovation system;
- 2) encourage and promote cooperation and knowledge transfer between science, business and society at national and international levels;

Main Actions:

- 1) create a register of scientific outcomes;
- 2) enhance cooperation and improve the exchange of information between science, business and society;
- 3) ensure effective and long-term access to publicly funded information and publications (promoting the *Open Science* concept);
- 4) ensure the transfer of information, knowledge and technology to the society and businesses;
- 5) engage potential beneficiaries in drafting research topics and hearing the results of the researches carried out;
- 6) consider the possibility of introducing industrial doctorate – a way of transferring knowledge to the business environment;
- 7) develop researchers' entrepreneurial skills, technology brokerage skills, and knowledge of intellectual property to stimulate the emergence of start-ups and spin-offs.

6. International cooperation

Moldova's participation in the EU framework programs is the most important way of internationalising the national research and innovation system, as well as of ensuring the process of integration in the European Research Area. This will create favourable conditions for representation of the Republic of Moldova with the EU research and innovation structures and will promote the positive image of national science for attracting young and talented people as well as experienced researchers, investors and business representatives to the national research and innovation system, and facilitating their access to sales markets.

The Ministry of Education, Culture and Research believes the Strategic Forum for International Scientific and Technological Cooperation (SFIC) is a key platform for international cooperation and therefore will participate actively in its work. The Academy of Sciences of Moldova believes it is very important to strengthen the international dimension of the European Research Area by participating in SFIC initiatives.

At national level, to use the status of country associated with the Horizon 2020 Program, to promote the opportunities of the Horizon 2020 Program and to facilitate integration into the ERA, a functional platform has been developed that contributes to: coordinating and ensuring the activities of national and local contact points network; participation of official representatives of the scientific community and national experts in the Horizon 2020 program committees, the strategic committees and working groups with the EU; promoting the EURAXESS Program and the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers; organizing information, training and promotion events for Horizon 2020 Program.

Specific objective:

The objective is to develop technical and scientific cooperation with both the EU member states, other associated countries and states outside the European continent, including:

- to participate in the implementation of European Commission's multi-annual roadmaps for international collaboration in research and innovation with partner countries and regions. Reflect their provisions when concluding bilateral grant programs.

– to strengthen scientific cooperation with the EU member states and the associated ones to focus efforts on and apply knowledge to the implementation of ERA priorities for:

- 1) responding to global challenges;
- 2) enhancing quality, promoting excellence and contributing to improvement of the national research and innovation system image at national and international levels;
- 3) strengthening the link between research and innovation and the business environment;
- 4) ensuring and amplifying the cooperation of the Republic of Moldova with the European Union research and innovation structures by joining the next EU Framework Program as well as by integrating into the European Research Area.

Main Actions:

By joining the European Framework Programs, the Republic of Moldova made efforts to raise the level of internationalization of the local research and innovation system. To strengthen international cooperation in the context of integration into the ERA, the Republic of Moldova undertakes to:

1) participate actively in the SFIC, which is very important for aligning national efforts with the strategic approach to international cooperation, since SFIC priorities and national internationalization actions largely overlap, while active participation as an observer at SFIC will promote coherence between the EU policies and those of the Republic of Moldova;

2) promote systematically multilateral cooperation in science and technology by expanding traditional bilateral cooperation up to multilateral cooperation with member countries and associated countries.

3) adjust national programs to ERA principles by introducing specific priorities, including: connection to European research infrastructure, development of research networks, promotion of excellence in research, gender equality, support for young researchers, etc.;

4) strengthen the dialogue with European research and innovation structures to converge national research and innovation policies towards the European ones;

5) institutionalize a functional platform to promote opportunities within the Association for European Cooperation in Science and Technology (COST); Ensure the functioning of the National Contact Points Network (NCP), participation of official representatives and national experts in the Horizon 2020 Program Committees and other strategic committees and working groups: ERAC, SFIC, ESFRI, JPIs, JRC (Joint Research Centre), etc.

Reference table

Priority number	ERA priority	Targets	Outcome indicator
1	More effective national research systems	An efficient management model of the national research and innovation system in the context of integration into the European Research Area developed	National Program for Research and Innovation *
2a	Planning and implementing transnational cooperation	– National research priorities adjusted to JPIs priorities;	National Program for Research and Innovation*

		<ul style="list-style-type: none"> – Republic of Moldova is a part of all thematic priorities and consortia created within the JPIs; – multilateral framework in international scientific cooperation supported at national level; – legal and other barriers to the development of international cooperation removed 	
2b	Research infrastructure at the European level	<ul style="list-style-type: none"> – Regulation on the Operation of Centres of Excellence (criteria and procedure for awarding the status) developed and approved; – new national programs for development and maintenance of the research infrastructure developed and implemented; – centres of excellence connected to the European research infrastructure 	Roadmap on Research Infrastructure Development
3	An open labour market for researchers	<ul style="list-style-type: none"> – Actions to promote EURAXESS Program in the society established; – policies for the employment of researchers in scientific institutions aligned with the principles of the EU Human Resources Charter, Code and Strategy; – proper working conditions for attracting young people to the scientific career development created; – several ‘Excellence in Research’ logos awarded by the EC to public and private institutions; – several vacancies announced through the EURAXESS national portal; – legal and other barriers to the mobility of researchers and their employment removed 	National Program for Stimulation of Scientific Career
4	Gender equality in research	<ul style="list-style-type: none"> – Tools intended for ensuring gender balance in research; – Number of women in management positions, committees and working groups increased 	Study prepared. Recommendations developed. Promotion criteria developed
5	Optimal circulation, access to and	<ul style="list-style-type: none"> – Open access to state-funded scientific outcomes through the introduction of digital technologies in all areas of the 	National Program for Research and Innovation *

	transfer of knowledge	research and innovation system ensured; – knowledge transfer across all sectors digitalized; – regulatory framework on open access to and transfer of knowledge developed; – legal and other barriers to the optimal circulation, access to and transfer of knowledge removed	Specific indicators: – share of national scientific journals that approved open access policies; – share of journals added to the Directory of Open Access Journals (DOAJ); – share of publications with a digital object identifier (DOI); – share of financial means for projects implementing and supporting open access; – share of organisations providing on-line scientific data on the basis of publicly funded projects; – number of active research networks on the social media, etc.
6	International cooperation	– Participation in SFIC ensured; – participation in Horizon 2020, EURAXESS, Association for European Cooperation in Science and Technology (COST), Ninth Framework Programme, etc. ensured – national research and innovation policies aligned with the European ones	National Program for Research and Innovation * Action Plan on joining European research and innovation programs drawn up Dialogue with the European structures in the field of research and innovation strengthened

*The priorities listed in the table are an integral part of the National Program for Research and Innovation, developed by the Ministry of Education, Culture and Research together with the relevant stakeholders in research and innovation.

II. GOVERNANCE: IMPLEMENTATION AND MONITORING

To implement the National Roadmap for Integration into the European Research Area, the following actions need to be carried out:

1) implementation of the amendments to the Code on Science and Innovations of the Republic of Moldova, adopted by Law no 190/2017 amending and complementing some legislative acts;

2) assimilation of EU member and associated states experience in implementing ERA priorities (foreign experts missions, ideas and opinions exchange);

3) adjusting the national research and innovation governance system in connection with ERA priorities;

4) development of the regulatory and strategic framework for alignment with ERA priorities;

5) evaluation and monitoring of implementation of the National Roadmap for the Integration of the Republic of Moldova into the European Research Area, according to the indicators established at European level;

6) submission of periodic progress reports on ERA integration to the European Commission, according to the indicators established at European level;

7) undertaking the long-term commitment to provide resources and implement the strategic priorities;

8) the social dimension of research and innovation: financing from public funds of the national research and innovation system activities for the society's interest, citizen's welfare in solving important societal problems;

9) ensuring the coordination between operators, politics and programs both vertically (adequate distribution and planning of roles between the responsible institutions at all stages of the strategic process) and horizontally (unitary coordination at national level of the national research and innovation system policies elaborated by various ministries and agencies);

10) strategic intelligence and expertise in research policies: ensuring that all the bodies and organisations involved in the implementation of the National Roadmap for the Integration of the Republic of Moldova into the European Research Area are informed through, for instance, a strategic analysis center, that would have the purpose to collect and analyse relevant data and to provide expertise in achieving the set objectives;

11) interoperability and data linkage: collecting relevant data for research and innovation policies from all major types of operators and storing them in an environment and format that would facilitate accessing and analysing them;

12) transparency and access to public information: ensuring public access to information on policies, instruments, funding opportunities and results of investment in research and innovation activities, with due respect for intellectual property;

13) assessment of performance and its separation from implementation: assessment of how the strategic objectives of the National Roadmap for the Integration of the Republic of Moldova into the European Research Area align with the committed public funds, avoiding self-assessments. The evaluation covers all stages of these processes (annual, intermediary, final) and integrates the main implementation tools (operational, sectoral programs).

Monitoring Table

	ERA priority	Implementation	Term	Monitoring Indicators
1	More effective national research systems	Ministry of Education, Culture and Research; National Agency on Research and Development	2019-2021	National Program for Research and Innovation for 2019-2022 developed; objectives on the national research system streamlining identified, indicators achieved, relevant national legislation aligned to EU standards
2a	Planning and implementing transnational cooperation	Ministry of Education, Culture and Research; National Agency on Research and Development	2019-2021	National Program for Research and Innovation for 2019-2022 developed; action plans for each public law organisation in the field of research and innovation drawn up
2b	Research infrastructure at the European level	Ministry of Education, Culture and Research; National Agency on Research and Development	2019-2020	Roadmap drawn up
3	An open labour market for researchers	Ministry of Education, Culture and Research; National Agency on Research and Development; public law organisations in the field of research and innovation	2019-2021	National program to encourage pursuit of scientific careers – developed and implemented; mid-term evaluation carried out
4	Gender equality in research	Public law organisations in the field of research and innovation; Ministry of Education, Culture and Research; National Agency on Research and Development	2019-2021	Study prepared; Recommendations formulated; Promotion criteria developed

5	Optimal circulation, access to and transfer of scientific knowledge	Ministry of Education, Culture and Research; National Agency on Research and Development	2019-2021	National Program for Research and Innovation for 2019-2022 developed; objectives identified.
6	International cooperation	Ministry of Education, Culture and Research; National Agency on Research and Development	2019-2021	National Program for Research and Innovation for 2019-2022 developed; action plans for each public law organisation in the field of research and innovation drawn up National policy documents in the field of research and innovation aligned to the European ones

The monitoring process consists in regularly examining and analyzing the context, the committed and used resources, the results achieved and interventions carried out during the implementation of the National Roadmap for the Integration of the Republic of Moldova into the European Research Area and its implementation instruments. Monitoring provides up-to-date information on achievement of indicators and progress of interventions towards the objectives set in the strategic planning/programming phase and is carried out on basis of reporting by the responsible entities.

The reporting process shall be ensured through an on-line reporting platform developed and maintained by the Ministry of Education, Culture and Research. Responsible institutions will include information on the action implementation progress on the platform, to the extent they are carried out according to indicators and deadlines established in the implementation Action Plan of the National Roadmap for the Integration of the Republic of Moldova into the European Research Area. Reporting on the platform will be done according to filling out guidelines. Subsequently, the Ministry of Education, Culture and Research will ensure systematization of the information provided by the responsible institutions, will generate biannual and annual reports and publish them on the official website.

ACTION PLAN
Implementing the National Roadmap for the Integration
of the Republic of Moldova into the European Research Area for 2019–2021

No	Action	Indicator	In charge	Term	Estimation of costs
1	2	3	4	5	6
<i>Priority 1: More effective national research system</i>					
1.	Adopt the National Program for Research and Innovation for 2019–2022	Government Decision on the National Program for Research and Innovation for 2019–2022 approved	Ministry of Education, Culture and Research	Quarter 1, 2019	Within the allocated funds
2.	Adjust the procedures for organisation and conduct of the state budget-funded tenders to the European practices	Methodology developed; regulatory framework reviewed and adjusted; criteria developed; project assessment reports drawn up and published on the official website of the National Agency on Research and Development	National Agency on Research and Development; Ministry of Education, Culture and Research	Quarters 1–2, 2019 Biannually	Within the allocated funds

1	2	3	4	5	6
3.	Learn from the experience of organising and managing the research and innovation system from the EU countries and improve the competitiveness-based funding process	Actions carried out; set of acts developed and approved	National Agency on Research and Development; Ministry of Education, Culture and Research	2020	Within the allocated funds
4.	Develop performance indicators for scientific research	Performance indicators scale developed and approved; assessment reports drawn up and published on the official website of the National Agency on Research and Development	National Agency for Assuring Quality in Education and Research; National Agency on Research and Development; Ministry of Education, Culture and Research; Academy of Sciences of Moldova	Quarters 1–2, 2019, as may be required	Within the allocated funds
5.	Create a critical mass of researchers in research and innovation and identify niche areas with a considerable advantage or contribution	Areas identified; regulatory framework adjusted; number of researchers involved; register of researchers created; report drawn up	National Agency for Assuring Quality in Education and Research; National Agency on Research and Development;	2019 2020	External sources Within the allocated funds

1	2	3	4	5	6
			Academy of Sciences of Moldova; public law organisations in the field of research and innovation		
6.	Identify instruments for training entrepreneurs and opportunities to sell the results of research and innovation by creating partnerships between public and private operators	Methodology developed; regulatory framework developed; number of established partnerships	Ministry of Economy and Infrastructure; Organisation for Small and Medium-Sized Enterprises Sector Development; Ministry of Education, Culture and Research; National Agency on Research and Development	2019 2020	Within the allocated funds
7.	Focus resources on the economically relevant research and innovation areas and those with demonstrated proved potential for research and innovation, which would lead to creation	Mapping performed; number of established partnerships	Ministry of Economy and Infrastructure; Organisation for Small and Medium-Sized	2019 2020	Within the allocated funds

1	2	3	4	5	6
	and strengthening of public-public and public-private partnerships		Enterprises Sector Development; National Agency on Research and Development Ministry of Education, Culture and Research		
8.	Encourage public-public and public-private partnerships, fund science and assess its impact, develop new funding models to facilitate innovation	Number of established partnerships; funding criteria developed; assessment report developed and approved	Ministry of Economy and Infrastructure; Organisation for Small and Medium-Sized Enterprises Sector Development; Ministry of Education, Culture and Research; National Agency on Research and Development; Academy of Sciences of Moldova	2019–2020	Within the allocated funds

1	2	3	4	5	6
9.	Align the research and innovation activities with the European standards	National Program for Research and Innovation developed; action plan developed	Ministry of Education, Culture and Research; National Agency on Research and Development	Semester 1, 2019	Within the allocated funds
10.	Carry out performance-based assessment of research institutions and researchers	Assessment standards developed; assessment reports developed	National Agency for Assuring Quality in Education and Research; Ministry of Education, Culture and Research; National Agency on Research and Development; Academy of Sciences of Moldova; public law organisations in the field of research and innovation	2019	Within the allocated funds

1	2	3	4	5	6
11.	Learn from the European experience of organising and managing a national research e-infrastructure with access to GEANT network	Study prepared; recommendations formulated; funding criteria developed; E- infrastructure Management Regulation approved;	Research and Ed ucational Networking Association of Moldova (RENAM); National Agency on Research and Development; Ministry of Education, Culture and Research; public law organisations in the field of research and innovation	2019–2020	MDL 120 000 MDL 250 000 funds allocated from the budget; external sources
Priority 2: <i>Optimal transnational cooperation and competitiveness:</i> 2a. planning and implementing transnational cooperation					
12.	Increase the awareness of the Moldovan scientific community about JPIs and European technology platforms, designate the institutions responsible for the relationship with each JPI, organise information days and results dissemination events	Number of contact points identified; guidelines developed; number of dissemination activities organised;	National Agency on Research and Development; Ministry of Education, Culture and Research; Academy of Sciences of Moldova; public law organisations in	Quarter 2, 2019; ongoing	Within the allocated funds; external sources

1	2	3	4	5	6
			the field of research and innovation		
13.	Plan participation of Moldovan entities in the JPIs within the Medium-Term Budgetary Framework, which would cover the cost of participation in calls for proposals announced in various programs	Proposals formulated; Medium-Term Budgetary Framework developed	Ministry of Education, Culture and Research; National Agency on Research and Development; Ministry of Finance; public law organisations in the field of research and innovation	2019-2021	Within the allocated funds
14.	Develop a single management framework model to be applied to the participation of Moldovan entities in multilateral calls for projects	Single management framework model developed	National Agency on Research and Development; Ministry of Education, Culture and Research	Quarter 1, 2019	Within the allocated funds
15.	Optimise transnational cooperation by intensifying efforts to implement joint research agendas on major societal challenges	Joint research agendas developed and agreed upon; assessment report developed	Ministry of Education, Culture and Research; National Agency on Research and Development;	annually	Within the allocated funds

1	2	3	4	5	6
			public law organisations in the field of research and innovation; Academy of Sciences of Moldova		
16.	Increase participation in transnational programs	Annual number of projects obtained compared to those submitted	Public law organisations in the field of research and innovation; Academy of Sciences of Moldova; National Agency on Research and Development; Ministry of Education, Culture and Research	annually	Within the allocated funds
17.	Remove legal and other barriers to increase cross-border interoperability of national programs	Study on identifying barriers developed; measures identified and applied, as appropriate	Ministry of Education, Culture and Research; National Agency on Research and Development	Quarter 4, 2019	MDL 250 000 Funds allocated from the budget External sources

1	2	3	4	5	6
18.	Establish 'ERA Chairs' to attract renowned researchers or academics following the once research and innovation projects were won	Number of universities that established 'ERA Chairs'	Higher education institutions; Ministry of Education, Culture and Research	2020	From the budget of public law organisations in the field of research and innovation
19.	Meet the commitments, including financial ones, assumed by the Republic of Moldova within the EU framework programs in the field of research and innovation	Membership fees paid; Number of participations in program committees	Ministry of Education, Culture and Research; National Agency on Research and Development; National Agency for Assuring Quality in Education and Research; Academy of Sciences of Moldova	ongoing	Within the allocated funds
Priority 2: <i>Optimal transnational cooperation and competitiveness:</i> 2b. Research infrastructure at the European level					
20.	Map research infrastructure in research and innovation institutions and develop the necessary regulatory framework for its development, management and maintenance, avoiding duplication	Public law organisations in the field of research and innovation assessed; regulatory framework amended, as appropriate	Ministry of Education, Culture and Research; National Agency for Assuring Quality in	2019	Within the allocated funds

1	2	3	4	5	6
			Education and Research; National Agency on Research and Development		
21.	Draw up a roadmap for the development of the research infrastructure in the research and innovation system	Research infrastructure assessed; roadmap drawn up	Ministry of Education, Culture and Research; National Agency for Assuring Quality in Education and Research; National Agency on Research and Development; public law organisations in the field of research and innovation	Quarter 4, 2020	Within the allocated funds
22.	Participate actively in ESFRI	Number of persons delegated; number of participations	National Agency on Research and Development; Ministry of Education, Culture and Research; Academy of Sciences of Moldova	annually	Within the allocated funds

1	2	3	4	5	6
23.	Associate with programs on cooperation with major infrastructures in the region	Number of programs the Republic of Moldova became part of	National Agency on Research and Development; Ministry of Education, Culture and Research; public law organisations in the field of research and innovation	annually	Under the terms of association/with in the allocated funds
24.	Create conditions for connecting to the European research infrastructure	Number of project participants; number of cooperation projects developed; request for association with the new Horizon Europe Framework Programme drawn up and submitted	Ministry of Education, Culture and Research; National Agency on Research and Development	2019–2020	Within the allocated funds
25.	Use various tools to ensure access to the European research infrastructure through mobility of Moldovan scientific community representatives to the European centres with advanced infrastructure	Number of joint projects with foreign organisations/institutions in the field of research and innovation; number of national and international mobilities	National Agency on Research and Development; Ministry of Education, Culture and Research; Academy of Sciences of Moldova	annually, biannually	Within the allocated funds
26.	Participate in calls launched under the Horizon 2020 Program	Number of projects obtained versus calls for projects applied for	National Agency on Research and Development;	annually/biannually	Within the allocated funds

1	2	3	4	5	6
			Academy of Sciences of Moldova; public law organisations in the field of research and innovation; small and medium enterprises		
27.	Develop national electronic research infrastructure integrated into the European electronic research area	Study prepared; RENAM cross-border broadband fiber optic channels (10-100 Gbps) to Romania and Ukraine for connection to GEANT created	Research and Educational Networking Association of Moldova (RENAM); e-Government Agency National Agency on Research and Development; Ministry of Education, Culture and Research; public law organisations in the field of research and innovation	2019–2020	Within the allocated funds – EaP Connect EU project

1	2	3	4	5	6
28.	Support the financing of research and innovation projects and infrastructure in public sector, create new infrastructures (laboratories, research centres, etc.) and expand pan-European research infrastructures in the Republic of Moldova (open infrastructures, of ESFRI type)	Number of co-financed projects	National Agency on Research and Development Ministry of Education, Culture and Research	ongoing	Within the allocated funds
29.	Develop tools to motivate participation of the business environment in research and innovation	Number of co-financed projects	National Agency on Research and Development; Ministry of Economy and Infrastructure	annually	Within the allocated funds
30.	Create a National Electronic Register of Research and Innovation Infrastructures	Functional infrastructures identified; electronic register developed	Ministry of Education, Culture and Research; e-Government Agency National Agency for Assuring Quality in Education and Research; National Agency on Research and Development	2020	MDL 500 000 Funds allocated from the budget External sources
31.	Create opportunities for excellence and cooperation in research and innovation by consolidating NREN (National Research and	Study prepared; recommendations formulated;	Research and Educational Networking	2019–2020	Within the allocated funds

1	2	3	4	5	6
	Education Network) e-infrastructure of RENAM (<i>Research and Educational Networking Association of Moldova</i>) connected to the GEANT network	national fiber optic connection channel at 1–10 Gbps; number of connected universities and institutes	Association of Moldova (RENAM); public law organisations in the field of research and innovation		– EaP Connect EU project
Priority 3: Jobs accessible to researchers					
32.	Implement the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers to develop human resource policies in research	Principles implemented through the development of related regulatory framework	Ministry of Education, Culture and Research; Academy of Sciences of Moldova	2021	MDL 500 000 funds allocated from the budget; external sources
33.	Systematically implement the Declaration of Commitment by the members of the EURAXESS Service Network in research and innovation institutions and other structures related to research and innovation areas in the Republic of Moldova	Number of EURAXESS member organisations; number of organisations implementing declarations of commitment	Public law organisations in the field of research and innovation	2019-2021	Within the allocated funds
34.	Adjust the institutional regulatory framework in Moldovan research and innovation organisations to the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers and implement the EU Human Resources Strategy for Researchers	Institutional regulatory framework amended	Public law organisations in the field of research and innovation; Ministry of Education, Culture and Research	2021	Within the allocated funds

1	2	3	4	5	6
35.	Integrate PhD students and young researchers into research and innovation projects	Number of PhD students and young researchers in research and development projects; report drawn up	Public law organisations in the field of research and innovation; Academy of Sciences of Moldova	annually	Within the allocated funds
36.	Maintain the Electronic Register of Moldovan Researchers	Electronic register annually updated	Ministry of Education, Culture and Research	2020	MDL 50 000 Funds allocated from the budget External sources
37.	Promote young researchers in their pursuit of a scientific career	Promotion criteria developed	Academy of Sciences of Moldova; Ministry of Education, Culture and Research; public law organisations in the field of research and innovation	2020	Within the allocated funds
38.	Include researchers in the private sector	Number of sessions for media coverage of partnerships between the researchers and the private sector; number of researchers in the private sector	Organisation for Small and Medium-Sized Enterprises Sector Development;	annually	Within the allocated funds

1	2	3	4	5	6
			Investment Agency; public law organisations in the field of research and innovation; business entities		
39.	Ensure transparency in researchers' employment and promotion	Employment and promotion conditions/criteria adjusted to EU standards	Public law organisations in the field of research and innovation; Ministry of Education, Culture and Research	2020	Within the allocated funds
<i>Priority 4: Gender equality in research</i>					
40.	Develop tools intended for ensuring gender balance in research	Study prepared; recommendations formulated	Public law organisations in the field of research and innovation; Ministry of Education, Culture and Research; National Agency on Research and Development;	Quarter 4, 2019	Within the allocated funds

1	2	3	4	5	6
			Academy of Sciences of Moldova		
41.	Increase the number of women promoted to leadership positions, committees and working groups, in decision-making and other types of activities organized and carried out in the areas of research and innovation	Promotion criteria developed; annual percentage increased; reports developed	Public law organisations in the field of research and innovation; Academy of Sciences of Moldova	annually	Within the allocated funds
42.	Study and apply the experience of developed countries by initiating a new 'Gender Balance in Research' National Program, which will ensure women's appreciation in research and research management	Number of study visits; reports developed; recommendations formulated	Public law organisations in the field of research and innovation	2020	MDL 100 000 Funds allocated from the budget External sources
43.	Learn from the experience of European countries where standards of gender equality in research have been developed	Number of study visits; reports developed; recommendations formulated	Public law organisations in the field of research and innovation	2020	MDL 100 000 Funds allocated from the budget External sources
<i>Priority 5: Optimal circulation, access to and transfer of knowledge</i>					
44.	Create a register of scientific outcomes	Database developed; digital register created; national bibliometric instrument updated; share of journals added to the Directory of Open Access Journals (DOAJ); Share of publications with a digital object identifier (DOI)	Information Society Development Institute; National Agency on Research and Development; Investment Agency	Quarter 4, 2019	MDL 600 000 Funds allocated from the budget External sources

1	2	3	4	5	6
45.	Enhance cooperation and improve the exchange of information between science, business and society	Number of information days; number of cooperation activities	Public law organisations in the field of research and innovation; small and medium enterprises; Investment Agency	annually	External sources, within the allocated funds
46.	Ensure effective and long-term access to information and publications funded out of public money (promoting the <i>Open Science</i> concept)	Related framework developed; share of financial means for projects implementing and supporting open access; share of organisations providing on-line scientific data on the basis of publicly funded projects; share of national scientific journals that approved open access policies; number of views	Ministry of Education, Culture and Research; Information Society Development Institute; public law organisations in the field of research and innovation; Investment Agency	2019-2021	Within the allocated funds
47.	Ensure the transfer of information, knowledge and technology to society and business environment	Information published on the website; number of views; number of active research networks on the social media, etc.	National Agency on Research and Development; public law organisations in the field of	2019-2021	Within the allocated funds

1	2	3	4	5	6
			research and innovation; Investment Agency		
48.	Engage potential beneficiaries in drafting research topics and hearing the outcomes of the researches carried out	Number of research topics drafted; potential beneficiaries identified; hearings held	Central public administration National Agency on Research and Development; Organization for Small and Medium-Sized Enterprises Sector Development; public law organisations in the field of research and innovation; Investment Agency	annually	Within the allocated funds
49.	Consider the possibility of introducing industrial doctorate – a way of transferring knowledge to the business environment	Study prepared; recommendations formulated	Ministry of Education, Culture and Research; public law organisations in the field of research and innovation	2020-2021	MDL 300 000 Funds allocated from the budget External sources

1	2	3	4	5	6
50.	Develop researchers' entrepreneurial skills, technology brokerage skills, and knowledge of intellectual property to stimulate the emergence of start-ups and spin-offs	Methodology developed	Organisation for Small and Medium-Sized Enterprises Sector Development; National Institute for Economic Research; State Agency on Intellectual Property; Academy of Sciences of Moldova; Ministry of Education, Culture and Research; public law organisations in the field of research and innovation; Investment Agency	2019-2021	External sources Within the allocated funds
<i>Priority 6: International cooperation</i>					
51.	Participate actively in the Strategic Forum for International Scientific and Technological Cooperation (SFIC)	Number of participations; number of participants	Academy of Sciences of Moldova;	annually, as may be required	Within the allocated funds

1	2	3	4	5	6
			National Agency on Research and Development; Ministry of Education, Culture and Research		
52.	Promote systematically multilateral cooperation in science and technology by expanding traditional bilateral cooperation up to multilateral cooperation with member countries and associated countries	Number of multilateral contracts	Ministry of Education, Culture and Research; National Agency on Research and Development; public law organisations in the field of research and innovation	annually, as may be required	MDL 2 000 000 Funds allocated from the budget External sources
53.	Adjust national programs to ERA principles by introducing specific priorities, including: connection to European research infrastructure, development of research networks, promotion of excellence in research, gender equality, support for young researchers, etc.	Regulatory framework examined; Regulatory framework amended, as appropriate	Ministry of Education, Culture and Research National Agency on Research and Development National Agency for Assuring Quality in Education and Research	2019–2021	Within the allocated funds

1	2	3	4	5	6
54.	Strengthen the dialogue with European research and innovation bodies to converge national research and innovation policies towards the European ones;	<p>A mechanism of presenting the national policy in the field of research and innovation to the European institutions created</p> <p>Ministerial structure for converging national research and innovation policies created</p> <p>Regulatory Framework adapted</p>	Ministry of Education, Culture and Research	2019	MDL 1000.0 Funds allocated from the budget
55.	Institutionalize a functional platform to promote opportunities within the Association for European Cooperation in Science and Technology (COST); Ensure the functioning of the National Contact Points Network (NCP), participation of official representatives and national experts in the Horizon 2020 Program Committees and other strategic committees and working groups: ERAC, SFIC, ESFRI, JPIs, JRC (Joint Research Centre), etc.	<p>Study prepared;</p> <p>Platform created and functional;</p> <p>Number of promotional workshops;</p> <p>Number of developed projects;</p> <p>Platform created and functional</p>	<p>Research and Educational Networking Association of Moldova (RENAM);</p> <p>Information Society Development Institute;</p> <p>Ministry of Education, Culture and Research;</p> <p>public law organisations in the field of research and innovation;</p> <p>National Agency on Research and Development</p>	2020	MDL 300 000 Funds allocated from the budget External sources

