HERAS
Higher Education, Research and Applied Science

WITH FUNDING FROM
AUSTRIAN DEVELOPMENT COOPERATION

Republika e Kosovës
Republika Kosova - Republic of Kosovo
MASHT-MONT-MEST

CONCEPT DOCUMENT

MAPPING OF THE RESEARCH AND INNOVATION SYSTEM IN KOSOVO

This document has been developed with
the support of HERAS national experts:

Hamit Qeriqi
and
Bujar Gallopeni

TABLE OF CONTENTS

Abbreviation

AI	Administrative Instruction
CEEPUS	Central European Exchange Program for University Studies
COST	European Cooperation in Science and Technology
CRIS	Current Research Information System
EHEA	European Higher Education Area
ERA	European Research Area
ERP	Economic Reforms Programme
EU	European Union
GDP	Gross Domestic Product-
GoK	Government of Kosovo
HE	Higher Education
HE	Higher Education
HEIs	Higher Education Institutions
HEST	Higher Education, Science and Technology
ICPC	International Cooperation Partner Country (to Horizon 2020)
ICSHE	International Collaboration in Science and Higher Education
ICT	Information Communication Technology
ITT	Innovation and Transfer Technology
KASA	Kosovo Academy of Science and Arts
KESP	Kosovo Education Strategic Plan
LSRA	Law on Scientific Research Activities
MEST	Ministry of Education, Science and Technology
MIE	Ministry of Innovation and Entrepreneurship
NDS	National development strategy
NRF	National Research Fund
NRP	National Research Program
NSC	National Science Council
NSC	National Science Council
OECD	Organisation for Economic Co-Operation and Development
PMO	Prime Minister Office
RCC	Regional Cooperation Council
RDI	Research Development and Innovation
RIF	Research Innovation Fund
R&I	Research and Innovation
SAA	Stabilization and Association Agreement
SIC	Scientific Innovation Council
SITKT	Scientific Innovation and Transfer of Knowledge and Technology
SME	Small- Medium Enterprises
SPO	Strategic Planning Office
SRA	Scientific Research Activities
ST	Science and Technology
WISE	Western Balkans Regional R&D Strategy for Innovation

1. INTRODUCTION

The preparation of this concept document is carried out in the framework of the Project Higher Education, Research and Applied Science (HERAS).It presents an overview of Research and Innovation (R&I) field by presenting the current situation challenges in Kosovo in terms of involved institutions in the field of R&I, national legislation, adopted national strategies, programmes, and budget tackling the areas of R&I.

It identifies and provides a comprehensive map of all institutions relevant for policy making and implementation of existing legal and strategic framework as well as participation in different regional and international programs related to the R&I. Further, this concept document analyses the results achieved so far in the implementation of the public policies and absorption of existing funds dedicated to R&I in Kosovo and participation of Kosovo in the regional and international programs dedicated to the R&I activities.

This concept document provides a general comparison of Kosovo R&I system with the European Research Area (ERA) priorities, a comparison between R&I system in Kosovo and Montenegro based on a number of determined criteria.

Finally, based on analysis and findings, this concept document provides detailed conclusions and a number of recommendations for MEST and other relevant stakeholders in order to work on continuous improvement of the R&I system in Kosovo and preparing for its inclusion into the European Research Area.

2. METHODOLOGY

This concept document is prepared based on qualitative research approach using secondary sources (desk research) and primary sources (interviews). Initially, desk research was conducted by analysing existing legal framework, policy documents, studies and reports related to education, research, science and innovation, research infrastructures, spending and budget allocated for research activities, international programmes and funds, etc. All selected documents for the purpose of the desk research are published sources, accessible to the general public. After collecting all relevant information content analysis is conducted.

Besides desk research a number of semi structured interviews are conducted with relevant staff, responsible for preparing and implementing scientific research policies, of Department of Higher Education, Science and Technology (HEST) in Ministry of Education Science and Technology (MEST). A number of questions were asked to all selected MEST staff in order to confront their views on key issues and a group of questions specifically addressed to the role and position of each of the division. Finally, content analysis was paired with findings from semi-structured interviews and the validation of the information from desk research was conducted during the semi structured interviews.

The preparation of this document was done using a collaborative approach. Three working meetings and presentation were organized by HERAS team, where representatives from Department of HEST and engaged experts worked on finalizing the outline of the concept documents and presenting the progress towards drafting this concept document.

3. SITUATION ANALYSIS

Kosovo is at an early stage of preparation for research, science and innovation (R&I) system. Kosovo's R&I system is still underdeveloped and is one of the least developed in the region. It scored poorly on all four policy dimensions: RDI policy governance; research base; private sector RDI activities; and business academia cooperation, therefore Kosovo was ranked second-last by the 2018 Organisation for Economic Co-Operation and Development (OECD) Competitiveness Outlook[1].

The R&I area was neglected over many years and it is only recently that it has been recognised as a precondition for rather than a consequence of domestic economic development[2]. The first policy efforts to support research activities started in 2010 with the adoption of the 2010-2015 National Research Programme (NRP).

Kosovo is still in the process of adopting relevant frameworks, rather than advancing their implementation. Kosovo has made a step forward in adapting new legal framework that regulates R&I sector. Limited progress was made in the field of innovation[3].

The implementation of legal and strategic documents, "has been slow and the responsible agency has often failed to fully spend the modest budget allocations"[4].

The following section explains the situation of Kosovo's R&I system, legal and strategic framework, institutional set up and governance in the area of R&I as well as roles and responsibilities of the R&I institutions.

3.1. Institutional framework for R&I

RI is a quite broad area and a range of institutional actors and bodies are involved in governing and implementing the national R&I landscape. This involves the legislative and policy development and implementation institutions, as well as performers of research and innovation activities

The following section will provide brief information about the institutions involved in the scientific research and scientific innovation.

Assembly of Kosovo adopts the R&I legislation as well as approves policy and financial documents, such as National Research Program and fund. It also appoints R&I bodies such as National Research Council.

Ministry of Education, Science and Technology (MEST) is responsible for the development of the scientific research and higher education system and the promotion of technological development. It is in charge of adoption of public policy in the area of research and education systems. Moreover, MEST is responsible for funding its development and policy programs. In the area of scientific research MEST is mandated to allocate research funding as well as implement its financial instruments for the implementation of NRP[5]. While, regarding the scientific innovation, the Law on Scientific Innovation and Transfer of Knowledge and Technology (SITKT) makes MEST the main institution responsible for preparing innovation policies and implementation mechanisms for the Scientific Innovation and Transfer of

[1] Competitiveness in South East Europe. A Policy Outlook 2018, OECD, 2018.
[2] Best Practices on Business-Academia-Government- Co-operation for Innovation in Kosovo, OECD, 2016.
[3] EU progress report 2019
[4] Best Practices on Business-Academia-Government- Co-operation for Innovation in Kosovo, OECD, 2016.
[5] Law on Scientific Activity, No. 04/L-135

Knowledge and Technology. The current regulation for internal organization of MEST, mandates Department of Higher Education, Science and Technology (DHEST) as main responsible body in the area of Higher Education, Research and Technology. The DHEST is composed by five divisions, from which three share responsibility in the area of R&I:

- Division of Science and Technology (ST)
- Division for Innovation and Transfer Technology (ITT)
- Division for International Collaboration in Science and Higher Education (ICSHE)[6].

Ministry of Innovation and Entrepreneurship (MIE). To strengthen innovation policies and development, the Government of Kosovo (GoK) established a new Ministry for Innovation and Entrepreneurship in 2017 and prioritized reforms in innovation, research and higher education. MIE is responsible for drafting, implementing, coordinating and overseeing the policies, strategies and legislation in the field of innovation and entrepreneurship. MIE is focused in promoting innovation and establishing institutional coordination mechanisms between science, the private sector and policy-making[7]. Department of Innovation within MIE has significant role in policy making and implementation of the policies in the field of innovation.

National Science Council (NSC)- is mandated with the Law on Scientific-research Activities (SRA) to support "systematic development of scientific-research and technological activity in the Republic of Kosovo"[8]. The composition and election of the members of NSC is regulated with the law on SRA**.** It is comprised of 15 members and is responsible "to develop the National Research Program (NRP), evaluate in a comparative manner the situation regarding scientific-research activity, its position and development at the national and international level, and propose and encourage measures aiming at advancement of scientific-research activity"[9]. However, the NSC has not been made operational by the Government since 2011.

Scientific Innovation Council (SIC)- shall be establish according to the Law on SITKT. MEST in cooperation with relevant Ministries establishes the SIC to monitor the development and commercial implementation of scientific innovations. The activity of the SIC is administered and coordinated from the Department of HEST in MEST. The first step towards functionalization of the SIC has started by preparing a draft of Administrative Instruction (AI) on organization, activity and composition of the council for scientific innovation, transfer of knowledge and technology. It is not adopted yet by MEST, however this AI in the future will regulate, composition, organization and activity of the SIC. According to the Law on SITKT, the SIC shall consists of seven (7) members with proven international results in science, scientific innovation and business.

The Law on SRA defines, research organization as an economic unit, such as Universities or Research Institutes, irrespective of their legal status, the primary goal of which is to conduct basic research, industrial research or experimental development in order to disseminate their results through teaching or publication. It also defines bearers of scientific-research activities, such as scientific institutions and scientific workers and researchers that have relevant scientific and research titles or relevant academic education.

[6] Regulation on Internal Organization and Systematization of Working Places at the Ministry of Education, Science and Technology
[7] Regulation on internal organization and systematization of jobs in the Ministry of Innovation and Entrepreneurship
[8] Law on Scientific- Research Activities
[9] The situation of research in Kosovo. KEEN, 2018.

According to the Law on SRA, the only institutions explicitly listed as public scientific-research entities are:

- Academy of Sciences and Arts of Kosovo;
- Universities
- Albanological Institute of Pristina
- Institute of History
- Other scientific- research and higher education institutions

MEST is responsible to license scientific institutions. The NRC has been put in charge of providing an opinion regarding the fulfilment of the standards for organizing and developing scientific research organizations, and MEST has the responsibility to give the license (after a positive opinion) and to register private scientific organizations in the Register of Scientific-Research Institutes.

Since the registration and licensing process is not undertaken, MEST does not have information on number of research institutions active in Kosovo. For the purpose of this report, using different sources (reports, websites.) a number of institutions with research components (research not as a core activity[10]) are identified as following:

- Kosovo Pedagogical Institute (https://ipkmasht.rks-gov.net/?lang=en)
- Institute of Leposavic
- National Institute of Public Health (http://niph-rks.org/?lang=en)
- Hydrometeorological Institute of Kosovo (https://www.ammk-rks.net/?page=1,90)
- Institute of Spatial Planning (https://www.ammk-rks.net/?page=1,91)
- Kosovo Agriculture Institute (https://www.mbpzhr-ks.net/en/kosovo-agriculture-institute)
- Center for Energy & Natural Resources (https://www.rit.edu/research/cenr/aboutus)
- Innovation Centre Kosovo (ICK) (https://ickosovo.com/about)

According to the Law on SITKT, public or private institutions that deal with scientific innovation activity are:

- Manufacturing development institutions
- Research institutions
- Scientific innovation institutions

Moreover, the Law on SITKT defines supporting institutions for provision of infrastructural assistance in the field of scientific: Business-technological incubator; Scientific-technological Park; and Scientific innovation accelerators.

Mapping of the role and competences of RI institutions

The public policy literatures abound with references to institutional and stakeholders mapping or analysis. A stakeholder is defined as persons, group or organization whose interests and activities strongly affect and are affected by the issues concerned, who have a stake in a change, who control relevant information and resources and whose support is needed in order to implement the change (Morgan and Taschereau, 1996). Stakeholder analysis identifies the stakeholders and maps out their relative power, influence and interests in a certain domain or in regard to a specific initiative, identifies the role and action arena of each stakeholder[11].

[10] Western Balkans Regional R&D Strategy for Innovation; Country Paper Series- Kosovo. World Bank Technical Assistance Project funded by the European Commission, 2013.
[11] Paul Aligica. "Institutional and Stakeholder Mapping: Frameworks for Policy Analysis and Institutional Change," Public Organization Review, 2006.

In the following diagram the organization of the national RI system is presented:

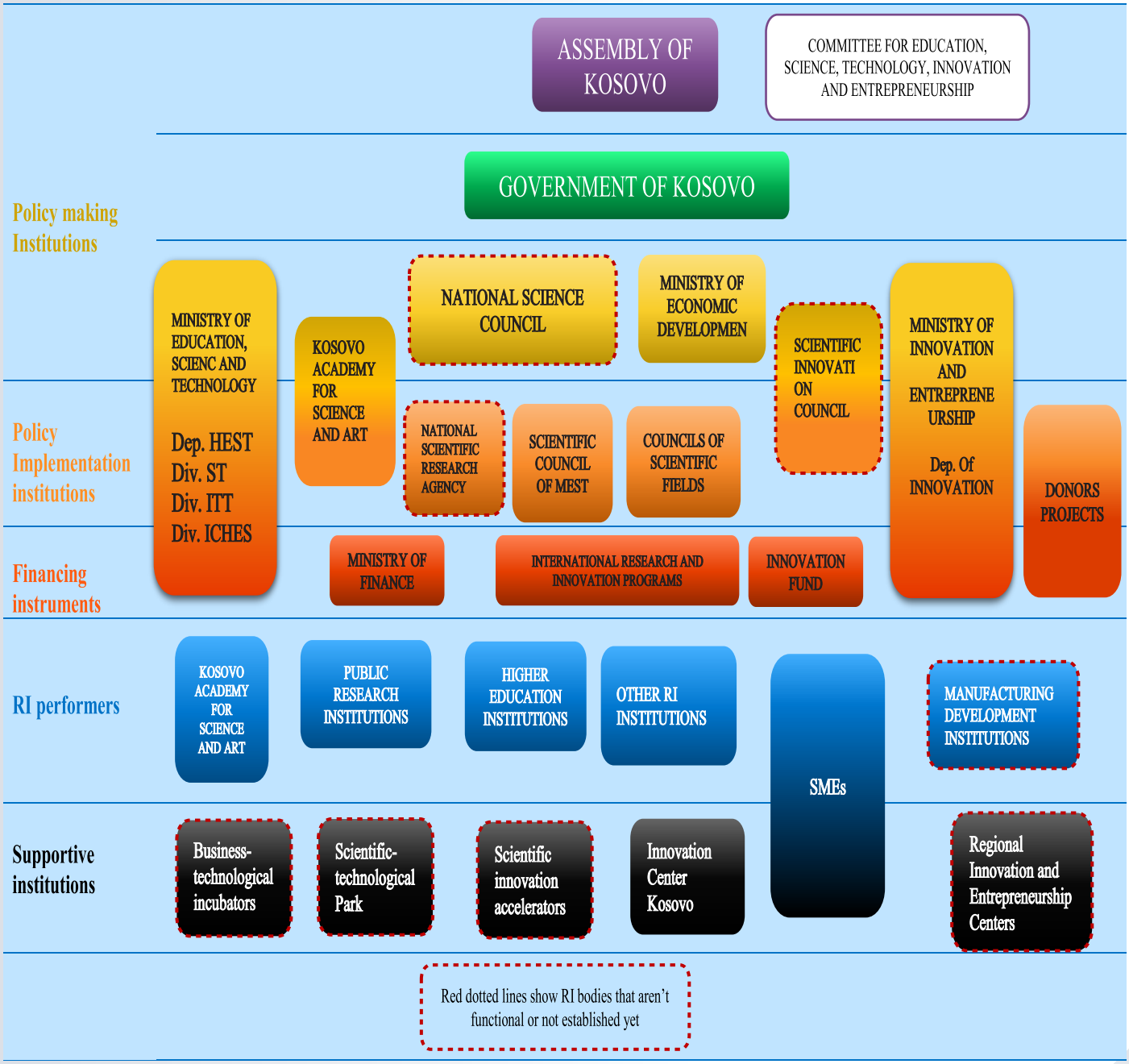


Figure 1. The organization of the national RI system.

Mapping the role and responsibilities of RI institutions in Kosovo was focused in understanding the existing distribution of authority and responsibilities of institutions as well as their interactions in the policy making process and implementation of public policies, relevant to the field of R&I. The table in the Annex 1 presents mapping the roles and responsibilities in the field of Scientific Research and Innovation.

3.2. Legal framework for RI

The MEST is the regulatory institution regulating legislative infrastructure for research activity. The main laws that regulates the RI system are as the following:

- Law (No. 04/L-135) on Scientific Research Activities
- Law (No. 06/L-049) on Scientific Innovation and Transfer of Knowledge and Technology
- Law (No.04/L-037) on Higher Education in the Republic of Kosovo
- Law (No. 2004/ 19) on Academy of Science and Arts of Kosovo

The Law on SRA, aims to support the scientific research activities and results that follow the requirements of the new technology and has a significant impact in the development of society and economy in Kosovo. The law regulates the establishment of scientific research institutions and their licencing procedures, the rights and responsibilities of workers and researchers as well as it stipulates the role of the NSC. It further defines the establishment of Scientific Councils in the relevant fields, and the way of financing the scientific-research activities in Kosovo.

The law on SRA determines provisions on the NRP, its approval and implementation as well as funding allocation and mechanisms for implementation of the NRP. Furthermore, the law on SRA determines NRP as policy roadmap for research which will enable development of scientific fields and institutional scientific capacities

It further defines that scientific-research activity, knowledge and technology transfer and innovation includes: (1)development scientific-research and publication of their outcomes; (2) training of personnel for development and scientific-research works; (3) transfer of knowledge and technology; (4) recognition and promotion of innovation that comes as result of scientific researches; (5) construction and maintenance of scientific-research infrastructure that helps economic, technological, cultural and social progress of the country[12].

In terms of cooperation in the field of scientific research, article 12 of Law on SRA, states that "scientific-research institutes and higher education institutions shall cooperate with purpose of interconnection and use of experiences of scientific-research and educational work and use of experiences of each other for multidisciplinary research".

Regarding funding of scientific research activities, Law on SRA requires 0.7 percent of the government budget to be allocated for scientific research in order to perform and develop scientific research.

[12] Law on Scientific Research Activities/

Enforcement of the Law on SRA. MEST has issued a number of Administrative Instruction (AI) to regulate the process of financing scientific projects and publications:

- AI no.26/2016 for Application in Small Scientific Projects
- AI no. 28/2016 on Short-Term Mobility Grants and for Participation in International Scientific Conferences
- AI no.27/ 2016 on Financial Support for Fund Application from MEST for Scientific Publishing and Publication
- AI no.22/2014 on the Activity of Scientific-Research Institutions in State of Emergency

After the new Law on SRA was adopted in 2013, MEST did not adopt a new AI that regulates the procedure for the establishment, mandate, organization, election of its member and activity of the NSC and Councils of scientific fields. Law on SRA (article 48) further stipulates that a National Scientific Research Agency shall be established by a special Law.

Law on Scientific Innovation and Transfer of Knowledge and Technology (SITKT)- regulates innovation and knowledge transfer and technology. It defines the national scientific innovation system as a series of organizations, institutions and their relations that has for the purpose of innovation generation, spread and implementation of scientific and research activity and technological improvements. Pursuant to this law, the bearers of innovations in Kosovo are listed in the Annex 1.

In terms of financing of activities and projects related to scientific innovation and transfer of knowledge and technology, the law determines potential source of funding, such as: budget of Kosovo, donations, scientific innovation investing fund; angel investors and societies of angel investor; mechanisms for venture capital, institutions, enterprises and organizations dealing with scientific innovation and transfer of knowledge and technology; European Union programs and other resources[13].

The Law on SITKT mandates MEST and other relevant Ministries to establish the SIC with a mandate to monitor the development and commercial implementation of scientific innovations.

Enforcement of Law on SITKT. MEST is in process of drafting sub legal acts that will provide a funding instrument to support innovation actions in Kosovo through voucher schemes and to regulate, composition, organization and activity of the SIC:

- (Draft) Regulation for defining and administering innovation voucher schemes
- Administrative Instruction on organization, activity and composition of the Council for Scientific Innovation, Transfer of Knowledge and Technology.

The Law on Higher Education (HE)- regulates the principles of establishment and functioning of higher educational institutions and outlines their primary roles. Pursuant to the law on HE, among a number of objectives of the HE, *creation development, protection and transmission of knowledge through teaching and scientific and research works* is one objective of the HE. Furthermore, it states that University shall be an institution of education and scientific research, that gives diplomas and degrees including the doctoral level. The HE Law urges bearers of higher education to undertake research measures and activities as part of their work. In addition, the HE

[13] Law on Scientific Innovation and Transfer of Knowledge and Technology

Law and its deriving by-laws further determine different types of HEIs, however it does not clearly provide their research development profile.

Furthermore, the HE Law determines instructions for strategic university development and financial allocations for supporting research activity among universities. It also provides dispositions for promotion of academic staff, based on their research work and publications they undertake.

3.3. National Strategic Framework for R&I

R&I has an important role in the socio-economic development, enabling thus researchers and scientists to apply their knowledge and skills for the development of the society. R&I strategic orientation in Kosovo are designed is mainly based on the NRP and Kosovo Education Strategic Plan. These two documents depict the main objectives of the policies, and the actions for each respective objective. The mutual objectives in both strategies are: research infrastructure including building of new laboratories and procurement of modern equipment; human capacity including professional and eligible scientific researchers; internationalization including cooperation with worldwide institutions and publications in well-known international journals; and linkage between science and socio-economic development including the generating of studies that meet the socio-economic dynamism in Kosovo. Moreover, the field of R&I is also included in various strategic documents of the GoK, such as the National Development Strategy, European Reform Agenda, Programme for Economic Reforms, Government Programme, etc.

National development strategy (NDS) 2016 – 2021. NDS is the highest-level policy document of the Government of Kosovo. NDS aims to address key obstacles to development of Kosovo[14] and to provide an overall development agenda towards European integration, identifying the main priorities of the country. NDS is based on four thematic pillars:

- Pillar 1: Human Capital Development,
- Pillar 2: Rule of Law and Good Governance,
- Pillar 3: Development of Competitive Industries and
- Pillar 4: Infrastructure Development.

Under the Pillar 1 on *Human capital development,* the education area has been treated. This pillar addresses the linkage between Education and labour Market. It further proposes concreate activities and measures such as: "Relating research work at universities with industry by facilitating access to smart specializations in line with Europe 2020 strategy. This provides for public and private investment in research and development in a number of specific industrial sectors"[15].

NDS in the Pillar 3, *Development of competitive industries,* states that in practice interconnection between Small- and Medium-sized Enterprises (SME) and research institutions is poor. It also mentions existence of low public expenditure committed to research and development (accounting for only the 0.1% of Gross Domestic Product-GPD) as well as lack of coherent innovation infrastructure which is detrimental to the development of SMEs. Considering this obstacle, NDS proposes "Establishment of an innovation support scheme, which will provide incentives (matching grants) for investment of SMEs in scientific research and development".

[14] National development strategy 2016 – 2021, PMO, 2016.
[15] National development strategy 2016 – 2021, PMO, 2016.

Economic Reform Program (ERP) 2019-2021-sets out the general framework of policies and objectives for economic growth. Special attention is also paid to research and innovation to support long-term growth. ERP also recognizes that support for research and innovation in Kosovo is low, with the science and research budget reaching around 0.1% of GDP. The ERP emphasizes that the main structural obstacle to research and innovation is the lack of a legal and policy framework for research development support. In terms of policies, there are no tax exemptions for research development activity nor public grants specifically allocated to research development enterprises. The "weaknesses identified in the ERP have been addressed with the current innovation and entrepreneurship strategy and the ongoing MIE efforts to draft the Entrepreneurship and Innovation Law"[16].

Government Programme 2017-2021. has foreseen five objectives to achieve by MEST for the four-year period of time 2017 – 2021, as following:

- reforms in education system;
- improvement of legal infrastructure;
- adapting education system to the labour market demands;
- international cooperation in education;
- research, development and innovation.

Kosovo Education Strategic Plan (KESP) 2017-2021. KESP is the main document for the development of the education sector in Kosovo for the period 2017-2021. KESP prioritizes the promotion of scientific research in the 7th objective "upgrading the quality and competitiveness of higher education through the promotion of excellence in teaching, scientific research, artistic creation, innovation, and internationalisation"[17]. This objective addresses a number of obstacles regarding the lack of integration of the scientific research work into regular activities of HE institutions, the low number of scientific publications, lack of capacities of researchers, lack and inadequate infrastructure for scientific research, etc. Furthermore, in this objective, the three below-mentioned expected results are related to the development of scientific research in higher education institutions[18].

- ***Result 7.4.*** Advance the infrastructure and technology for teaching, research and scientific as well as artistic work.
- ***Result 7.7.*** The number of scientific publications in international indexed magazines authored by the academic staff increases by 25% every year.
- ***Result* 7.11.** Increased participation in international higher education and scientific research programmes.[19].

[16] National Strategy on Innovation and Entrepreneurship, MIE.
[17] Kosovo Education Strategic Plan (KESP) 2017-2021, p.6.
[18] Education and research in Western Balkan region: An assessment of countries' experiences and their performance in EU funded programmes, 2019.
[19] Kosovo Education Strategic Plan (KESP) 2017-2021.

National Research Program (NRP) aims to provide a conceptual orientation frame for upgrading scientific capacities in Kosovo and identify research priorities. NRP gives an overview of the reasons for the lack of scientific research in Kosovo. Further, NRP focuses its vision in achieving 5 strategic objectives for the development of scientific research as follows:

1. ***Development of human capacity for research activities-*** aims to develop high quality doctoral programs and provide support for youth to complete PhD studies in higher education and worldwide research institutions.
2. ***Development of research infrastructure-*** aims to establish the National Research Infrastructure Program to direct government funding in developing the necessary infrastructure based on the national priorities.
3. ***Internationalization of scientific research activity-*** aims to enhance the joint research projects between Kosovo and other countries, and provide support for Kosovar researchers to publish reports in international journals. Also, this objective aims to develop a brain-gain program by providing funding for Kosovar researchers living abroad.
4. ***Strengthening the links between science and society and economy for enhancing economic and social development-*** aims to bring together representatives from science and business to create an innovation programme that would fit the agenda of both parties.
5. **Excellence in research and scientific activity-** aims to recognise the most prominent researchers in Kosovo yearly and establish the centre for scientific excellence.

Each of these objectives is associated with specific policy measures to be implemented. There are 18 policy measures identified, with the aim of encouraging the scientific research activities in both public and private sectors, but only few of them are implemented.

According to the law on SRA (article 41), the drafting of the NRP is responsibility of the NSC. The NSC presents NRP to the GoK, and the GoK proposes it to the Assembly for approval for a five-year period, which also has to provide the program's funds. NRP and its Implementation Plan state that MEST is the main responsible institutions for implementing of NRP activities and measures.

National Strategy for Innovation and Entrepreneurships (NSIE) 2019-2023 has recently been drafted, which is aligned with other existing policies and related strategies, among other with the NRP and with future policies in the area of smart specialization. It sets the objectives and activities for creating the necessary infrastructure to connect the scientific community with industry and economy.

Kosovo IT Strategy- is developed by Ministry of Economic Development (MED). Fostering innovation and applied R&D is one out of nine pillars (strategic objectives) that the strategy is based. The pillar regarding fostering innovation and applied R&D includes the following activities:

- Conduct information events on Horizon 2020 program (IT)
- Introduce capitalization of patents licenses and development costs
- Introduce tax incentives for investments into innovation and R&D
- Establish open innovation system for the Kosovo IT industry
- Introduce IT Innovation and R&D program
- Establish Competence Centers for applied R&D in strategic IT topics
- Establish vendor roundtables[20].

[20] Kosovo IT strategy, MED,2016, p.94.

University Strategic Plan. Based on the law on HE, universities are urged to develop their own development strategies, with focus on academic and research development as well as their collaboration with industry. This strategic development is linked with relevant financial planning, with financial allocations including research work. Kosovo universities (majority of them) have adopted their strategic development strategies, where research is embedded. Except University of Prishtina, other universities do not have single research strategies. Nevertheless, on their development strategies research is mainly a marginal activity and very fragmented in regard to university strategic actions to enhance research component of the university. This is noticed as well with partial financial indicators earmarked in the strategic documents, and those are not linked well with the annual budgeting between the universities and the Government.

3.4. National Priorities in the field of Scientific Research

NRP has identified five research priorities aiming to focus the funding and RI activities in the areas of national interest and those areas which would contribute to further socio-economic development of Kosovo. These priorities are also considered as orientation of Kosovo in the field of Scientific Research in five years' term period. The National priorities according to the NRP are as following:

1. Natural Resources, Energy and Environment
2. Agricultural Production and Food Safety
3. Medical Research
4. Social and Economic Studies
5. Linguistic, Cultural and Historical Studies

These five research priorities were selected based on these six criteria

- Relevance to economic and social development of the country
- Number and quality of human resources for within the country and Diaspora,
- Condition of research infrastructure
- Contribution to preservation and promotion of national identity of Kosovo
- Potential to achieve research results and apply them within the country and abroad
- Existing international cooperation in a field.

Law on SRA (Article 17) stipulates that "legal scientific-research persons that are financed from the state budget should have the plan of the objectives for scientific-research activity and the strategy of development which should include, among others, fields of scientific activity according to National Science Program. To this end, only the University of Pristina has developed and approved "Strategy for Scientific / Artistic and Development Research Activities. The starting points for the development of this strategy have been the priorities for research / artistic activities articulated in the National Science Program 2010-2015. The University of Pristina "considers these as its own research priorities and is committed to providing special support to academic units, research groups and individuals studying in these fields[21].
Furthermore, the research strategy of University of Pristina focuses on four areas, which also correspond to the NRP. These areas include: human resources, research infrastructure, international cooperation, and linkages to the economy and society.

3.5. Funding of RI

The law on SRA specifies the amount of annual funds that has to be dedicated to the activity of the scientific research. Article 5 of the Law on SRA, specifies that" for providing the conditions and necessary means for scientific-research activity, the GoK allocates zero-point seven percent (0.7 %) of the local annual budged[22]".

GDP that Kosovo has dedicated to research and development is one of the lowest compared to other regional countries. Public spending in 2016 for research and innovation "amounted to only "0.05 % of GDP out of which only one fifth was allocated to scientific research and grants"[23]. Government spending on research in 2017 is 0.1 % of GDP. Kosovo has a poor record in using even that budget, often barely managing to spend half of it[24]. It reflects weak political commitment to R&I.

Except government funding, various donor organizations (international, bilateral and multilateral) support applicative and developmental science research projects. Organizations such as the European Commission, World Bank, ADA, USAID, and other organizations represent the primary source for R&I in Kosovo. Currently, the main sources of funds mentioned in the Progress Report are two long term bilateral projects with Austria (HERAS) and USA (TTL)25.

There is no statistical data on private (business) spending on R&D. The small size of the economy reduces the capacity to invest in research infrastructure. Modern equipment for advanced labs requires high capital investment, which is often beyond the capacity of small countries like Kosovo.

Innovation fund

The "Innovation Fund" is co-financed by the Ministry of Innovation and Entrepreneurship (MIE) of the Republic of Kosovo and the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by the Innovation Centre Kosovo (ICK). ICK promotes and supports the development of new businesses that contribute to economic growth and job creation. ICK in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH project "Creating Employment through Export Promotion", commissioned by BMZ and co-financed by MIE, and with the Ministry of Innovation and Entrepreneurship will provide

financial support to SMEs through the "Innovation Fund" grant scheme. The objective of the "Innovation Fund" grant scheme is to attract the most innovative ideas with potentials for export and employment creation for micro, small and medium sized enterprises (MSMEs). The maximum amount of grant is €50,000. The first cycle was announced in 2018 and five projects were awarded. The second call is announced in 2019, and eight projects were awarded. [26]

[22] Law on Scientific-research Activities.
[23] EU Progress report on Kosovo 2016.
[24] EU Progress report on Kosovo 2018.
[25] Education and research in Western Balkan region: An assessment of countries' experiences and their performance in EU funded programs, 2019.
[26] https://ickosovo.com/innovation-fund

3.6. Donors' Projects

Aside from the national budget sources that are being allocated for RI activities, there are several international organisations and programmes aimed at fostering the overall economic development of Kosovo.

- The World Bank is one of the main supporters of the Education Sector in Kosovo by supporting pre-university and higher education strategies, strengthening the organisation and financing of the education system in Kosovo. The table 1 in Annex 2 presents ongoing and past projects supported by WB in the field of Education.
- The EU is the largest international donor in Kosovo. Since 2007, assistance has been provided through the Instrument for Pre-Accession Assistance (IPA), the key tool of the European Commission's pre-accession assistance strategy. The table 2 in Annex 2 presents ongoing and past projects funded by EU Office in Kosovo.

  Austrian Development Agency (ADA)- is mostly providing support to the HE including scientific research activities. The list of projects supported by ADA is presented in the Table 3 of Annex 2.
- Other donors relevant to the R&I: USAID, GIZ, SDC, etc.

To sum up, there are a significant number of international donor institutions providing support to Education sector development in Kosovo. However, most of their programs are aimed at increasing the institutional capacities in Education sector in general and supporting human resource development. While only few are concentrated on strengthening aspects of science, technology and innovation capacities. This suggests there is scope for the government to mobilize funding in support of a future innovation strategy.

4. INTERNATIONAL AND REGIONAL PROGRAMS AND INITIATIVES

4.1. The European Research Area (ERA)

The European Research Area is a common area of interest where European countries have common measure of research development. This common research area promotes research collaboration and mobility of researchers. There are six key priorities defined in ERA:

- More effective national research systems
- Optimal transnational cooperation and competition, including optimal transnational cooperation and competition and research infrastructures
- An open labour market for researchers
- Gender equality and gender mainstreaming in research
- Optimal circulation, access to and transfer of scientific knowledge including knowledge circulation and open access
- International Cooperation

In order to advance national research and innovation systems countries work on 24 indicators towards addressing the abovementioned priorities. In the Annex 3 is given the list of indicators, and reflection to Kosovo's baseline situation.

For the countries opting to integrate into the European Union, one important comparability of national development of research and innovation landscape is comparing it to Innovations Union and to the European Research Area (ERA). This is a process that also is very much linked to *Acquis Communautaire*, the key EU legislation framework, respectively Chapter 25, Science and Research. Although the *acquis* does not require direct transposition of its science and research dispositions to acceding countries, the expectations towards accession is that countries need to largely approximate to ERA framework, being able to participate largely and successfully in EU framework programs for science, research and innovation. Therefore, the Republic of Kosovo, as a potential Candidate Country to European Union, should benchmark ERA framework and priorities for developing the national R&I system. In order to develop a clear baseline of the present situation of Kosovo's R&I system in comparison to ERA, a full benchmarking analysis should take place. This analysis should lead to a clear roadmap, with actions and timeline, as well as responsible actors towards integration of Kosovo to ERA. Kosovo already committed to work towards *acquis* implementation in science and research by adopting the Stabilisation and Association Agreement (SAA), respectively issues addressed in the article 118 of the SAA[27].

4.2. Other international programs of relevance for national RI system

The main European and regional programs and initiatives that Kosovo is eligible to participate, include:

- European Research Framework for Research and Innovation, Horizon 2020
- COST Program
- Regional Cooperation Council / South East Europe 2020 strategy
- Western Balkans Regional R&D Strategy for Innovation
- Erasmus + Program
- CEEPUS (Central European Exchange Program for University Studies)

[27] https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/news_corner/news/news-files/20150430_saa.pdf

European Research Framework for Research and Innovation, Horizon 2020

Horizon 2020 is the largest EU financing program for research and innovation. It is the key EU instrument for implementing ERA. Kosovo participates in this program in the capacity of an International Cooperation Partner Country (ICPC). For the first time Kosovo started to participate in 2008 in the Seventh Framework Program for Research and Innovation, known otherwise as FP7. In FP7 Kosovo's participation was very low, with 23 applications (involving 31 Kosovo applicants) being submitted from Kosovo, from which 20 applications (involving 28 applicants) fulfilled eligibility criteria. The number of proposals and participants are shown in the table below in FP7 thematic areas:

Submitted eligible proposals in FP7		
FP7 thematic area	**Proposals**	**Participants**
Health	6	7
Social Sciences and Humanities (SSH)	5	5
Transport	2	2
NMP	1	3
Information and Communication Technologies (ICT)	1	3
Environment	1	3
SIS	1	2
International Cooperation (INCO)	1	1
People	1	1
Security	1	1
Total	**20**	**28**

Table 1.Number of submitted proposals and involved participants according to FP7 thematic areas. Source: DG-Research and Innovation, May 2013.

In FP7 Kosovo had 17,86% success rate, from 22,9% that was the average of ICPC countries. Only 3 out of 20 submitted eligible proposals were awarded for funding.

Awarded projects in FP7			
FP7 thematic area	**Proposals**	**Participants**	**Financial amount (Euro)**
Information and Communication Technologies (ICT)	1	3	101,576.00
Social Sciences and Humanities (SSH)	1	1	92,400.00
International Cooperation (INCO)	1	1	92,283.34
Total	**3**	**5**	**286,259.34**

Table 2. Number of awarded projects and involved participants according to FP7 thematic areas. Source: DG-Research and Innovation, May 2013.

In Horizon 2020 from 2014 and onwards, Kosovo started to increase the number of applications, as well as awarded project. The table below presents information on number of application and EU contribution EUR retrieved from Horizon 2020 website[28]:

Total Applications	Requested EU Contribution (EUR)	Eligible Proposals/ applications	Retained Proposals	H2020 Net EU Contribution
72	7,830,807 €	66	12	€ 1,174,594

Table 3. Number of applications from Kosovo and contributions in EUR

In Horizon 2020 from 2014 and onwards, Kosovo started to increase the number of applications, as well as awarded project. The table below presents information on number of application and EU contribution EUR retrieved from Horizon 2020 website[28]:

Total Applications	Requested EU Contribution (EUR)	Eligible Proposals/ applications	Retained Proposals	H2020 Net EU Contribution
72	7,830,807 €	66	12	€ 1,174,594

Table 3. Number of applications from Kosovo and contributions in EUR

The table below presents information on number of applicants and Requested EU Contribution in all Western Balkan countries:

Country Name	Eligible Proposals	Retained Proposals	Requested EU Contribution (EUR)	Applications
Serbia	2,214	244	773,787,674 €	2,828
North Macedonia	517	58	144,904,555 €	626
Montenegro	176	22	46,162,769 €	208
Kosovo	66	12	7,830,807 €	72
Bosnia and Herzegovina	343	46	81,046,225 €	445
Albania	270	24	69,671,042 €	335

Table 4. Kosovo vs Western Balkan Countries

In comparison to other Western Balkan countries Kosovo's participation to Horizon 2020 remains rather low. This may be attributed partly to Kosovo's status of ICPC country, not being associated as other WB countries. Besides that, the insufficient capacities in research and international networking may be accounted as other important factor of low-level participations.

The table below presents information on successful and non-successful proposal according to the Thematic Priorities:

Thematic Priority	Non-successful eligible Proposals	Retained Proposals	Success Rate Proposals
Space	0	1	100%
Health, demographic change and wellbeing	3	3	50%
Climate action, environment, resource efficiency and raw materials	2	2	50%
Secure societies - Protecting freedom and security of Europe and its citizens	3	2	40%
Information and Communication Technologies	4	1	20%
Marie-Sklodowska-Curie Actions	10	1	10%
Europe in a changing world - inclusive, innovative and reflective Societies	25	2	7%
Research Infrastructures	2	0	0%
Science with and for Society	2	0	0%
Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bio-economy	1	0	0%
Secure, clean and efficient energy	1	0	0%
Smart, green and integrated transport	1	0	0%

Table 5.Eligible and retained applicants by the Thematic Priorities
Source: Horizon 2020 Dashboard [29]

[28] https://webgate.ec.europa.eu/dashboard/sense/app/e02e4fad-3333-421f-a12a-874ac2d9f0db/sheet/941d3afe-da24-4c2e-99eb-b7fcbd8529ee/state/analysis

COST Association

The European Cooperation in Science and Technology (COST)[30] is a pan European funding and research organization, which supports research initiatives of research networking and collaboration. Since 2018 Kosovo has the status of Near Neibouring Country and it is eligible to participate in the COST actions. The scientific community in Kosovo has shown great interest to participate in the COST actions. To data, there are 12 COST Actions in which researchers from Kosovo are participating. In addition, three other COST actions are currently in the evaluation process,

Regional Cooperation Council / South East Europe 2020 strategy

Kosovo is a member of the Regional Cooperation Council (RCC), signing the South East Europe 2020 strategy[31]. Under the Smart Growth pillar of the strategy joint regional actions under the R&I dimension are supported, which call for regional cooperation in four areas:

- Improve research excellence and productivity;
- Facilitate science-industry collaboration and technology transfer;
- Promote business innovation and innovative start-ups;
- Strengthen the governance of national research and innovation policies;

Erasmus + Program

Kosovo participates in the European education programs since 200232. The key education programs Kosovo was eligible to participate until end of 2013 were TEMPUS program for capacity building in higher education, as well as mobility program ERASMUS MUNDUS, which supported mobility of academic staff, researchers and students.

The following chart shows basic information about KA1: INTERNATIONAL CREDIT MOBILITY for KOSOVO 2015-2018[33]:

[29] https://webgate.ec.europa.eu/dashboard/sense/app/93297a69-09fd-4ef5-889f-b83c4e21d33e/sheet/a879124b-bfc3-493f-93a9-34f0e7fba124/state/analysis
[30] https://www.cost.eu/
[31] South East Europe 2020 strategy: https://rcc.int/files/user/docs/reports/SEE2020-Strategy.pdf
[32] http://erasmuspluskosovo.org/
[33] http://erasmuspluskosovo.org/en/erasmus/projects/

International credit mobility	Participants			
	2018	2017	2016	2015
Incoming mobilities planned to Programme Countries (i.e. "non-European nationals")	517	512	462	375
Outgoing mobilities planned to Partner Countries (i.e. "European nationals")	263	260	200	195
Total participants	**780**	**772**	**662**	**570**

Table 6. Erasmus+ International Credit Mobility projects in Kosovo

Kosovo figures for scholarships awarded for Degrees EMJMD[34]:

Year	2015	2016	2017	2018
No. of Students	**0**	**1**	**6**	**3**

Table 7. Erasmus Mundus Joint Master 2015-2018

In the current EU education program, Erasmus +, Kosovo extended participation in other new schemes, particularly as of 2017, with the signing agreement with the European Commission. This agreement is financial binding, where Kosovo pays the annual bill of 50,000EUR.

In the Erasmus + program Kosovo participates under Key 1 actions (mobility and joint degree programs), as well as in Key 2 actions, particularly under capacity building in higher education action.

CEEPUS (Central European Exchange Program for University Studies)

As of 2008 Kosovo joined the Central European Exchange Program for University Studies (CEEPUS)[35] program. This program mainly supports collaboration partnership among universities of Central and South East Europe and enhances interuniversity collaboration through mobility of academic staff, researchers and students. The table below present data on number of beneficiaries (Students and academic staff) from the CEEPUS:

		Students	Academic staff	TOTAL
Period 2008-2019	Incoming *Number of students / professors coming to Kosovo from CEEPUS countries*	19	129	**148**
	Outgoing *students / professors from Kosovo going to CEEPUS countries*	201	67	**268**
	TOTAL	**220**	**196**	**416**

Table 8. Number of beneficiaries from CEEPUS mobility scheme

[34] http://erasmuspluskosovo.org/en/erasmus/projects/
[35] https://www.ceepus.info/#nbb

5. CURRENT STATE OF RI IN KOSOVO

Government of Kosovo has made efforts to develop its RI policies and laws such as NRP, KESP and law on Scientific-research activities, as well as by giving an important place in the other government policies explained in the section 4.4.
In the following sections the main problems that affect the RI system in Kosovo are presented.

5.1. Efficiency of RI Institutions

In terms of drafting and implementation of the RI policies, the NSC should have a significant role. The NSC and its 15 members were approved in the plenary session of the Assembly of July 12, 2007, whereas it was constituted and its organs were elected on 20 and 22 October 2008[36]. It was operational until 2011. During this period NSC developed NRP and standards for scientific work. After the first mandate of the NSC membership terminated, the Assembly of Kosovo didn't manage to secure a consensus to appoint new members of the SRC. Until now the NSC is not functional.

The Higher Education Institutions (HEIs) are supposed to be the main bodies which conduct scientific research activities. However, the higher education system in Kosovo is characterized by a marginalization of scientific research. Universities mainly focus on teaching and have a limited capacity for research activities. This conclusion applies to the entire sector, including the University of Pristina, which is the largest research-oriented institution in Kosovo[37]. The higher education institution has long been focused solely on teaching as opposed to research and still lacks strategic orientation, and capacity for research activities[38].

In terms of innovation, MEST in cooperation with relevant Ministries, as required by the law on SITTK, did not managed yet to establishes the SIC and other supporting institutions for scientific innovation such as business-technological incubator, scientific-technological park and scientific innovation accelerators. So far MEST has only drafted an Administrative Instruction on organization, activity and composition of the Council for Scientific Innovation, Transfer of Knowledge and Technology.

5.2. Implementation of R&I policies

The NRP is the main strategic documents which presents the strategic and conceptual orientation for developing scientific-research capacities and priorities. It is focused on the development of main elements in the RI area: humane capacities, Research Infrastructures, internationalization of the national R&I, linking science with economy and excellence in the R&I.

The first NRP was approved in March 2010 for a five-year period[39]. Since the last NRP expired in 2016, Kosovo has not developed new strategic targets to support the development of research activity. In 2016, the Minister of MEST, issued a decision to extend the validity of the NRP and its implementation plan until the new NRP will be reviewed and drafted. The reason behind this decision was that "scientific- research activities shall continue"[40] until the approval of a new NRP.

---

[36] National Research Program (2010).
[37] Western Balkans Regional R&D Strategy for Innovation; Country Paper Series- Kosovo. World Bank Technical Assistance Project funded by the European Commission, 2013.
[38] Best Practices on Business-Academia-Government- Co-operation for Innovation in Kosovo, OECD, 2016.
EU progress report 2019.
[39] The National Science Program of the Republic of Kosovo.

As regards the implementation of the NRP measures and activities, the main responsible body was planned to the MEST and, in some cases, the planned National Research Agency which was expected to be established with a special law on SRA[41]. MEST did not establish such an agency yet. For the progress of the implementation neither MEST nor NSC does not have sufficient data to report, due to lack of monitoring mechanizes and tools for measuring the progress and impact of the NRP. There is no consistent system in evaluating and monitoring of the NRP implementation , hence, there no report exists that present information on achievement of objectives and results of NRP. So far, the only source of information regarding the implementation of NRP are three Evaluation Reports:

- Evaluation report of KESP 2011-2016, drafted in 2015 by MEST
- Evaluation report on Implementation of KESP 2017-2021, drafted in 2017 by the Kosovo Education and Employment Network (KEEN)
- 2018 Annual Evaluation report of KESP 2017-2021, drafted in 2019 by MEST.

The first Evaluation Report on the implementation of KESP 2011-2016, reveals that the average rate of implementing targets within the sub-program for HE is based on quantitative index 2.5 out of 5. The index for scientific research was estimated to be 1 out 5, showing that the "plan has significant delays in implementing targets and activities on scientific research"[42].

In the 2018 Annual Evaluation report of KESP 2017-2021, one can see the positive changes from 2017 to 2018 in achieving KESP results. In this report, the progress in achieving expected results are expressed by level of implementation 1 no progress to 5 (completely achieved). The most significant changes are noted in the:

- improving mechanisms for professional development of academic staff in HEIs (from 1.2 to 3.5)
- advancing infrastructure and technology for teaching and scientific research (from 1.3 to 3.3)
- increasing the number of scientific publications in international indexed magazines authored by the academic staff increases by 25% every year (from 1.6 to 3.2).

As regards, the increase of participation in international higher education and scientific research programmes as well as mobility of academic staff and students of HEIs, the report does not show any change between 2017 and 2018.

On the other hand, another report "The situation of research in Kosovo "published by the "KEEN" – Project in 2018, presents more arguments in terms of implementation of the NRP. It recognizes the progress towards implementation of the NRP, but it also presented several obstacles and lack of implementation of the NRP measures and activities[43]. The following text box presents some information captured from this report:

[40] MEST decision number 49/01B, date 10 March 2016.
[41] Law on Scientific-Research Activities
[42] Evaluation Report of Kosovo Education Strategic Plan 2011-2016, MEST.
[43] The situation of research in Kosovo. KEEN, 2018.

According to a MEST representative, even with a small budget allocated for its implementation, some of the planned activities started initial phase of implementation. For example, the program enacted the development of scientific projects, increased scientific community mobility, granted more access to electronic resources and established an award for the "Scientist of the Year." However, other interviewed experts disagree with this claim. They argue that, to date, none of the activities planned within the NRP had been fully implemented. A higher education expert argued that the NRP was not implemented properly and was impractically operational due to the lack of funding. In addition, there were no monitoring mechanisms in place to follow progress made and the impact of the partially implemented program.

In addition, the NRP suggested a scholarship scheme to fund doctoral and post-doctoral research abroad. The purpose of this activity was to enable researchers to strengthen their scientific career in their given field and afterwards be able to bring their research gains in Kosovo as a brain gain mechanism. This proposed activity envisioned to fund 20 doctoral students (14,000 EUR each) and 10-15 post-docs (20,000 EUR each) amounting to around 530,000 EUR per year. This proposal has been made eight years ago and no concrete measure of research brain gain have been undertaken. Assuming that this scholarship scheme was active for eight years and sent 35 researchers per year (PhD students and Post-docs), until now, Kosovo would have sent 280 researchers abroad. On average, if a researcher would have finished their research activity for four years, today, Kosovo would have 175 research gains. The returned researchers would have been involved in and benefit higher education institutions and other research institutes.

However, according to a former member of NRC, MEST has tried to substitute this scholarship scheme with minimalistic scholarships for PhD students of around 2,000 EUR each, amounting to 50,000 EUR per year. The actual research brain gain mechanism is 480,000 EUR per year less than proposed scheme. In addition, there is no evidence to evaluate the impact of such provided scholarships.

Research activity is still considered as a marginal enterprise in Kosovo. The national research program should become an integral part of the higher education system and of vital importance for Kosovo's economic and social development. However, partial implementation of the program and the lack of policy influence a disorganized and ad-hoc research work across scientific community in Kosovo. Instead of MEST striving to make it easier for the scientific community to engage in research work, the lack of NRP creates confusion among researchers, as there are no updated research priorities and substantial funding opportunities presented.

Regarding the monitoring of the implementation of RI strategic document, there is no consistent effort to establish mechanisms to implement RI policies and to establish and adequate system to evaluate and monitor the implementation NRP implementation plan. The progress towards achieving objectives and targets of the NRP was not measured properly by conducting evaluation and reporting in an unsystematic manner. Therefore, the scientific research in Kosovo not only lacks in the "implementation phase – mainly because of scarce funding and importance from the Government of Kosovo - but it also remains under-developed in terms of evaluation and monitoring[44]. This in turn, has a negative impact in the development of R&I. MEST needs to submit reliable statistics to monitor progress in this field. Furthermore, the main difficulties in conducting scientific research in Kosovo are insufficient funding support, lack of human resources and poor national and international collaboration between institutions and organizations. The insufficient "funding leads to poor infrastructure, lack of laboratories and materials to conduct experiments, and lack of incentive for commercialized research [45].

[44] Education and research in Western Balkan region: An assessment of countries' experiences and their performance in EU funded programmes, 2019.
[45] Education and research in Western Balkan region: An assessment of countries' experiences and their performance in EU funded programmes, 2019, p.38.

5.3. Funds and expenditures for R&I

According to the recent EU progress Report in Kosovo "the law on SRA is not being implemented due to lack of funding. The Government spending on research amounts to only 0.1% of GDP[46]. Nevertheless, that budget includes only the government allocations for the National Research Fund. The budget allocated for research institutes and universities, which also according to the Law on SRA are defined as research institutions, is not included. This shows that Kosovo has not yet developed an adequate and comprehensive methodology for the financing of the R&I. The data on allocated funds and expenditures in HE (which includes R&I) are not sufficiently available and are scattered in different reports, presented for different purpose. Furthermore, the data on expenditures for R&I are usually included within budget lines dedicated for HE in the MEST and public Universities.

At the international level, the OECD *Frascati Manual*[47] serves as worldwide standard for collecting and reporting internationally comparable statistics on the financial and human resources devoted to research and experimental development. The Frascati Manual is the de facto R&D reference document across countries at different stages of economic development, with varying forms of economic structures and national research systems and with a wide spectrum of statistical infrastructures.
Regarding the measurement of R&D expenditures, the *Frascati Manual* divides them into two main categories and several sub-categories:

- **Current costs**
  - Labour costs for internal R&D personnel (including wages and salaries)
  - Other current costs (External R&D personnel, Purchase of services and materials, administration costs)
- **Capital costs**
  - Land and buildings
  - Machinery and equipment (IT and transportation, other machinery and equipment,etc)
  - Capitalized computer software
  - Other intellectual property products

When comparing these categories with the categories and sub-categories of the Kosovo Budget, one can see similarities, as in the following table:

Categories according to FRASCATI manual		Categories of the Kosovo Budget
Current costs	Labour costs for internal R&D personnel	Wages and Salaries
	Other current costs: *-External R&D personnel* *-Purchase of services, supplies and materials to support R&D performers* *-Other (e.g. General administration costs, utilities)*	Goods and services Subsidies and Transfers Utilities
Capital costs	Land and buildings Machinery and equipment	Capital expenditures

Table 9. Frascati vs Kosovo Budget expenditure categories

[46] EC Progress Report 2019.
[47] Frascati Manual 2015- Guidelines for Collecting And Reporting Data on Research and Experimental Development

Regarding the source of funding for R&D (now R&I), Frascati manual determines the following sources as the main sources of funding: business enterprise, government, higher education, private non-profit and the rest of the world (which includes international organizations)

Due to the lack of data on the R&I expenditures of all sources (such as public, private sector and international organizations), it is impossible to calculate the index for "*gross domestic expenditure on R&D* (GERD)", which includes expenditure on research and development by business enterprises, higher education institutions, as well as government and private non-profit organizations.[48]

Therefore, for the purpose of this analysis, a calculation of public funds dedicated the Higher Education and Research institutions was done based on the Law on Budget of the Republic of Kosovo for the period 2014-2019.

Since we found some similarities (see table 9) between Frascati guideline and Kosovo Budget categories (budget lines), the data on planned annual budget of the key HE and research institutions are aggregated and analysed (see Annex 4 for more details). The annual budget of the public institutions is composed of several categories such as wages and salaries, goods and service, subsidies and transfers as well as capital expenditure. It is evident that the allocated budget (according to the above-mentioned categories) is not spent only for the R&I activities, but also for other supportive activities, however, the following table will provide ***a general overview of the allocated budget by the GoK for NRF, universities and research institutions***. In addition, the data on total annual Kosovo Budget and GDP are hereby presented to use later as comparison measures:

YEAR	2014	2015	2016	2017	2018	2019
GDP in EUR	5,567,494,000	5,807,009,000	6,070,113,000	6, 413,861,000	6,725,913,000[49]	7,127,000,000*[50]
TOTAL KOSOVO BUDGET	1,589,324,952	1,634,886,850	1,678,709,487	2,001,020,477	2,080,480,837	2,378,231,797
TOTAL of BUDGET for NRF, HE and Research Institutions	42,795,929	44,371,963	43,216,372	45,967,234	51,681,720	58,287,345

Table 10.Budget of R&I Institutions
**Estimation*
Source: Law Budget of Republic of Kosovo for years 2014-2019 and Kosovo Statistical Agency

The percentage of the allocated budget for the NRF, universities and research institutions as proportion of Kosovo Budget and GDP is calculated based on the data from table 10 and presented in the following figure:

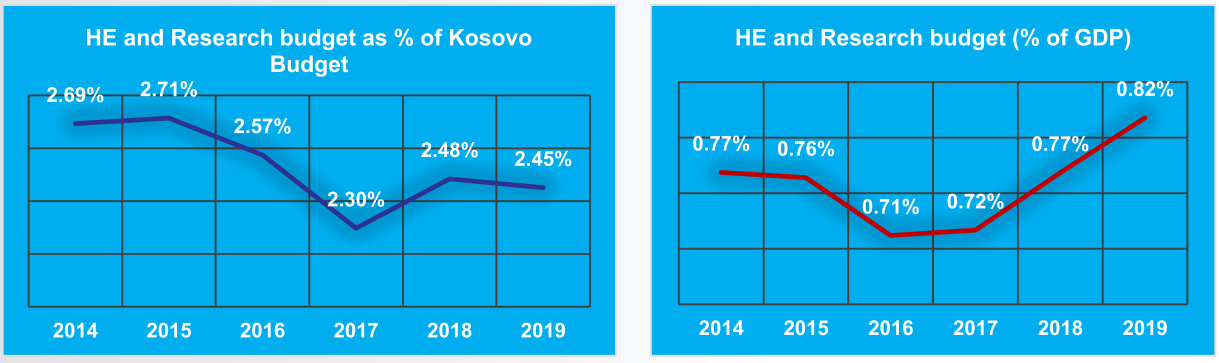


Figure 2. NRF, HE and budget of research institutions as percentage of Annual Budget and GDP.
GDP for 2019 is estimation[51], thus HE and Research budget (% of GDP) for 2019 is an estimated percentage

[48] https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Gross_domestic_expenditure_on_R_%26_D_(GERD)
[49] http://ask.rks-gov.net/en/kosovo-agency-of-statistics/add-news/gross-domestic-product-gdp-by-economic-activity-and-by-expenditure-approach-2018
[50] Estimation from Economic Reform Programme (ERP) 2019-2021

As one can see the budget for NRF, HE and research institutions as percentage of total annual Budget of Kosovo has decreased from 2014 to 2017, mainly because the annual budget for HE and Research institution was not significantly increased as the Kosovo Budget is increased every year. Only in 2018 one can see a significant increase of 0.18% or about 6 million euro more allocated in 2018 compared to 2017. Similarly, in terms of proportion of the budget for HE and Research institution with GDP, one can see an increase in percentage from 0.72% in 2017 to 0.77% in 2018. AS mentioned above, the percentage for 2019 is a calculated estimation.

In 2010, the Assembly of the Republic of Kosovo approved NRP and a budget of the amount prescribed by the NRP was allocated. The National Research Fund (NRF) has been allocated based on the objectives of the NRP. The NRF is allocated through ten (10) main financing schemes. The following table is prepared based on the MEST statistical data from the" Report on the activities of the Department of Science and Technology at MEST for the period 2011-2019". It presents information on financial schemes and allocated budget for such schemes:

National Research Fund allocations									
Funding scheme	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Publications[52]	€ 100,000	€ 100,000	€ 100,000	€ 85,000	€ 79,000	€ 79,000	€ 79,000	€ 79,000	€ 300,000
Small science projects	€ 233,965	€ 80,000	€ 81,970	€ 93,524	€ 150,000	€ 150,000	€ 150,000	€ 150,000	€ 117,000
Short-term mobility	€ 12,000	€ 15,000	€ 22,000	€ 40,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 200,000
PhD scholarships	€ 0	€ 100,000	€ 95,000	€ 100,000	€ 40,000	€ 40,000	€ 40,000	€ 40,000	€ 200,000
Researcher Awards	5000	7500	7500	6500	€ 12,000	€ 12,000	€ 12,000	€ 12,000	€ 25,000
Laboratory equipment	NA	NA	NA	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 200,000
Innovation Voucher Scheme	NA	NA	NA	NA	€ 15,000	€ 15,000	€ 15,000	€ 15,000	NA
Post-Doctoral scholarships	NA	NA	NA	NA	NA	NA	NA	NA	€ 100,000
Scholarships for Master degree	NA	NA	NA	NA	NA	NA	NA	NA	€ 100,000
Support for application in international projects	NA	NA	NA	NA	NA	NA	NA	NA	€ 10,000
Total NRF	**€ 350,965**	**€ 302,500**	**€ 306,470**	**€ 375,024**	**€ 396,000**	**€ 396,000**	**€ 396,000**	**€ 396,000**	**€ 1,252,000**

Table 11. National Research Fund, planned budget allocations per scheme (2011-2018)
Source: MEST- Report on the activities of the Department of Science and Technology at MEST for the period 2011-2014

[51] Estimation from Economic Reform Programme (ERP) 2019-2021
[52] Academic and scientific publications

The table above presents information on planned funds for scientific and research schemes, but not for the real expenditures created during the last three years. Currently there are no data available, for the purpose of this analysis, regarding the spend budget in the field HE and RI.

In practice the allocated funds for R&I seems to be lower compared to the planned ones. This fact is also stressed in the report "The situation of research in Kosovo" which claims that "instead of the 5,393,953 EUR planned for financing activities related to research, science, infrastructure, mobility, and internationalization of research, only 520,000 EUR per year have been allocated by MEST for the last five years. Only arithmetically evaluating the problem, it means that the new spending scheme of research fund is 4,873,953 EUR less than envisioned for supporting science and scientific community in Kosovo. For instance, when 10 laboratories are planned to be established, each of them had been estimated to cost more than 250,000 EUR, the overall budget of 520,000 EUR is only sufficient to establish 2 laboratories, putting aside all other activities"[53].

According to the MEST representatives, even though the budget is very low, it usually not fully dispersed, due to the low number of project funding applications that the ministry receives. Researchers do not apply since the size of grants available is not sufficient for them to carry out a meaningful research activity.

In 2015 MEST has conducted an evaluation of the previous KESP (2011-2016). It presents information regarding the expenditures for HE and proportion to the GDP and total Kosovo Budget (KB). The table below is prepared based on the Evaluation report Kosovo Education Strategic Plan 2011-2014.

	2011	2012	2013	2014
Financing of higher education (mil. €)	34.63	37.62	41.02	50.76
Expenditures in HE as % of GDP	0.77%	0.77%	0.77%	0.77%
Expenditures in HE as % of KB	2.45%	2.61%	2.79%	3.19%

Table 12.Expenditures on higher education
Source: 2018 Annual Evaluation Report on Implementation of the Action Plan of KESP.

[53] The situation of research in Kosovo. KEEN, 2018.

5.4. Research capacities and publications

In Kosovo research capacities have been continually addressed (EC progress reports over the last decade) as an area that needs to be systematically enhanced. Research capacities mainly involve prepared researchers with considerable knowledge and skills in performing research excellence, including to undertake, apply and share research work (OECD, n.d.)[54]. This refers to prepared researchers with relevant academic background. However, in Kosovo there is not a common understanding of the profile of researchers. Researchers who work in universities are defined by the Law on Higher Education:

Academic title	Description of qualification and experience[55]
Academic titles in universities	
Regular Professor	Completed PhD degree Publications in internationally recognized journals At least 8 years successful academic leadership through curriculum design, pedagogic innovation, research and publication
Associate Professor	Completed PhD degree Publications in internationally recognized journals A successful record of teaching, research and/or professional or artistic practice
Assistant Professor	Completed PhD degree Publications in internationally recognized journals A successful record of teaching, research and/or professional or artistic practice
University Assistant	Completed Master degree
Academic titles in other higher education institutions	
Professor	Completed PhD degree Publications in internationally recognized journals A successful record of teaching, research and/or professional or artistic practice
Assistant Professor	Completed PhD degree Publications in internationally recognized journals A successful record of teaching, research and/or professional or artistic practice
Lecturer	Minimum completed Bachelor degree A successful record of teaching[56]
Assistant Lecturer	Minimum completed Bachelor degree

Table 13. Academic titles in higher education in Kosovo.
Source: Law on higher education

The distinction among academic titles requiring to have a PhD degree is mainly related to number of publications in internationally recognized journals as well as certain period of experience in teaching and academic/curriculum development. Universities in Kosovo do not contain research positions. Actually, regarding HE Law dispositions (Article no. 26), only academic titles of Regular Professor, Associate Professor and Assistant Professor require to evidence engagement in research work and publications. Therefore, these positions at the same time are considered as researchers, too.

[54] https://www.oecd.org/sti/Session%204_The%20evolving%20path.pdf
[55] The HE Law instructs that more specific criteria per each academic title may be specified in the University and other HEI Statutes. The distinction among academic titles requiring to have a PhD degree is mainly related to number of publications in internationally recognized journals as well as certain period of experience in teaching and academic/curriculum development.
[56] Not explicitly specified in the HE Law

The Law on Scientific Research activity define titles for scientists and for researchers, which are presented on the table below.

Title	Description
Scientific titles	
Scientific associate	PhD degree, that has At least one scientific work published in any relevant international journal
Senior scientific associate	PhD degree, that has At least three scientific work published in any relevant international journal (two of them after previous selection)
Scientific advisor	PhD degree, that has At least five scientific work published in any relevant international journal (two of them after previous selection), and participated in organizing scientific activity.
Research titles	
Researcher	Completed Master of science, with average grade 8 and over
Independent researcher	At least PhD candidate and published research work in scientific journals

Table 14.Scientific and research titles in Kosovo
Source: Law on scientific research activity

Research positions in Kosovo can be compared to research titles known in ERA. EURAXESS, the EU initiative for researcher's mobility and career development, defines four types of research titles[57]:

Title	Description
First Stage Researcher (R1)	Doctoral candidates doing research under supervision in industry, research institutes or universities.
Recognized Researcher (R2)	Doctorate degree (PhD) holders who have not yet established a significant level of independence. Researchers with an equivalent level of experience and competence.
Established Researcher (R3)	Researchers who have developed a level of independence.
Leading Researcher (R4)	Researchers leading their research area or field.

Table 15.Research titles/profiles in EURAXESS
Source: EURAXESS

[57] https://euraxess.ec.europa.eu/europe/career-development/training-researchers/research-profiles-descriptors

Actually, data from Kosovo Accreditation Agency show that higher education institutions in Kosovo have employed academic staff with qualifications as PhD, PhD candidate. Master, Doctor of Medicine, Bachelor (assistants), and Engineers (See figure 4).

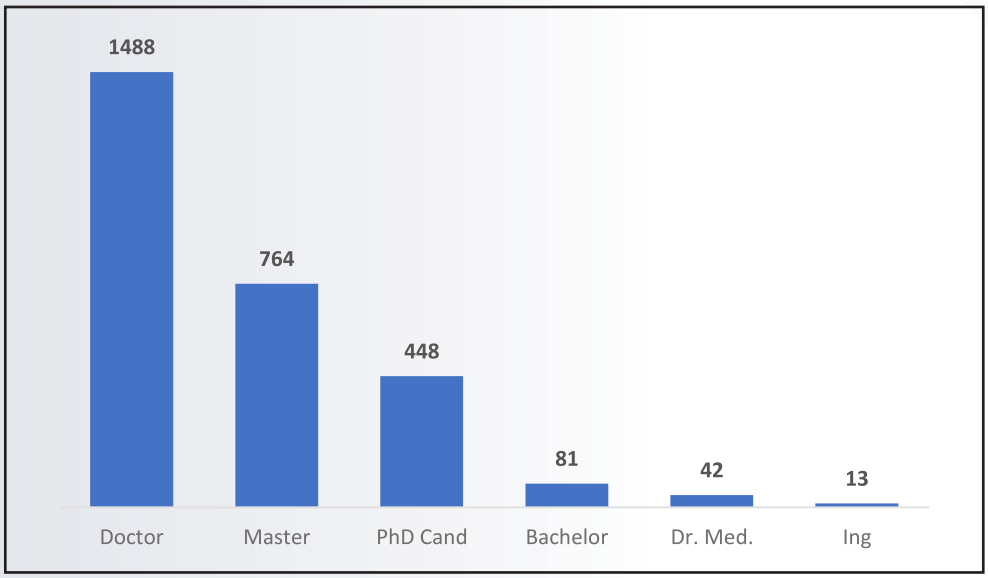


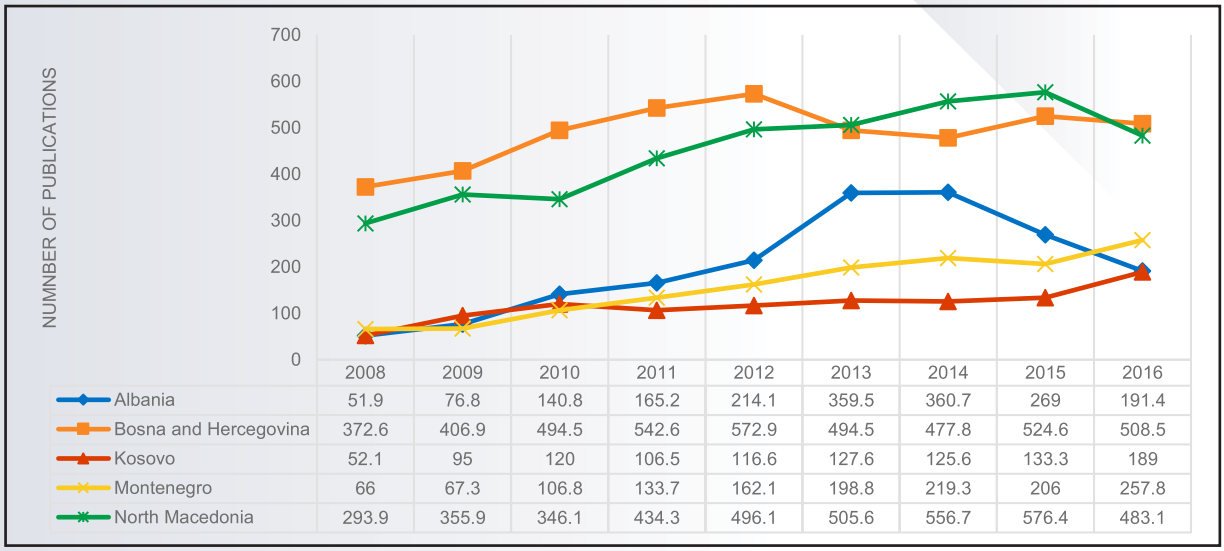
Figure 3. Number of academic staff employed in higher education institutions in Kosovo
Source: E-akreditimi (KAA)[58]

According to the same source, 69% of the staff is full time staff working in teaching and research activity. Regardless of their academic position, academic staff are also entitled to engage in research activity and research publications, as described in table no. 12 above. Therefore, the number of academic staff as presented in chart no. 3, may be attributed also as the number of researchers employed in Kosovo HEIs, since by contractual terms and conditions are expected to work on research projects and publications.

Kosovo needs to define research profiles in a better understanding and equivalent with international definitions. This includes also the need for employment of researchers in universities, with full time dedication to research work and research projects.

In terms of publications, compared to other Western Balkan Countries, Kosovo still ranks at the bottom of the list. The number of publications is mainly low, but it increased over the last couple of years. The graph below presents information for the period 2008-2016 on number of scientific and technical journal articles referring to the number of scientific and engineering articles published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences:

[58] https://e-akreditimi.rks-gov.net (data retrieved: 16-10-2019)



	2008	2009	2010	2011	2012	2013	2014	2015	2016
Albania	51.9	76.8	140.8	165.2	214.1	359.5	360.7	269	191.4
Bosna and Hercegovina	372.6	406.9	494.5	542.6	572.9	494.5	477.8	524.6	508.5
Kosovo	52.1	95	120	106.5	116.6	127.6	125.6	133.3	189
Montenegro	66	67.3	106.8	133.7	162.1	198.8	219.3	206	257.8
North Macedonia	293.9	355.9	346.1	434.3	496.1	505.6	556.7	576.4	483.1

Figure 4. Scientific and technical journal articles for period 2008-2016 according to the National Science Foundation (NSF index)[59]
Source: World Bank 2019 https://databank.worldbank.org/reports.aspx?source=2&series=IP.JRN.ARTC.SC&country=#

5.5. Research infrastructures

Research Infrastructures play an increasingly important role in the advancement of scientific and technological knowledge. Research infrastructures are crucial for all research disciplines and a most valuable tool for connecting education and innovation with research. An adequate R&I:

- act as enablers of development with long-term socio-economic benefits through the creation of jobs, training and specialisation of human resources
- foster an entrepreneurial climate favourable to industrial investment on research and innovation, with a direct impact across society
- enable creation of an attractive environment for highly-skilled scientific personnel.

Research infrastructures refers to a wide range of tools, facilities and other resources that are essential for the research community to conduct top quality research in all fields of science.

Th law on SRA, article 3 defines Scientific Research Infrastructures as “facilities, equipments and necessary services for scientific-research activity, such as laboratories, libraries, information technology, scientific journals, archives and all other resources with scientific content”. The Regulation on Horizon 2020 defines Research Infrastructures as facilities, resources and services that are used by the research communities to conduct research and foster innovation in their fields. Where relevant, they may be used beyond research, e.g. for education or public services. They

[59] The NSF considers article counts from a set of journals covered by Science Citation Index (SCI) and Social Sciences Citation Index (SSCI). Scientific and technical article counts are from journals classified by the Institute for Scientific Information's Science Citation Index (SCI) and Social Sciences Citation Index (SSCI). Counts are based on fractional assignments; articles with authors from different countries are allocated proportionately to each country.

include major scientific equipment or sets of instruments; knowledge-based resources such as collections, archives or scientific data; e-infrastructures, such as data and computing systems and communication networks; and any other infrastructure of a unique nature essential to achieve excellence in research and innovation. Such infrastructures may be 'single-sited', 'virtual' or 'distributed'[60].

The Research Infrastructures are key factors that prevents the development of R&I in Kosovo, because Research Infrastructures are poor and not sufficient for conducting R&I activities. Moreover, the existing Research Infrastructures, compared to world standards for scientific research, do not meet the quality criteria. "There is a general lack of physical space, tools, instruments and labs and the existing ones are too old for modern and qualitative scientific and academic research. For instance, the University of Prishtina "Hasan Prishtina" has over 15 laboratories from all academic units"[61] .

The Research Infrastructures to an extend covered in the main strategic documents such as: KESP and NRP. However, the Law on SRA does not thoroughly address the research infrastructure area. KESP depict the vision of the Research Infrastructures in the Result 7.4 "advance the infrastructure and technology for teaching, research and scientific as well as artistic work. To reach this objective, the strategy asks for the drafting of an infrastructure needs assessment for the laboratories and equipment needed for scientific research, and provision of institutional support for the development of the required infrastructure. On the other hand, NRP has dedicated an objective for improving the research infrastructure "***development of research infrastructure*** on the following policy measures:

- The competitive funding of national Research Infrastructures networks and national central laboratories in priority research areas.
- The funding of stand-alone projects equipment procurement projects based on scientific development plans and competitive tendering procedures.
- The procurement or development and implementation of an R&D information system which also serves the requirement of national S&T statistics.
- Procuring the access of Kosovar researchers to relevant electronic libraries (e.g. Thomson Web of Knowledge; SCOPUS etc.)[62]

In terms of planned budget, about 21 million euro were planned to finance the NRP measures and activities for R&I activities from 2010 until 2015. The planned budget for "development of research infrastructure" was estimated to be 2.8 million euro. NRP plans about 20 million euro, beyond 2015 till 2019[63]. With current data available, it is very difficult to estimate the allocated budget for implementation of NRP.

While, monitoring data on implementation of the NRP are lacking, only information on assessment of the implementation of KESP are available to review the progress in the area of scientific-research infrastructure. The latest KESP assessment report indicates significant progress in "institutional support for the development of scientific-research infrastructure"[64].

---

[60]Regulation (EU) no 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014 2020) and repealing Decision No 1982/2006/EC

[61] The situation of research in Kosovo. KEEN, 2018.

[62] National Research Programm, 2010.

[63] Calculation based on NRP planned budget.

[64] Annual Assessment Report of KESP 2017-2021, 2019.

The implementation plan of KESP presents to results indicator to be achieved: opening new laboratories for teaching and scientific research work (3 labs in 2018 and 2 labs in 2019). The 2019 Assessment Report does not provide any indicator for achieving the result on "institutional support for the development of scientific-research infrastructure". It only describes states that investment in the higher education are gradually increased since 2011, and it states that "during 2018, about 4.6 million euro of capital investments were realized. The budget for the construction of the scientific Research Infrastructures map has also been allocated"[65].

On the other hand, reports and studies on related to the R&I shows that the state of the Research Infrastructures isn't making sufficient progress and research institutions are challenged by poor infrastructure, lack of laboratories and materials to conduct experiments, and lack of incentive for commercialized research. According to an institutional survey conducted by the World Bank, "four organizations reported a total of 27 equipment/laboratory facilities, 7 of which were assessed to be poor or fair condition. Regarding laboratory facilities, three out of five institutions think that international safety standards are not met, physical conditions are not regularly assessed, an investment plan does not exist, and the stock of laboratory facilities are not monitored. Kosovo "has an important challenge with respect to infrastructure in R&D at research institutions"[66].

MEST and other relevant stakeholders in the field of R&I, do not have a proper register of the Research Infrastructures. The Law on SRA stipulates that scientific institutions shall be registered and licenced by the relevant Ministry for science (MEST). To conduct the registration and licencing, MEST was obliged by the law on RSA to draft sub legal acts that regulates the procedures of registration and of licensing of scientific institution. MEST hasn't prepared such procedures and the registration and licencing process wasn't initiated yet[67]. Consequently, it results in having no information on number of RS institutions, number of researchers, existing infrastructure, research filed, etc.

In addition, the information on scientific research activities, such as number of publications, available funding opportunities are not aggregated but rather scattered in different reports or online sources. Reporting has become a regular part of science at every level. Researchers and research institutions are required to report to external funding organizations and sponsors. Public accountability, particularly in terms of financing, has also grown in importance over time. At the same time, universities and research institutions still face major problems when it comes to providing information on research performance. The causes of these problems are often very similar at each institution – distributed data storage without any interfaces, management systems that fail to map research contexts, and limited usability of existing systems. In the absence of a database that collects and saves all scientific research studies in Kosovo, there are no sufficient or consistent data to determine the current state of scientific research in Kosovo. As per the international open calls for grants, they are usually posted online when in their websites, some of them also at the MEST website. Hence, an integrated scientific research information system does not exist even though, such a system was planned to be established according to the NRP, objective 2 "Development of research infrastructure", activity 2.3 of this objective state "procurement or

[65] Annual Assessment Report of KESP 2017-202, 2019.

[66] Western Balkans Regional R&D Strategy for Innovation- Country Paper Series – Kosovo, World Bank Technical Assistance Project, 2013, p.15.

[67] Interview with staff from Department of Higher Education, Science and Technology.

development and implementation of RTD information system which also serves the requirement of national S&T statistics[68]"

Moreover, the data on the existing national research infrastructures and needs of the research institutions, especially with regards to the lacking scientific equipment, upgrading and establishing of new Research Infrastructures, are not collected and are unknown. There aren't general analysis or mappings of national Research Infrastructures and existing research equipment capacity.

At the strategic level, such an analysis could be considered as starting point towards drafting a national Research Infrastructures Roadmap, that will enable to:

- Identify existence of current R&Is
- identify strategic directions for the development of infrastructure on national level
- use of available funds and programs aimed at improving and building the R&Is
- coordinate Research Infrastructures investment funds, etc.

Research Infrastructures Roadmap will have to be aligned with the priorities stated in the R&I policies such as NRP, Strategy on Innovation and Entrepreneurship, Smart Specialization Strategy (which is at initial stage), as well as other strategic documents.

Mainly higher education institutions are beneficiaries of the European education programs in all spheres of their development, such as developing study degrees, enhancing governance and university structures, quality assurance development, research and innovation development, collaboration of universities with industry, and other related university development actions.

As overall conclusion regarding the implementation of the RI policies, is that despite the objectives and measures planned in the NRP and KESP and allocated funds, the R&I area in Kosovo is still underdeveloped and as EC 2019 Progress report stated, it is considered "at an early stage of preparation for science and research[69]".

[68] The National Research Programme of the Republic of Kosovo (2010).
[69] EC progress report for Kosovo (2019).

6. EXPERIENCE OF REGIONAL COUNTRIES

6.1. Austrian R&I System

Despite changes in the government composition in December 2017 (establishment of a coalition between the conservative Austrian People's Party and the populist right-wing Freedom Party of Austria) and in May 2019 (termination of the coalition and appointment of a transitional government composed of experts) the overall institutional R&I system did only marginally change in Austria. The most evident change was that the former Federal Ministry of Science, Research and Economy (until 2017) was divided and restructured into a Federal Ministry of Education, Science and Research (BMBWF) and a Federal Ministry of Digital and Economic Affairs (BMDW). These two ministries and the Federal Ministry for Transport, Innovation and Technology (BMVIT) are the main ministries dealing with R&I issues at federal level in Austria (see Fig. 6).

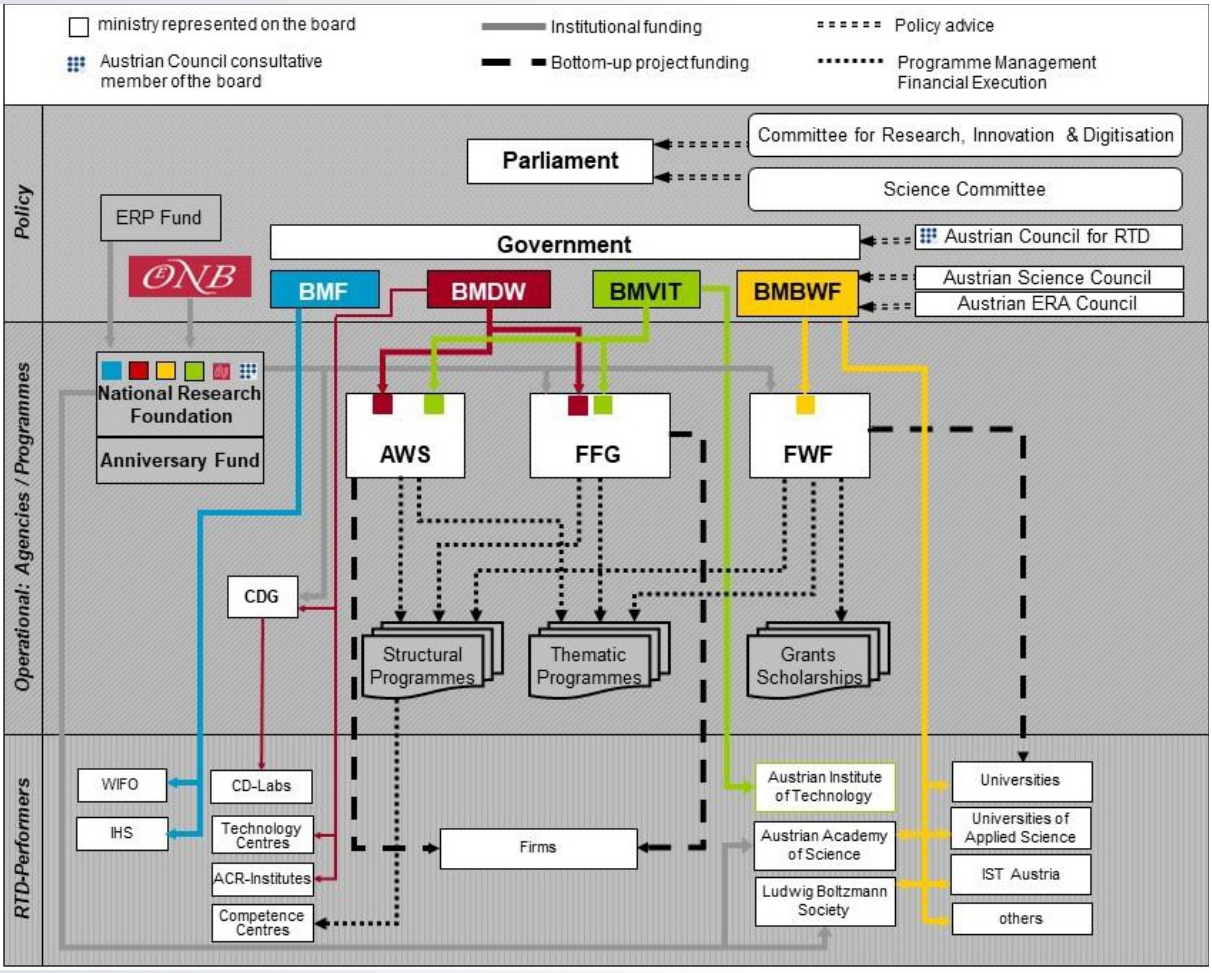


Figure 5: Governance structure of the Austrian R&I system

The so called Task Force RTI, an inter-ministerial body, is coordinating and overseeing the implementation of the Austrian RTI strategy (BKA et al., 2011)[70]. The Task Force RTI has been entrusted by the recent Federal Government with the development of the new Austrian RTI Strategy 2030 (not yet available). As previously, the policy mix in Austria will be composed in the future of bottom-up and top-down as well as of direct and indirect research funding measures. Likewise - as stated by the OECD (2018[71]) and the Austrian Council (2019[72], 2017[73]) – Austria should strive for greater efficiency (in the sense of improving the relation between input and output). In fact, Austria today has the second highest research quota in Europe, but only a midfield position in some output indicators.

The main funding agencies for R&I in Austria are the Austrian Science Fund (FWF), the Austrian Research Promotion Agency (FFG) and the Austria Wirtschaftsservice Gesellschaft (aws) (see Figure 6).

The FWF is Austria's central institution for the promotion of basic research. In 2018, the FWF approved 684 new projects (2017: 642) with a total budget of €230.8m (compared to 217.3m in 2017). Due to a significant increase in the volume of applications to approximately €950m (2017: €879.4m), the total approval rate in terms of budget fell slightly from 22.4% to 22.1% (BMBWF, BMVIT und BMDW, 2019[74]). In 2018, FWF was commissioned to draw up an Excellence Initiative for Austria (not yet published) on the basis of the so called 'future offensive' formulated in the government programme (BMBWF, BMVIT and BMWD, 2018[75]). A strategy for the years 2019-2021 (FWF Multiannual Program) has been developed, focusing on the three areas of quality assurance, consolidation of the funding portfolio and dialogue with society (FWF, 2019[76]). The FWF is also the driving force in Austria for the expansion of measures in the field of scientific ethics and integrity, as well as in the field of Open Access and Open Science.

The FFG is the national funding institution for business-related R&D in Austria. It is jointly owned by the BMVIT and the BMDW. In 2018, the contractually guaranteed subsidies (including guarantees and loans) amounted to €617.6m, which corresponds to a present value of €500.8m. In addition to financial support, FFG also offers services and consultancy. For example, FFG acts as the National Contact Point for the European Framework Programmes for RTD in Austria. In 2018, a digitalisation agency (DIA) was set up as a separate unit within the FFG with the aim of developing Austria as a location for digital excellence and innovation.

The aws is the development bank of the federal government. By providing low-interest loans, grants and guarantees, companies are supported in implementing innovative projects, especially if the necessary financing cannot be adequately raised by other sources (e.g. through loans by the house bank). In addition, advisory and information services are provided for aspiring (pre-start),

70 BKA, BMF, BMVIT, BMWF, BMUKK and BMWFJ (2011): Becoming an innovation leader. Strategy for research, technology and innovation of the Austrian Federal Government. March 2011. https://era.gv.at/object/document/3040

71 OECD (2018): OECD Reviews of Innovation Policy: Austria 2018. Overall Assessment and Recommendations; December 2018. http://www.oecd.org/publications/oecd-reviews-of-innovation-policy-austria-2018-9789264309470-en.htm

72 Austrian Council (2019): Bericht zur wissenschaftlichen und technologischen Leistungsfähigkeit Österreichs 2019.

73 Austrian Council (2017): Empfehlungen für den Weg zur Innovationsspitze. 30.11.2017.

74 BMBWF, BMVIT und BMDW (2019): Österreichischer Forschungs- und Technologiebericht 2019.
https://www.bmdw.gv.at/WirtschaftsstandortInnovationInternationalisierung/Innovation/InnovationsUndTechnologiepolitik/Seiten/FTB.aspx

75 BMBWF, BMVIT, BMWD (2018): Vortrag an den Ministerrat. Zukunftsoffensive für Forschung, Technologie und Innovation. Wien, 16.8.2018.

76 FWF (2019): Mehrjahresprogramm 2019-2021. Strategische Eckpunkte und Vorhaben. März 2019.

start-up, existing and expanding companies. In 2018, the total financing volume amounted to €2,189.5m, which was 91.2% higher than in the previous year. This increase, however, was mainly caused by one-off subsidy programmes (especially the so called "employment bonus"), which were implemented by the pre-predecessor government and to a high extent then cancelled by the previous government. Substantial contributions were also made because of the adjustments of the funding conditions for guarantees and loans, which started in early 2017 and continued in 2018. These include, for example, increased cap levels, increased risk readiness and reduced processing and guarantee fees, as well as the standardization of the "European Recovery Programme" (erp) credit guidelines in a new growth and innovation programme, while maintaining a historic low lending rate (BMBWF, BMVIT und BMDW, 2019[77]). The aws addresses innovative investment projects of already established companies as well as those of start-ups and young companies; for the latter, the special conditions of the start-up loan with a fixed interest rate of 0.5% continue to apply over the entire term.

According to Statistics Austria's current global estimate of April 2019, investment in R&D in 2019 will be €12.8b, up 4.5% higher than in 2018 (€ 12.2b). The estimated R&D ratio is expected to be 3.19% in 2019, a slight year-on-year increase (2018: 3.17%; 2017: 3.16%[78]).

Together, the federal government and federal states will finance a share of 33.9% of the total R&D carried out in Austria in 2019 (2018: 34.2%), with an estimated budget of €4.3b. Of this, €3.8b are provided by the central government. This includes investments of €138.7m of the National Foundation for Research, Technology and Development and an estimated €670.0m (BMF estimate) for the "research premium".

Domestic companies will have financed almost half of all R&D expenditures in 2019, at €6.3b or 48.96%. The share of the BES in overall R&D financing is steadily increasing in Austria. Roughly €2b or 15.6% of R&D will be funded from abroad in 2019, most of which will be financed by foreign companies to carry out R&D activities in Austria. Private non-profit funding remains marginal in Austria (not more than 1% of R&D financing).

According to EUROSTAT, R&D funded by government as % of GDP in 2017 was 0.93 and BERD (as % of GDP) was 2.22.

With an R&D quota of 3.17% in 2018, Austria has the second highest value within the EU - behind Sweden. Likewise, Austria exhibits positive values in key excellence and quality-oriented parameters such as the citation rate or international patent applications. 10.75% of Austria's scientific publications are among the top 10% most cited publications worldwide as % of total scientific publications of Austria (2016). Austria's world share in PCT applications was 0.73% in 2017. Still these figures are below those of most innovation leaders, as defined by the EIS (2019).

Austria is among the European leaders in science-business cooperation. In terms of cooperation between universities and companies, Austria ranks second among all EU countries – behind Finland. The Digital Economy and Society Index (DESI), commissioned by the European Commission, shows that Austria ranks only 13th in the midfield of the EU-28 (in 2019). The DESI index confirms the potential for development through the extension of the internet and the

77 BMBWF, BMVIT und BMDW (2019): Österreichischer Forschungs- und Technologiebericht 2019.
https://www.bmdw.gv.at/WirtschaftsstandortInnovationInternationalisierung/Innovation/InnovationsUndTechnologiepolitik/Seiten/FTB.aspx

78 See https://rio.jrc.ec.europa.eu/en/stats/country-based-indicators; accessed on 20 June 2019.

integration of digital technology within Austrian companies and institutions. In the field of digital skills and human capital, however, Austria occupies a good position by international comparison.

Regarding Austria's competitiveness, the Global Competitiveness Report (World Economic Forum, 2018[79]) shows that Austria outperforms the EU-28 average in all dimensions. Austria ranks 22nd within this global benchmarking exercise of 140 countries. Particularly in terms of the degree of maturity of the economic system, innovative activity and institutional framework conditions, Austria achieves significantly better values than the EU average. Technological maturity and training are at a very high level. Development potential for Austria is seen in the efficiency of the labour market and the goods market as well as in the development of the financial market.

Evaluation practice in the area of R&I was rated positively in the recent OECD review (2018[80]). During the last two years a high number of larger evaluations were concluded in Austria. The evaluation results are partly taken up by the policy level. An indication for the continuous development of the Austrian evaluation culture is the adoption of the new Austrian Evaluation Standards in the area of R&I. These standards are intended to provide commissioning authorities, evaluators, and those affected by evaluations with a code of conduct and guidance on how to design, manage, and perform good evaluations and how to use them properly. A structural weakness of the Austrian evaluation system, which is also highlighted by the OECD Review, is the limited availability, accessibility and connectivity of statistical data in and provided through public sector bodies. The Register Research Platform, founded in 2018, is committed to facilitating access to data from public registers for scientific research. However, this still involves a number of challenges, which call for a holistic solution at legal, procedural and instrumental level.

6.2. Montenegro R&I System

The following section will present relevant information on Montenegro R&I system, its establishment and efficiency. When is possible Kosovo will be compared to Montenegro based on a number of selected criteria,

Montenegro is a small country with an economy that is dependent on tourism, related services, and metal processing. The lack of economic diversification and the dependence on external financing generate vulnerabilities that can lead to severe collapses of production and gross domestic product (GDP).

Since independence in 2006, Montenegro has undertaken a number of reforms aimed at creating a more suitable environment for research and innovation. Preliminary but crucial, steps have been taken. These include the establishment of quality assurance systems that match European standards, increased regional collaboration in research, increased opportunities for collaboration between research institutes and the private sector, and an improved legal framework. The decision to join the EU, followed by the Stabilization and Association Agreement has given a further boost to the development of the national innovation system and the promotion of R&D. Montenegro has taken steps towards integration into the European Research Area (ERA). The government developed the Strategy for Scientific Research Activities (2008-2016, and 2017–2021), started the modernization of the education system, and committed to increasing R&D spending.

---

79 World Economic Forum (2018): The Global Competitiveness Report 2018. Geneva. https://www.weforum.org/reports/the-global-competitveness-report-2018

80 OECD (2018): OECD Reviews of Innovation Policy: Austria 2018. Overall Assessment and Recommendations; December 2018. http://www.oecd.org/publications/oecd-reviews-of-innovation-policy-austria-2018-9789264309470-en.htm

The international legal framework for R&I in Montenegro is governed by:

- Memorandum on Accession to Eureka Programme (signed in 2012)
- Declaration on Adopting the Regional R&D Strategy for Innovation (signed in 2013)
- International Agreement between EU and Montenegro on participation of Montenegro in "Horizon 2020" – (signed in 2014)
- Framework Programme for Cooperation of Montenegro with the International Atomic Energy Agency – IAEA (signed in 2014)
- Memorandum of Accession to COST Programme (signed in 2015)
- MoU for the CMS Detector at CERN (signed in 2017).

The national legal framework in Montenegro is governed by:

- Law on Scientific Research Activities
- Law on Innovation Activity
- Law on Higher Education
- Law on Ratification of the Statutes of the International Centre for Genetic Engineering and Biotechnology, with Protocols and Amendments (ICGEB)
- Law on Ratification of the Agreement on the Western Balkans Research and Innovation Centre – WISE
- Law on Patents
- Law on Copyrights and Related Rights

Montenegro has defined three strategic goals in the area of science and research: Development of research community, Strengthening multilateral, regional and bilateral cooperation, and Cooperation of research community with economy. In the field of innovation activities.

Montenegro has adopted the National Roadmap for European Research Area (ERA) in 2016, as a policy document that determines the way in which the activities within the identified ERA priorities will be implemented. Strategic framework for science and innovation in Montenegro is composed by a number of strategic documents

- Strategy of Innovation Activity (2016–2020) with the Action Plan (2016)
- Strategy of Scientific-Research Activity (2017–2021) with the Action Plan (2017)
- National Roadmap for the European Research Area (ERA) (2016)
- Montenegrin Research Infrastructures Roadmap (2014–2020) (2015)
- Feasibility Study for the Establishment of Centres of Excellence in Montenegro (2011)
- Feasibility Study for the Establishment of a Science and Technology Park (2011)
- Strategic Plan for Development of the Science and Tech. Park in Montenegro (2012)
- Smart Specialisation Strategy 2019-2024
- Directions of Development of Montenegro (2015–2018)
- Economic Reform Programme (ERP) (2017–2019)
- National Strategy of Sustainable Development of Montenegro by 2030 (NSSD)
- Strategy of Development of Higher Education (2016–2020)
- Strategy for SME development 2018-2022 – under preparation
- Strategy for Life Long Entrepreneurial Learning 2015-2019
- Strategy of Development of Information Society in Montenegro by 2020
- Industrial Policy of Montenegro by 2020
- Programme of Accession of Montenegro to the EU 2014-2018 (PPCG), Chapter 25 – Science and Research.

Based on the latest statistical research in Montenegro for 2015, which was coordinated by the Ministry of Science, total domestic expenditure, i.e. gross domestic expenditure on research and development (GERD) amounted to 0.38% of GDP. Total domestic expenditure on R&D for 2015 (GERD) was 0.38% of GDP, i.e. the gross expenditure for R&D amounted to EUR 13.67 million.[81] Key research results have shown that: in 2015, there were 2,356 people engaged on jobs of research and development in organizations, institutions and enterprises active in this field, of which 1,766 researchers, 386 expert associates and technicians and 204 assisting staff.

In relation to the European Union, as a signatory to the Stabilization and Association Agreement, Montenegro has been enabled to participate in the most important Union research and innovation programmes (R&I). The access to Horizon 2020 - Framework Programme for Research and Innovation 2014 -2020 (H2020), for which the international agreement was signed in 2014, is of particular importance. Significant funds for the contribution have been invested in this programme so far and the maximum efforts are being made to make a serious withdrawal of targeted grants from its approximately worth EUR 75 billion fund. The table below presents information of participation of Montenegro in international programmes until 2017:

Program	Period	Number of Projects
FP7	2008-2013	**34**
IAEA	2007-2017	**14**
COST	2011-2017	**59**
EUREKA	2012-2016	**5**
HORIZON	2014-2017	**9**

Table 16.Participation of Montenegro in international programmes

In addition, Montenegro has taken an active part in other programmes of priority importance, as follows: the European Cooperation in Science and Technology (COST), the Pan-European network for market-oriented, industrial R&D (EUREKA) and the Instrument for Pre-Accession Assistance (IPA). Also, it has been joined to particularly important research programmes for the mobility of researchers at the European level: Erasmus + programme, CEEPUS and Marie Skfodowska-Curie Action (H2020 sub- programme); while being a member of Euraxess.

In Montenegro, 80 percent of the publications are produced by higher education institutions, which also have an exceptionally high percentage of the citations (almost 95 percent). This pattern is more extreme than in other countries in the region and the EU-27 averages. A single institution is responsible for most publications in the country: the University of Montenegro, with 634 documents in the period, is the only institution with an output exceeding 16 publications. Montenegro shows the highest rate of international collaboration in publications within the WBCs. The average of collaborations from 2006 to 2010 is 73.10 percent, far above EU-27 and WBC averages. Half of the collaborations are with Serbia, and less than 5 percent are with Croatia. The country has high rates of collaborations between private and higher education institutions; however, there is no collaboration between private and government institutions[82].

[81] Montenegro Strategy on Scientific-Research Activities (2017-2021)

One of the major steps undertaken for strengthening inter-sectoral researches and links, and improving knowledge transfer between Research Performing Organisations and industry, is the establishment of the first Centre of Excellence (CoE) in Bio-informatics (BIO-ICT) in Montenegro which gathered 4 leading research institutions from Montenegro, SMEs, and 2 research institutions from abroad. BIO-ICT is funded by MoS through HERIC, as a three-year project. The same practice has been implemented within establishing Science and Technology Park in Podgorica and Innovation and entrepreneurship centre "Tehnopolis" Nikšić.

Ministry of Science created the Virtual joint centre for resource sharing: "Scientific research network". Montenegrin Research Infrastructures Roadmap (2015-2020) recognised fragmentation, poor transparency and inadequate use of research infrastructure as the key problems. Until 2019, excellent results were achieved in context of existing research infrastructure visibility, and "Scientific research network" online platform was setup for researchers and licensed scientific-research institutions and innovative organizations.

In terms of licensing of R&I organisations, currently, there are 46 institutions in the Registry of Licensed Scientific Research Institutions: 25 faculties, 3 institutes, 6 business entities, 1 agency, 4 offices, 4 other public institutions and 3 NGOs.

Montenegro has conducted two studies (in 2013 and 2019) of the existing research capacities and capabilities for creating a common research area, in order to map the existing infrastructure and the requirements of Montenegrin research community[83]. State of the existing research equipment in Montenegro has been identified and registered.

A comparison of Kosovo's R&I system and Montenegro based on several criteria is presented in the following table. The text marked with red fonts indicate elements of the R&I system in Kosovo that are missing / not established yet or nor functional

[82] Western Balkans Regional R&D Strategy for Innovation, Country Paper Series Montenegro, World Bank Technical Assistance Project, 2013
[83] Study on Research Equipment and Creation of Joint Research Facility,HERIC, 2019

Criteria	Montenegro	Kosovo
Main responsible institutions for Science	▪ Ministry of Science *Department of scientific research activities* *Department of innovation and technological development* ▪ Ministry of Education ▪ Department of HE ▪ Council For scientific research activity	▪ Ministry of Education Science and Technology *Department of Higher Education, Science and Technology* ▪ National Science Council (not functional) ▪ Scientific Council of MEST ▪ Scientific Council of fields
Main responsible institutions for innovation	▪ Ministry of Science *Department of innovation and technological development*	▪ Ministry of Education Science and Technology *Department of Higher Education, Science and Technology* ▪ Ministry of Innovation and Entrepreneurship *Department of Innovation* ▪ Scientific Innovation Council (not established)
Main Laws	▪ Law on Scientific Research Activities ▪ Law on Innovation Activity ▪ The Law on Higher Education ▪ Law on Ratification of the Agreement on the Western Balkans Research and Innovation Centre – WISE	▪ Law on Scientific Research Activities ▪ Law on Innovation and entrepreneurship ▪ Law on Scientific Innovation and Transfer of Knowledge and Technology ▪ The Law on Higher Education
Strategic Framework	▪ Strategy of Innovation Activity (2016–2020) ▪ Strategy of Scientific-Research Activity (2017–2021) ▪ National Roadmap for the European Research Area (ERA) (2016) ▪ Montenegrin Research Infrastructures Roadmap (2014–2020) ▪ Smart Specialisation Strategy 2019-2024 ▪ Strategy of Development of Higher Education (2016–2020); ▪ Strategy of Development of Information Society in Montenegro by 2020; ▪ Programme of Accession of Montenegro to the EU 2014-2018 (PPCG), Chapter 25 Science and Research;	▪ Kosovo Education Strategic Plan (KESP) 2017-2021 ▪ National Research Program (NRP) ▪ National Strategy for Innovation and Entrepreneurships (NSIE) 2019-2023 ▪ Kosovo IT Strategy ▪ Missing documents: ▪ Strategy of Scientific-Research Activity ▪ National Roadmap for the European Research Area ▪ Research Infrastructures Roadmap ▪ Smart Specialisation Strategy is in the early stage of preparation
Bearers of Research and Innovation activities	▪ Research and innovation organisation ▪ Centres of Excellence ▪ Scientific-research institutions ▪ centres of excellence ▪ higher education institutions ▪ Centres for Technology Transfer ▪ Science and Technology Parks ▪ Centre for Innovation and Entrepreneurship ▪ Business Incubators ▪ Companies ▪ Innovators	▪ Research and innovation organisation ▪ Academy of Sciences and Arts of Kosovo; ▪ Universities and other institutions of higher education ▪ Scientific-research institutions; ▪ Scientific Innovation centres; ▪ Companies and entrepreneurships; ▪ Pre-university education institutions. ▪ Other institutions for scientific innovation o Manufacturing development institutions o Business-technological incubator o Scientific-technological Park

		○ Scientific innovation accelerators.
Recently established R&I bodies	▪ Strategic Plan for Development of the Science and Tech. Park in Montenegro *Science and Technology Park in Podgorica established. Government and the University of Montenegro, are funders. 4.3 MIL EUR invested so far* *Innovation and entrepreneurship centre "Tehnopolis" Nikšić, 2 MIL EURO* *Centres of Excellences*	▪ No data on establishment of similar organisations in Kosovo
Registration and licensing of R&I	▪ Obliged by law on SRA ▪ 46 RI licenced and registered ▪ Register of Innovation Organizations	▪ Obliged by law SRA ▪ No data on number of researches institutions ▪ No register created yet
R&I infrastructure	▪ Study on Research Equipment and Creation of Joint Research conducted twice 2013 and 2019 ▪ State of the existing Research Infrastructures has been identified. ▪ Value of existing Research Infrastructures of scientific-research institutions, is around 28 mil. EUR ▪ As a result of the study "Roadmap for Research Infrastructure of Montenegro 2015-2020" was adopted, in line with ESFRI Roadmap	▪ Studies/analysis on Research Infrastructures never conducted ▪ There is no information on RIs ▪ No information on value of the Research Infrastructures of the ▪ There is no Road for Research Infrastructures in Kosovo
Financing	In 2016 amounted to 0.32% of GDP, GERD 0.38% (2015)	No exact data, different sources present 0.1% of GDP and GERD
R&I staff[84]	▪ RI staff 2356 (in 2018) *1766 researchers,* *386 technician & equivalent staff* *204 other support staff*	▪ No exact data on number of staffs involved in R&I
Main Projects/donors	▪ HERIC- WB loan of 12MIL EUR *In total, 6 MIL EUR invested for development of science and Research Infrastructures through the HERIC project (Centre of Excellence + grants).*	▪ HERAS
Participation in relevant organisations and Programs	▪ ERA ▪ EUREKA ▪ COST ▪ CEPUS ▪ TEMPUS ▪ Seventh Framework Programme (FP7), member since 2008 ▪ Horizon 2020, associated member since 2014	▪ ERA ▪ EUREKA ▪ COST (as Near Neighbour Country) ▪ CEPUS ▪ TEMPUS ▪ Seventh Framework Programme (FP7) ▪ Horizon 2020 (as International Cooperation Partnership Country)
Statistics	▪ MONSTAT produces statistics on R&D https://www.monstat.org/eng/page.php?id=74&pageid=74 ▪ Innovation statistics, first pilot survey conducted in 2018	▪ No statistics
R&I information system and communication networks for RI community	▪ Montenegrin Research and Education Network (MREN http://www.mren.ac.me/).It connected with the European Academic Network (GÉANT https://epsrc.ukri.org) ▪ Scientific research network, https://naucnamreza.me/en	▪ There is no an integrated R&I information system

Table 17.Comparison between Montenegro and Kosovo

[84] https://rio.jrc.ec.europa.eu/en/file/12409/download?token=ONhppFJj

7. CONCLUSIONS AND RECOMMENDATION

7.1. Concluding comments

R&I in Kosovo is underdeveloped. The R&I system in Kosovo faces a number of significant challenges. Efficiency of R&I system is hindered by different factors, starting from lack of implementation and monitoring mechanisms; insufficient finances dedicated to development of R&I, poor humane resource base which is reflected in a low absorption of existing national and international funds, inexistent or poor R&I infrastructure lack of an adequate RI policy and inter institutional coordination. Below are some of the main conclusion about the RI system in Kosovo:

Institutional framework

The main players in the R&I system are the MEST and NSC (if made operational). Opportunities to strengthen the institutional framework lie in the potential co-ordination between key institutions involved in R&I policies. In the field of innovation, the MEST and MIE share responsibilities in policy making and implementation of innovation policies. These shared responsibilities may often lead to a poor flow of information, and miscommunication.

In terms of planning and implementation of the R&I policies, the NSC has a significant role, however, the MEST did not adopt a new AI that regulates the procedure for the establishment, mandate, organization, election of its member and activity of the NSC. The NCS was operational until 201, afterwards, relevant authorities such as the Assembly of Kosovo and MEST didn't manage to nominated and approve members of NRC. Taking into consideration the key role of the NRC in RI development and developing macro level policy, dysfunctionality of NRC has produced negative consequences such as: national priorities in the field of R&I are not updated and priorities not identified; lack of funding opportunities, lack of infrastructure investment and low participation in international R&I programs or organizations.

R&I Policies

The R&I sector is considered as one of the key political priority in many relevant strategic documents. Even though significant progress has been made in establishing the strategic and legal framework to develop R&I, institutional capacities for implementation of R&I policies remains at low and are yet to be strengthened.

The main document in the field of scientific research is NRP, approved in 2010. Its validity was extended by an official decision issued by the Minister of MEST in 2016. The decision will be in force until the new NRP will be drafted. MEST and NSC have not established any measurement mechanism to regularly monitor the implementation of the NRP which should be used as an input during the process of drafting new strategic documents for the R&I sector. Until now, there was no any initiative to develop a new strategic orientation for research in Kosovo.

Regarding the innovation, GoK admits innovation as a priority and it starting to be considered as an element of economic growth. A policy framework for developing innovation exists to some extent. The main development in the field of innovation is the new strategy on innovation and entrepreneurship developed by MIN. The law on scientific innovation was adopted by MEST, last year. It is still not providing any impact due to the lack of sub-legal acts and needs of other implementation mechanism that need to be established such as the Scientific Innovation Council.

The law on innovation and entrepreneurship is in the process of drafting by MIN. However, there are no evidences how these two laws (Law on SITTK and the draft Law on Innovation and entrepreneurship) will cover the innovation system and will share the implementation responsibilities among main stakeholders such as MEST and MIE.

In general, the new laws and strategies, in the field of R&I, are often only partially implemented due to restrictions on the national budgets and dysfunctionality of relevant institutions.

Funding for R&I

Investment in RI is extremely low. Even in a regional comparison, Kosovo ranks in the bottom of the list of the Western Balkan countries. The public investment in RI is far below the required by the law on RSA (level (0.7% of the annual budged). The lack of funding makes it difficult to carry out sufficient RI activities as well as it impacts the quality of R&I activities. Even though, R&I is determined as priority at policy level, at the implementation level it is not followed by allocating sufficient funds for R&I activities and projects. This puts in the questions if R&I is a real priority for GoK.

Funding issues are not limited to levels of funding, but also concern the funding mechanism. Public funding is centralized at MEST, whereas research institutions and researchers have to apply to MEST for receiving grants for supporting their research activities. The amount of grants available is not sufficient to carry out a qualitative research activity. It is also insufficient for purchasing or maintaining research equipment.

Higher education institutions are the main research performers, however, the salary for academic staff is dedicated for teaching rather for scientific research activities. Hence, there are no clear contractual rules or requirements for academic staff to carry out research.

Investment from private sector in R&I is almost unknown or inexistent because of lack of information if private sector is investing in R&I activities.

RI activities and infrastructure are funded constantly by donors' projects and grants /projects from international organizations.

Participation in international and regional research programs

Kosovo participates in several European and regional programs and initiatives for research and innovation. This includes Horizon 2020, COST, CEEPUS, and other initiatives. Research capacities still need to be largely enhanced in order that Kosovo research institutions and researchers are more competitive in international research programs and publications. Regarding the last point, research publications, according to World Bank data[85], Kosovo is gradually, but slowly, increasing the number of research publications in internationally recognized journals.

[85] https://data.worldbank.org/indicator/IP.JRN.ARTC.SC?most_recent_year_desc=false&year_low_desc=true (data retrieved: 26-09-2019)

Research infrastructures (RIs)

Research Infrastructures and research capacities are very poor, insufficient and existing facilities are frequently outdated and not fit for purpose. It is assumed to be far from international standards. Hence, one of the largest barriers to R&I activities in Kosovo is the lack of Research Infrastructures in the research community to implement and manage research projects and lack of funds for purchasing new and maintaining existing equipment.

Moreover, the overall Research Infrastructures is unknown, because MEST and other relevant stakeholders in the field of R&I, do not have a proper register of the existing Research Infrastructures such as number of research institutions, number of researchers, existing infrastructure, research filed, etc. In addition, the information on scientific research activities, such as number of publications, available funding opportunities are not aggregated but rather scattered in different reports or online sources. An integrated scientific research information system does not exist even though, such a system was planned to be established according to the NRP, objective 2 "Development of research infrastructure"[86].

The data on the existing national research infrastructures and needs of the research institutions are not collected and are unknown. There are no analysis or mapping of national research infrastructures and existing research equipment capacity. Research Infrastructures mapping is an instrument for identification and categorisation of existing and planned Research Infrastructures. Most importantly there is no strategy that particularly addresses the Research Infrastructures in Kosovo.

Monitoring and evaluation of the R&I policies

NRP as a main strategic document aiming development of scientific research has not clearly proposed monitoring and evaluation of the achievement, hence there is no consistent system in evaluating and monitoring the implementation NRP implementation plan. Dysfunctionality of the NSC has negatively impacted not only in implementation of the R&I policies but also in overseeing and monitoring of the implementation of research activities. The progress towards achieving objectives and targets of the R&I policies was not measured properly by conducting evaluation and reporting in an unsystematic manner.

[86] The National Research Programme of the Republic of Kosovo (2010)

7.2. Recommendations

Recommendation	Responsible actor(s)	Outputs
Institutional mechanisms and bodies in R&I		
1. The GoK and particularly MEST should make continuous effort to nominate the members of NSC and to ensure they are approved by the Kosovo Assembly, in order to re-functionalize the most relevant institutions in the field of R&I.	MEST, Assembly	Decision of Government endorsed by the Assembly
2. MEST is actually at the same time developing and implementing R&I policies, with lack of human resources and capacities in place. Therefore, MEST should reflect and decide about dividing the development and monitoring and evaluation roles from implementation and execution of R&I policies and funding. In this case MEST and GoK should establish the Research Agency, as stipulated in the Law for Scientific Research Activity, as a body to implement National Research Program and Fund.	MEST, GoK	MEST/GoK decision for establishment of Research Agency, in case this option approved.
Adaption of legal and policy framework on R&I		
3. The MEST should draft and adapt sub legal acts that will clearly regulates the procedure for the establishment, mandate, organization, election of its member and activity of the NSC.	MEST, NCS	Administrative Instruction (AI) / Regulation
4. Since the NRP is not updated there is an urgent need to develop a new comprehensive strategy on scientific research in compliance with ERA priorities and which in the future will serve as National Roadmap towards integration in the ERA. This strategy should provide direct links between its targets and available public funds. It should further define clear research priorities in a medium-to longer term perspective.	MEST/GoK, Assembly	A Roadmap to ERA approximation developed New NRP endorsed by the Assembly
5. Before drafting this strategy, it is mandatory that MEST conduct an overall assessment of the past interventions as planned in the NRP and KESP, their impact, current situation, future needs of the R&I institutions and national priorities in the field of R&I.	MEST	Assessment report
6. Universities and HE institutions should develop their internal research scientific plans and development indicators, in compliance with NRP.	MEST, Universities HEIs	Endorsed research plans of universities
7. MEST should establish a proper implementation, evaluation, monitoring and reporting mechanism for implementation of the R&I policies and evaluation if its impact.	MEST	M&E developed (as part of NRP or separate)

Allocation of research funding		
8. The GoK should make R&I a high priority and commit to a higher investment fund, closer to the WB countries.	MEST/GoK , Assembly	Financial Medium Framework Law on Scientific activity (with increased budgets for R&I)
9. MEST and GoK should allow a separate budget line for the HE institution to enable them to invest in research infrastructures by purchasing and maintain critical research infrastructures.	MEST/GoK	Endorsed university budgets
10. MEST and GoK should initiate the changes in the system of R&I financing by improving ways of project financing and by developing a new model of structural/basic financing. Funding methods should be improved to stimulate and reward quality of research and related governance and management processes.	MEST/GoK , NRC	Secondary legislation defining NRF financial schemes and instruments
11. GoK should establish a Research Infrastructure Fund to provide financing for innovation and to encourage entrepreneurship in R&I. Further, this fund could provide incentives for project cooperation between the private sector and scientific research community, in order to create a new products, services and technologies that have the potential for commercialization.	MEST/GoK , NRC	Research Infrastructure investment to be one of the NRF instrument.
Enhancing research infrastructure		
12. MEST should enforce the registration and licensing of the scientific research institutions. The Registry of R&I organizations will provide information to the MEST and other relevant institutions about the number of research institutions and the research community.	MEST	Endorsed AI for licensing of research institutions
13. MEST in cooperation with research institutions should conduct a general analysis or mapping of national Research Infrastructures and existing research capacities.	MEST	Endorsed Registry of R&I organizations, and a summary report
14. MEST should sponsor and facilitate development of Research Infrastructures Roadmap aligned with the priorities stated in the R&I policies, strategy on Innovation and Entrepreneurship, requirements of (the future) Smart Specialization Strategy as well as other strategic documents.	MEST	The Roadmap document
15. A web-based Research Information System (RIS) should be established (based on mapping of Research Infrastructures and "registry of R&I organizations) to continuously record data on Research Infrastructures , research activities, research outputs and capacities. The RIS should be developed according to the model of Common European Research Information Format (CRIS).	MEST	Research Infrastructures functionalized and operational
Promotion and Management of R&I		
16. MEST should better promote to the scientific research community, research activities and funding opportunities allocated by MEST and available funds of other international programs and projects.	MEST (or Agency)	An action plan for promotion of NRF/NRP financing schemes and instruments.
17. Establishing the Fund for Research Promotion (public and donor funds) to support research and development projects aimed at young talented researchers, and to strengthen the link with the scientific diaspora through the establishment of joint projects and other forms of scientific and innovation cooperation.	MEST (or Agency)	Endorsed MEST budget.
18. Coordination between MEST and MIE in the field of innovation should be improved in order to optimize the implementation of the relevant laws and policies as well as fostering inter-institutional co-operation with respect to innovation policy development and implementation.	GoK/MEST &MIE	Setting up a coordination group

REFERENCES

- Annual Assessment Report of KESP 2017-202, 2019.
- Best Practices on Business-Academia-Government- Co-operation for Innovation in Kosovo, OECD, 2016.
- Competitiveness in South East Europe. A Policy Outlook 2018, OECD, 2018.
- EC progress report on Kosovo, 2019.
- Economic Reform Programme (ERP) 2019-2021
- Education and research in Western Balkan region: An assessment of countries' experiences and their performance in EU funded programmes, 2019.
- ERA progress Report on Kosovo, 2018.
- EU Progress report on Kosovo 2016.
- Evaluation Report of Kosovo Education Strategic Plan 2011-2016, MEST.
- Frascati Manual 2015- Guidelines for Collecting and Reporting Data on Research and Experimental Development
- Kosovo Education Strategic Plan (KESP) 2017-2021.
- Law No. 04/L-135on Scientific Activity.
- Law No. 06/L-049 on Scientific Innovation and Transfer of Knowledge and Technology.
- MEST decision number 49/01B, date 10 March 2016.
- Montenegro Strategy on Scientific-Research Activities (2017-2021)
- National development strategy 2016 – 2021, PMO, 2016.
- National Strategy on Innovation and Entrepreneurship, MIE.
- OECD Reviews of Innovation Policy: Austria 2018. Overall Assessment and Recommendations, 2018.
- Paul Aligica. "Institutional and Stakeholder Mapping: Frameworks for Policy Analysis and Institutional Change," Public Organization Review, 2006.
- Regulation (EU) no 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014 2020) and repealing Decision No 1982/2006/EC
- Regulation on internal organization and systematization of jobs in the Ministry of Innovation and Entrepreneurship.
- Regulation on Internal Organization and Systematization of Working Places at the Ministry of Education, Science and Technology.
- South East Europe 2020 strategy.
- Study on Research Equipment and Creation of Joint Research Facility, HERIC, 2019
- The National Research Programme of the Republic of Kosovo, 2010.
- The situation of research in Kosovo. KEEN, 2018.
- Western Balkans Regional R&D Strategy for Innovation- Country Paper Series – Kosovo, World Bank Technical Assistance Project, 2013.
- World Economic Forum (2018): The Global Competitiveness Report, 2018.

Websites:

1 https://ec.europa.eu/info/sites/info/files/research_and_innovation/era/era_progress_report_2018-handbook.pdf
2 http://ask.rks-gov.net/en/kosovo-agency-of-statistics/add-news/gross-domestic-product-gdp-by-economic-activity-and-by-expenditure-approach-2018
3 http://erasmuspluskosovo.org/en/erasmus/projects/
4 http://projects.worldbank.org/search?lang=en&searchTerm=&countrycode_exact=XK
5 http://www.oecd.org/publications/oecd-reviews-of-innovation-policy-austria-2018-9789264309470-en.htm
6 https://amp-mei.net/portal/
7 https://data.worldbank.org/indicator/IP.JRN.ARTC.SC?most_recent_year_desc=false&year_low_desc=true
8 https://e-akreditimi.rks-gov.net
9 https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Gross_domestic_expenditure_on_R_%26_D_(GERD)
10 https://ec.europa.eu/info/sites/info/files/research_and_innovation/era/era_progress_report_2018-technical.pdf
11 https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/news_corner/news/news-files/20150430_saa.pdf
12 https://era.gv.at/object/document/3040
13 https://euraxess.ec.europa.eu/europe/career-development/training-researchers/research-profiles-descriptors
14 https://ickosovo.com/innovation-fund
15 https://rio.jrc.ec.europa.eu/en/stats/country-based-indicators
16 https://webgate.ec.europa.eu/dashboard/sense/app/93297a69-09fd-4ef5-889f-b83c4e21d33e/sheet/a879124b-bfc3-493f-93a9-34f0e7fba124/state/analysis
17 https://webgate.ec.europa.eu/dashboard/sense/app/e02e4fad-3333-421f-a12a-874ac2d9f0db/sheet/941d3afe-da24-4c2e-99eb-b7fcbd8529ee/state/analysis
18 https://www.bmdw.gv.at/WirtschaftsstandortInnovationInternationalisierung/Innovation/InnovationsUndTechnologiepolitik/Seiten/FTB.aspx
19 https://www.ceepus.info/#nbb
20 https://www.cost.eu/
21 https://www.oecd.org/sti/Session%204_The%20evolving%20path.pdf
22 https://www.weforum.org/reports/the-global-competitveness-report-2018
23 https://rcc.int/files/user/docs/reports/SEE2020-Strategy.pdf

ANNEXES

Annex 1: Roles and responsibilities in the field of R&I

INSTITUTIONS	POLICY MAKING ROLE	IMPLEMENTATION AND MANAGEMENT ROLE
Assembly	▪ Approves the National Science Program	
Government	▪ Presents and proposes the NRP to the Assembly	▪ Allocates annual budged
]MEST/ Dep.HEST	▪ Proposes and drafts policy/strategic documents, legislation for the development of HEST ▪ In cooperation with relevant Ministries Compiles policies and relevant strategies that organize, plan and promote development of scientific innovation, and also coordination of stakeholders. ▪ Liaises with the economic sector to research, identify and propose study programs, qualifications and research	▪ Provides support in enhancing the quality of infrastructure for the development HEST ▪ Promotes the development of innovative activity and overall capacity of Kosovo in the field of scientific innovation ▪ Cooperate with institutions and individuals to have more organized approach to the scientific innovative activity ▪ Collect and provide information to institutions responsible for innovative scientific activity in the country ▪ Report to the Government, regarding the achievements and problems in this field ▪ Establishes the Scientific Innovation Council to monitor the development and commercial implementation of scientific innovations ▪ Nominates the members of the NSC
MEST/ Dep.HEST/ **Div. SC**	▪ Proposes and drafts of the policy documents and legislation in the field of SR and TD ▪ Elaborates strategic documents for the development of the research infrastructure	▪ Organizes competitions for funding of scientific and technological projects ▪ Establishes criteria and methodology for the periodic assessment of the quality and intensity of the research activity of the funded institutions. ▪ Provides administrative support for initiating and implementing projects ▪ Reviews applications for funding and provide proper opinion.
MEST/ Dep.HEST/ **Div. ITT**	▪ Proposes and plans measures and activities for innovation and transfer of technology	▪ Proposes, drafts and ensures implementation of projects on capacity building in the field of ITT ▪ Liaises with the economic sector to facilitate transfer of research results into the economy and identify needs of the economic sector ▪ Promotes the innovation culture to the economic sector
MEST/ Dep.HEST/ **Div. ICHES**		▪ Provides support to national HE and research institution in applying for funding to international funding programs ▪ Provides advice for applying standards of scientific ▪ Proposes and designs programs for the capacity building ▪ Provides support to national HE and R&I in applying for funding to international funding programs ▪ Provides advice for applying standards of scientific ▪ Proposes and designs programs for the capacity building
MIE/ Dep of Innovation	▪ Proposes, drafts and ensures the implementation of policy documents/strategies in the field of innovation ▪ Proposes, drafts and ensures the implementation of legislation in the field of innovation ▪ Proposes public policies in view of carrying out innovative activities and initiatives	▪ Identifies and promotes projects focused on the field of innovation of all sectors ▪ Cooperates with government institutions for stimulating and promoting products, productions and services in the field of innovation; ▪ Leads and coordinates activities between public institutions, business community, governmental and nongovernmental organizations operating in the Republic of Kosovo in the field of innovation ▪ Responsible for establishing the Regional Innovation and Entrepreneurship Centres;

		▪ Responsible for promotion of innovations according to economic sectors and establishing coordinating mechanisms between science, private sector and policy-making ▪ Proposes structuring and leads programmes (funds) for innovation and entrepreneurship.
KASA	▪ Participation in formation of scientific activity policies ▪ Assessment of current situation and proposal of measures for advancement of scientific opinion	▪ Implement / conduct scientific projects ▪ organization of scientific research work ▪ preparing scientific publication
NSC	▪ Draft NRP ▪ Assess condition and its development of SR and technological activities ▪ Propose and stimulate taking of measures for the progress of scientific-research activity ▪ Examine issues related to the national system of innovations	▪ Gives opinion for the need of establishment, restructuring or abolishment of scientific-research institutions ▪ Assess if conditions/criteria are met for establishment of scientific-research institutes ▪ Submits to MEST the assessment of criteria for establishment of scientific-research institutes
The Scientific Innovation Council	▪ Prepares analyses and professional plans related to scientific innovative activity	▪ Selects the best international and national practices and proposes them to the government for application.
Universities		▪ Exercise scientific research activities ▪ Within faculties and study programs, may establish institutes or other SR units
Research Institutes		▪ Exercise scientific research activities in accordance with priorities of NRP ▪ Organize activities in the field of publications as well as SR information ▪ Cooperate with SR institutions of the country and the world ▪ Promote and transfer new technologies according to scientific achievements ▪ Promote integration of scientific system of Kosovo in European Scientific Research Area (ERA)
SC of MEST		▪ Assesses implementation of scientific-research projects ▪ Orientates the development of scientific fields in accordance with NRP ▪ Helps the drafting of the annual financial plan for science; ▪ Proposes distribution of funds for SR activities
SC of fields		▪ Conduct professional assessment of projects; ▪ Give opinion for funding of other scientific activities
Manufacturing development institutions		▪ Create scientific innovation, apply new technologies, make promotion and placement of products, services and technologies created by its scientific innovative and development work.
Business-technological Incubator		▪ Makes available working space, provision of administrative, technical and other services, newly created enterprises or institutions that perform scientific innovation activity in the first year of their establishment.
Scientific-technological park		▪ provides professional and infrastructural services to universities, scientific-research institutions and other institutions that deal with scientific innovation and that belong to a certain field of science.

Annex 2: Donors Projects

Table 1: World bank Projects

Projects	Commitment Amount (in MIL EUR)
Kosovo Digital Economy (KODE)	25.00
Kosovo Education System Improvement Project	11.00
Education Participation Improvement Project (EPIP II)	0.00
Education Participation Improvement Project	4.50
Education & Health Project	4.44
Institutional Development for Education Project	10.00

Source: World Bank[87]

Table 2:EU Projects

Project	Actual Disbursements (EUR)
IPA 2011 - Fostering youth innovation in Kosovo	273,400
IPA 2010 - Enhancing social Scientific Research in Kosovo and its integration into ERA	196,228
IPA 2009 - TA to draft the guidelines for applicants for Research and Capacity Development in Kosovo IPA 2009	23,850

Source: Aid Management Platform of the Government of Kosovo[88].

Table 2: ADA Projects

Project	Actual Disbursements (EUR)
Survey and research techniques for young researchers of the University of Prishtina	9,103.61
Multidimensional Project for the Implementation of an Institutionalized Partnership between Austria and Kosovo in the field of Higher Education, Research and Innovation	2,624,000
Higher KOS Promoting Institutional Development in Higher Education and Research in Kosovo	1,665,508
Higher Education Research and Applied Sciences (HERAS)	1,620,000
Fostering Youth Innovation in Kosovo	1,164,155.45
Capacity development to the Ministry of Education, Science and Technology in the elaboration of higher education and research activities in the context of EU-approximation and the European higher education	29,715
Innovation Labs - Connecting Youth with Kosovar Public Institutions through Private Sector Initiatives	500 000
Support of the Higher Education Reform	833,300

Source: Aid Management Platform of the Government of Kosovo[89]

[87] http://projects.worldbank.org/search?lang=en&searchTerm=&countrycode_exact=XK
[88] https://amp-mei.net/portal/
[89] https://amp-mei.net/portal/

Annex 3: ERA priorities and indicators, and Kosovo's estimation of baseline status

ERA Priority	ERA Indicator [91]		Prior estimation of Kosovo's baseline status	Actions to be taken
Priority 1: More effective national research systems	Input indicator	GBARD[92] as percentage of GDP (Eurostat)	By Law on Sc. Research this is set to 0.1% of National Budget. However, such indicator should be calculated again by all governmental funding allocated for R&I. This should include budgeting also allocated for higher education.	New calculation approach should be in place for this indicator for Kosovo.
	Output indicator	Adjusted Research Excellence Indicator (REI) (Source: JRC)	No calculation done in the past.	To check how Kosovo could generate data for calculating this indicator.
	Outcome/impact indicator	European Innovation Scoreboard Summary Innovation Index (EIS: SII)	No calculation done in the past.	To check how Kosovo could generate data for calculating EIS.
Sub-priority 2a: Optimal transnational cooperation	Input indicator	Participation in Public-to-Public Partnerships per researcher in the public sector (Eurostat and ERA-Learn 2020 report on P2P)	No calculation done in the past.	Calculation can be done looking to affiliation of researchers on co-publications.
	Output indicator	GBARD allocated to Europe-wide transnational, as well as bilateral or	No calculation done in the past.	Public funding allocated for full time employed international

[90] Taken from ERA progress Report 2018 (https://ec.europa.eu/info/sites/info/files/research_and_innovation/era/era_progress_report_2018-technical.pdf : retrieved 12-09-2019)
[91] Measurement of indicators are explained more in details in Era Monitoring Handbook 2018 (https://ec.europa.eu/info/sites/info/files/research_and_innovation/era/era_progress_report_2018-handbook.pdf : Retrieved: 13-09-2019).
[92] Government Budget Allocations for R&D

		multilateral, public R&D programmes per FTE[93] researcher in the public sector (Eurostat)		researchers should be checked.
	Outcome/impact indicator	International co-publications with ERA partners per 1000 researchers in the public sector (WoS and Eurostat)	No calculation done in the past.	Co-publications of Kosovar researchers should be checked.
Sub-priority 2b: European Strategy Forum on Research Infrastructures (ESFRI)	Input indicator	Share of developing ESFRI Projects in which a Member State or an Associated Country participates	This can be checked whether Kosovo is part of any research infrastructure projects.	
	Output indicator	Availability of national roadmaps with identified ESFRI projects and corresponding investment needs (ESFRI)	There is no roadmap document developed in Kosovo for research infrastructure.	
	Outcome/impact indicator	Share of operational ESFRI Landmarks in which a Member State or an Associated Country is a partner (ESFRI)	N/A for Kosovo?	
Priority 3: Open Labour Market for Researchers	Input indicator	Share of doctoral candidates with a citizenship of another EU Member State	This should be checked if such info is available	
	Output indicator	Researcher's posts advertised through the EURAXESS job portal per 1000 researchers in the public sector (EURAXESS and Eurostat)	Kosovo not yet member of EURAXESS, neither such info published there.	Only Kosovo from the counter of region not part of EURAXESS. This should be addressed by MEST in order to be part of it.

[93] Full-time equivalent

	Outcome/impact indicator	Share of researchers expressing satisfaction that the hiring procedures in their institution are open, transparent and merit-based (MORE2 and MORE3 Survey)[94]	MORE survey not applied yet in Kosovo.	Kosovo can adopt such survey to generate comparable results.
Priority 4: Gender equality and gender mainstreaming in research	Input indicator	Share of female PhD graduates (Eurostat)	This info should be available, just to calculate the %.	Data to be obtained by MEST/KAA.
	Output indicator	Gender dimension in research content (WoS)	This indicator estimation may be calculated from proportional sample research conducted by Kosovar researchers.	
	Outcome/impact indicator	Share of women in Grade A positions in HES[95] (WiS – Women in Science database)	To check how to calculate this indicator for Kosovo, since research positions are not well defined.	
Sub-priority 5a: Knowledge circulation	Input indicator	Share of product and/or process innovative firms cooperating with higher education institutions or public/private research institutions (Eurostat)	This indicator should be checked as inter-governmental, using databases from various ministries and state agencies.	To check info and data from: Universities MEST MTI Ministry of Ec. Dev. Ministry for Innovation Procurement agency ASK Other sources

[94] European survey on mobility of researchers
[95] Higher education sector

	Output indicator	Share of public research financed by the private sector (Eurostat)	To check if such data is available	
	Outcome/impact indicator	Number of public–private co-publications per million population (EIS)	No calculation done in the past.	Calculation can be done looking to affiliation of researchers on co-publications.
Sub-priority 5b: Open Access (OA)	Input indicator	RFOs providing funds to cover costs of OA publishing and share of RFOs' publications available in OA* and share of life sciences papers to which a country contributed and that have at least one open dataset in Figshare*	Identification of RFOs in Kosovo, and their sources of funded publications. Identified publications as OA	
	Output indicator	Share of publications available in open access (green and gold) (1findr and WoS)	Calculation to be checked from data obtained from WoS and 1findr	
	Outcome/impact indicator	Qualitative assessment of OA policies in NAPs and other information sources		

International dimension outside ERA (Priority 6)	Input indicator	International co-publications with non-ERA partners per 1 000 researchers in the public sector (WoS and Eurostat)	N/A for Kosovo, it refers to ERA member countries	In contrary, this can be calculated co-publications of Kosovo researchers with ERA countries
	Output indicator	Non-EU doctorate students as a share of all doctorate students (Eurostat)	N/A for Kosovo, it refers to ERA member countries	
	Outcome/impact indicator	Exports of medium and high technology products as a share of total product exports* and Knowledge-intensive services exports as percentage of total services exports* (EIS)	To check whether there are technology products developed in Kosovo and exported.	

Annex 4: Budget of R&I Institutions

Annual Budget (2014-2019) in EURO						
Institutions	2014	2015	2016	2017	2018	2019
Dep of Higher Education and Science (including NRF)	559,937	559,937	559,937	559,937	559,937	1,848,058
Academy of Science and Arts	1,126,000	1,144,252	1,084,851	1,094,851	1,240,364	1,356,427
Albanological Institute of Pristina	610,901	670,582	713,046	746,518	793,307	919,518
Institute of Histroy	335,005	390,352	424,306	525,675	646,422	720,988
Leposavic Institute	66,012	14,092	75,019	75,300	75,300	75,300
Pedagogical Institute	250,239	316,089	264,489	221,359	221,359	266,359
University of Pristina	29,731,253	30,636,805	28,548,052	€30,782,339	33,834,712	34,785,502
University of Prizren	3,154,349	2,927,199	2,788,768	2,493,346	2,633,346	2,826,772
University of Peja	2,432,230	2,793,766	2,532,956	2,376,823	3,026,823	3,628,197
University of Mitrovica	1,510,001	2,195,005	2,602,651	2,968,698	2,905,398	4,788,969
University of Gjilan	1,510,001	1,298,832	1,443,234	1,556,553	2,126,553	2,363,982
University of Gjakova	1,510,001	1,425,052	1,611,793	1,615,972	2,095,972	2,460,046
University of Ferizaj	N/A	NA	567,270	949,863	1,522,227	2,247,227
TOTAL of budget for HE and RI Institutions	42,795,929	44,371,963	43,216,372	45,967,234	51,681,720	58,287,345
TOTAL KOSOVO BUDGET	1,589,324,952	1,634,886,850	1,678,709,487	2,001,020,477	2,080,480,837	2,378,231,797
GDP	5,567,494,000	5,807,009,000	6,070,113,000	6,413,861,000	6,725,913,000	7,127,000,000*
BUDGET for HE and RI Institutions as % of GDP	0.77%	0.76%	0.71%	0.72%	0.77%	0.82%
HE and R&I budget as % of Kosovo Budget	2.69%	2.71%	2.57%	2.30%	2.48%	2.45%

Disclaimer:

This document has been developed with the support of HERAS experts in close cooperation with Ministry of Education, Science and Technology. The project HERAS is supported with financial assistance of Austrian Development Agency, with the Austrian Development Cooperation funds and with co-financing from Ministry of Education, Science and Technology, and is implemented by consortium, World University Service Austria (Lead Consortia), Center for Social Innovation (ZSI) and Austrian Agency for International Mobility and Cooperation in Education, Science and Research (OeAD). The views and opinions expressed herein, can in no way reflect the official opinion of the Austrian Development Agency nor the opinion of the implementing partners.

IMPLEMENTING CONSORTIUM

wus austria
right to education

ZSI

oead