



## **THE ROLE OF RUSSIAN EDUCATIONAL POLICY AND INTERNATIONAL SCIENTIFIC AND EDUCATIONAL COOPERATION IN THE DEVELOPMENT OF INNOVATION AND THE FORMATION OF "KNOWLEDGE TRIANGLE"**

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Dear colleagues!

Higher Education Institutions play a crucial role in the innovative development of the OECD countries. Due to that, innovations in the business field are depending more and more on the knowledge base of universities and their developments, strengthening this way links between industry and universities. The contribution of public universities is also significant: from the preparation of highly qualified personnel and the creation of new knowledge to the development of recommendations in the various areas of public policy, providing consultative support and the creation of intellectual property. But also, this task is extremely difficult, as it requires an availability of strong universities with sufficient research and educational potential. At the same time the increasing significance has the so-called "third mission" of the universities which consists of their relations with non-governmental organizations and the business communities.

In my speech, I would like to introduce you the key aspects of the Russian educational policy in the framework of international scientific and educational cooperation in the development of innovation and the formation of "Knowledge Triangle".

For the recent years, innovative development of Russia relies increasingly on the support of universities; Higher Education Institutions and international cooperation in science and education plays a key role in that. Systematic and consistent work is carried out in order to build the research, educational and innovative potential of Higher Education. In this context, 29 national research universities have been established in Russia, the hallmarks of which are:

- Ability to generate knowledge and to ensure effective transfer of technology to the economy;
- Conducting a wide range of basic and applied research;
- Availability of highly Masters trainings and highly qualified personnel, a developed system of retraining programs and continuing education;
- High innovation activity.

The main task of the state support of national research universities is an exit on a global level in terms of capacity building in science, high technology and professional education, development and commercialization in the Russian high technologies.



National research university is an integrated scientific and educational center, which exercises research and training for certain high-tech sectors of the economy.

Since 2010, a mechanism of subsidizing research and development and also technological work is carried out by industrial companies in cooperation with universities and research institutions, providing the co-funding of the enterprise spending on research, development and technological works. Over the past five years, 203 complex projects of high-tech production, 172 Russian industrial enterprises (in the framework of cooperation), and 87 higher educational establishments of public research institutions are created with the help of this mechanism. One of the examples by the cable plant "Kavkazkabel" and Kabardino-Balkarian State University; it was the development and production of the first cable in Russia from the latest generation, which has high values of thermal and fire resistance. The volume of sales of the new brand cable was 28 million USD at the plan in, and in 2014 it reached 35 million USD. At the moment "Kavkazkabel" is bringing the "nanocables" to the markets of Kazakhstan, Belarus and Azerbaijan.

International experience is very important for Russia, especially in the current context of the Strategy revision of innovative development of the Russian Federation, the development of new approaches in the framework of cluster policy, the long-term forecast of scientific and technological development of the Russian Federation up till 2030, lists of critical technologies, etc. Just due to the participation of universities, work as part of the revision of the OECD Innovation Strategy is activated. International cooperation of universities has become a key element for cooperation between Russia and the OECD, implemented at the level of the Government Plan of the Russian Federation; a large-scale work on the implementation of the provisions of the OECD Innovation Strategy in the national regulations in the field of science and technology innovation, industrial and health policies, and so on is launched. The work is based on the OECD guidelines, which were developed by the Skills Strategy, the Strategy "green" growth.

International experience in foresight studies, including those obtained through cooperation with the OECD, has been used successfully to create a national system of technology foresight in Russia, whose main task is the to identify the most promising new technologies and innovative solutions, as well as the identification of the market segments in which they will be in demand .

Not only talking about the OECD, but also about other areas of international cooperation in the field of STI with the participation of universities and research organizations, important and recent initiatives may be:

- Participation of Russian educational and scientific organizations within the international partnerships in the framework of the European Union's programs and the program "Horizon 2020". The «BILAT-RUS» and «ERA.Net RUS» initiatives, as well as their successors' «BILAT-RUS-Advanced» and «ERA.Net RUS Plus " initiatives were very successful in the proposal for common space creation for the research between Russia and EU. As part of the latest initiative in 2014 it has been allocated a total of € 25 million to support scientific cooperation between Russia and the European Union. Within the previous Initiative «ERA.Net RUS» 42 projects were financially supported with 10.5 million euro. Applications submitted more than a thousand universities, institutes and SMEs from Russia and the European Union.
- Since 2008, Shanghai Cooperation Organization operates on Asian territory as an international scientific and educational program similar to the system of unified European educational space created in the framework of the Bologna process;



- The creation of the BRICS Network University within the Research and Innovation initiative of the BRICS, which includes the implementation of mega-science projects, large-scale national programs, and also the development of joint research and innovation platforms.
- The creation of the Russian-French University, one of the main goals of which is the development of joint research. Implementation of various innovative programs aimed at improving the quality of education, and, in particular, language programs are planned. Among all the methods of interaction of the Russian-French University in the scientific field I would like to mention mutual scientific training, joint conferences, joint research, joint scientific articles, etc. Describing the Russian-French relations as a whole in the field of science and technology, it should be noticed that they have a very diverse and complex character and are developing steadily. Parties practice widely modern forms of cooperation, including the establishment of joint laboratories and participation in European research associations. Almost in all the areas of modern science and technology the new technological approaches in the priority areas of cooperation are developing; joint research in the field of astronautics, exact sciences, especially mathematics are taking place. Among them: contribution of Russia to the European Synchrotron Radiation Facility which is a long-standing scientific and technical collaboration existing among scientists and engineers from Russia and from the 20 ESRF Partner Countries, International Thermonuclear Experimental Reactor ITER which is carried out on the basis of the world's leading fusion programs in order to demonstrate the scientific and technical ability of fusion energy production for peaceful purposes, because the existing experimental thermonuclear plants produce small amount of the thermal energy through fusion, creation of the Poncelet Laboratory in mathematics, computer science and theoretical physics and many others.
- Scientific cooperation is also carried out within the cooperation of universities with a number of international organizations and international projects.
- In order to create the most favorable conditions for the development of international cooperation of Russian scientists, the project "Education in Russian" has been launched; it allows to learn Russian for free in an online regime. Along with the learning of the Russian language, it is proposed to take part in webinars which are devoted to methods of teaching Russian as a foreign language.

The Russian universities and public research organizations started playing an increasingly important role in the innovative development of the economy, acting as a driver of the structural changes and as coordinators of the important international initiatives. Therefore, the project "Knowledge Triangle", in which Russia plays an active role, is of a great interest to us.

It is expected that the work in this area will:

- Strengthen the connections of Russian higher educational institutions with the business sector and increase its contribution to the funding of science;
- Increase the academic mobility of Russian scientists, including the bilateral exchanges;
- Increase the independence of universities under the appropriate monitoring mechanisms for their effectiveness.



Thus, international experience shows a high efficiency of the funds offered within the "knowledge triangle" concept, in order to overcome barriers towards the innovation development. Countries with the best indicators of innovational activity are characterized by active and adjusted cooperation of universities with both enterprise and public sectors, and also within the international cooperation of universities in the areas of education and science. A number of important government initiatives was initiated during the recent years in Russia; these initiatives are aimed at the organization of co-operation in the "Knowledge Triangle". But at the time there is a necessity to increase the international cooperation within the "Knowledge Triangle" activities. The joint projects should be implemented not only in the framework of one country. It would be more efficient to create such "knowledge Triangle" where his edges would connect various countries.

Thank you for attention.