



JOINT PROJECTS AND DEVELOPMENT ACTIVITIES IN THE FIELD OF DIGITAL ECONOMIES AND INNOVATION OF SERBIA AND RUSSIA

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ABSTRACT

This paper conducts the analysis of bilateral cooperation between Serbia and Russia in the field of digital economy and innovation. At a meeting in Moscow in 2018, the Serbian Minister for Innovation and Technological Development and the Deputy Prime Minister of the Russian Federation for Digital Economy, Transport and Communications agreed on cooperation in the field of industry digitization, innovation, the Internet of things, big data technology and cyber security.

Descriptive, comparative, assay, and synthesis methods were used for this research. The paper describes a Russian digital economy project that exceeds \$24.5 billion, of which \$15 billion is planned to come from the Federal Budget. The project, which ends in 2024, envisages funding for education in the fields of information technology, digital literacy and artificial intelligence. Russia, together with Serbia, will implement a digital pilot project to assist in the movement of people and access to information for citizens of Serbia in Russia and citizens of Russia in Serbia.

The projects "Boiling Point" and "Smart City" are also described and analyzed, as well as the international exhibition "Russian Digital Cooperation at Universities", held at the end of October 2019 in Belgrade. The exhibition presents educational programs and promising projects in the field of digital economy that are being implemented at several Russian universities.

The first digital dialogue between Serbia and Russia, as part of President Vladimir Putin's visit to Serbia on January 17, 2019, concluded that innovation and the digital economy will play a key role in the development of Serbia-Russia relations in the future.

Introduction

On March 21, 2018, a meeting was held in the Government of Serbia in Belgrade regarding the issues of Russian-Serbian relations in the field of innovation and technology. The meeting was attended by the Minister of Innovation and Technology of the Republic of Serbia, Deputy Director of the Innovation Promotion Fund, Deputy Chairman of the Board and Development, Director of the Union of Information Technology Centers (ITC) of Russia, EEN-Russia (Enterprise Europe Network), project leader and vice rector of the Moscow State Institute of Electronic Technology (<http://ruitc.ru/news/>).

Possibilities of interaction in the field of education, innovation and technological development were discussed at the meeting, especially issues of organization and development of joint activities designed to improve the functioning and interaction of small innovative enterprises (MIP), educational institutions and organizations supporting MIP of Serbia and Russia.

After the meeting, an agreement was reached to sign a quadripartite agreement between the Serbian Ministry of Innovation and Technology, the Innovation Promotion Fund, the Union of Innovation and Technology Centers (ITC) of Russia and the Moscow State Institute of Electronic Technology in the near future. This agreement will provide a framework for future cooperation on the promotion of technological

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innovation between small innovative companies in both countries, as well as the organization and implementation of cooperation programs between the universities of Serbia and Russia.

Starting from the main activities of the ICT Union, such as: creation and development of favorable conditions for the development of small and medium enterprises in the scientific and technical field and the formation of a national (Russian) innovation system that provides support and development to ITC; implementation of the policy of activating entrepreneurial and scientific-technical activities; assistance in the creation of new innovative companies and support to existing ones; organization of interaction of scientific, educational, innovative organizations and businesses; facilitating the participation of scientific and innovative companies in Russian and international programs to support innovation, research and competitiveness. The agreement enabled opportunities for Serbia to be involved in most of these activities through international programs.

The agreement plans to create partnership networks between business and innovation support organizations, strengthen cooperation in joint research projects between Russia and Serbia, increase the level of competitiveness of small innovative companies on world markets and organize Russian-Serbian interuniversity cooperation.

This paper describes and analyzes some projects related to innovation and the digital economy in which Russia and Serbia are directly or indirectly involved.

1. The digital economy project in Russia, 2019-2024

The Digital Economy Project covers the period from October 1, 2018 to December 31, 2024. The goals of the project are increasing of the expenditures (at least three times compared to 2017) for the development of the digital economy, creation of a stable and secure information and communication infrastructure for faster transmission, processing and storage of large amounts of data available to all organizations and households and the use of mostly domestic software by state bodies, local governments and organizations (<http://static.government.ru>).

Table 1 shows the calendar of the most important events from 2019 to 2024, when the project ends.

Table 1. Calendar of events of the Digital Economy Project in Russia, 2019-2024.

Year	Event
2019	<p>Regulation of the legal status, infrastructure and procedures for the functioning of the Russian segment of the Internet.</p> <p>Normative regulation of the development of the digital economy in terms of remote biometric identification and signatures in the cloud, legalization of smart contracts, consumer protection for "business angels", access to public data management and state registers.</p> <p>Construction of an information system for monitoring and managing public communication networks.</p> <p>Adoption of a federal law regulating the creation and functioning of special legal regimes in the digital economy (so-called regulatory frameworks).</p> <p>The concept of creation and development of 5G / IMT-2020 networks in the Russian Federation.</p> <p>Development of a set of economic support measures for companies whose products have the status of telecommunication equipment of Russian origin.</p> <p>Development of a general scheme for the development of communication networks and infrastructure of cities; creating a national classification standard for data centers and a certification system.</p> <p>Defining requirements for service quality (SLA - Service Level Agreement), as well as for data infrastructure for state information systems and information resources of state authorities, state extra-budgetary funds and local self-government.</p>
2020	<p>Building a system for regulating the use of cyber-physical systems, including the Internet of Things.</p> <p>Legal regulation of pre-installation of domestic antivirus programs on all personal computers imported or produced in Russia.</p> <p>Development and commissioning of the state information system - Federal spatial data.</p>

2021	<p>Establishment of corporate and branch centers of state system for detection, prevention and elimination of the consequences of computer attacks.</p> <p>Based on domestic technologies, creation a safe digital environment for work in the LTE-450 standard (Long-Term Evolution) for the needs of the Ministries of Internal and Foreign Affairs of Russia and the Russian Guard.</p> <p>Creation of national standards for processing large data sets.</p> <p>Connection of state and local authorities to the Internet.</p> <p>Ensuring the connection of all federal executive bodies, through the integrated information system of the Eurasian Economic Union (EAEU) in order to initiate joint processes of the member states of that Union.</p> <p>Ensuring the provision of priority mass socially significant state (municipal) services in digital form and creation a standard workstation for civil servants that will be based on domestic software.</p> <p>Creation of a digital platform for research and development of digital end-to-end technologies.</p> <p>Commissioning of a commercial state integrated cloud platform.</p> <p>Construction of a geo-distributed system of data processing centers that will be disaster resistant.</p>
2022	<p>As part of the Digital Earth Project, the creation of a domestic digital platform for the collecting, processing, storage and dissemination of data for remote observation of the Earth from space.</p>
2023	<p>Introduction of an interdepartmental system for the management of electronic documents with the use of electronic signatures in federal and regional executive bodies.</p> <p>Construction platforms for the exchange of information between the state, citizens, commercial and non-profit organizations (infrastructure "Digital Profile").</p>
2024	<p>Construction of a universal digital platform for inventory, accounting and monitoring of all types of energy resources of property complexes.</p> <p>Creation of a secure digital environment for audio-visual interaction of government agencies, organizations and citizens at the federal, regional and municipal levels.</p> <p>The beginning of the functioning of the system of distributional situational centers of the highest state authorities.</p> <p>The beginning of the functioning of the electronic passport for the citizens of the Russian Federation.</p> <p>Creation of a satellite communication system for spacecraft in highly elliptical orbits.</p> <p>Creation of a unique electronic cartographic basis.</p>

Source: <http://static.government.ru/media/files/3b1AsVA1v3VziZiP5VzAY8RTcLEbdCct.pdf> (October 21, 2019)

The value of the project is around 25 billion dollars, of which 15 billion is planned from the Federal budget of Russia. The project envisages financing the improvement of education in the field of information technologies, raising digital literacy and developing artificial intelligence. In the coming period, Russia, along with Serbia, will implement a digital pilot project to help people move and access information from the citizens of Serbia and Russia in both countries.

The Boiling point project in Russia

The first Boiling Point Project was opened in Moscow in the fall of 2013. Today, Boiling Points have been opened in 19 cities in Russia. One of the main tasks of the Boiling Point Project is to popularize working professions among young people. The first Technological Boiling Point was opened in Ivanovo on the basis of a composite factory. Boiling Point visitors can observe all phases of the production process, participate in trainings and competitions for professional skills.

Ivanovo Composite Factory produces carbon office furniture, ultra-light construction elements for bicycles and suitcases, and the plans include the production of skateboards and longboards under its own brand and other products. A certain amount of products is distributed in the domestic market, and the rest

in the foreign market. The Technological Boiling Point in Ivanovo is a new format of collective workspace, in which students can immediately apply the knowledge gained in lectures in the first and second cycle of studies and other educational theoretical and practical events in real production. This will enable wider participation of beginners, project managers and experts in the technological process.

Unlike other Boiling Points, which have already been opened in 20 cities in Russia, the technological center for joint work will be focused on the development of a modern production and technological base. During the functioning of the Center, there was a readiness to unite people from practice and those who want to adopt that practice. The factory not only works with innovative materials, but is also an example of production in which management is digitized at all stages of production and at all levels of management.

Earlier, the city's Boiling Point was opened in Ivanovo in May, 2017. Thus, the city of Ivanovo became the first in Russia to have two Boiling Points. In the fall of 2019, the opening of the third – Children's Boiling Point is planned in Ivanovo.

Boiling Point Network

Boiling Points have been created with the support of ASI within the program of the National Technology Initiative since 2014. The centers are intended for scientists, businessmen and technology entrepreneurs, civil servants, members of public organizations and professional communities, students, theorists and practitioners. In such centers, experiences and results of activities can be exchanged, and new development models can be developed together. Currently, Boiling Points operate in St. Petersburg, Ivanovo, Petrozavodsk, Novosibirsk, Vladivostok, Khabarovsk, Tomsk, Ulyanovsk, Chelyabinsk, Obninsk, Lipetsk, Irkutsk, Kaluga, Yakutsk, Yoshkar-Ola, Belgorod, Yekaterinburg, Chita and Noviti. asi.ru/nti/).

The first Boiling Point - Vladivostok, in the Far East of Russia, was launched at the Federal University of the Far East (FEFU) with the support of the Agency for Strategic Initiatives (ASI). The space for cooperation will become a platform for interaction between project leaders of the National Technology Initiative and will be specialized in solving the issue of the digital economy. The agreement on the creation of the Boiling Point was signed by the interim president of FEFU and the head of the project Young Professionals of the Agency for Strategic Initiatives, at the Russian forum of information technologies.

The university is located near the world industrial centers of the Asia-Pacific region, and this is a great challenge for the development of high-tech areas in the Russian Far East. One of the key tasks of the Boiling Point is to show talented students that there are all possibilities for their own realization in the country and connecting, through projects, researchers at the world level.

The Boiling Point is a place for creation of the projects that should change the world for the better, and FEFU is able to train experts and develop startups and new branches of the economy. The university relies on the field of information technology, maritime navigation, biomedicine and robotics and other areas. The Boiling Point is a space of teamwork designed to promote the implementation of the National Technology Initiative (NTI) and the development of the economy of the future. This project for the Far East was created with the support of the Agency for Strategic Initiatives (ASI), Academpark and Novosibirsk State University, and it started working on September 14, 2017. Effective communication between government officials, companies, technology entrepreneurs and members of public organizations is being built here to create new models of regional development.

The Boiling Point brings together talents to solve the tasks and problems that Russia is facing. It is a place where experts can work according to common rules, implement joint projects and help each other. The specific goal of this part of the Boiling Point Project is the development of the Far East.

ASI has developed a new format for electronic collaboration space that has been applied since 2014. In three years, more than 3,000 events were held at the Moscow Co-working Center, attended by more than 150,000 people. The Boiling Point in Vladivostok is the fifth in Russian areas. After Moscow, they were opened in St. Petersburg, Ivanovo, Petrozavodsk and Novosibirsk.

The first event at the Boiling Point at FEFU was the Russian MeetUp, a global information technology community forum. Company managers, information technology experts, federal and international experts, students, faculties and scientists discussed new projects for the development of the digital economy in the Far East and Russia as a whole, launching information technology startups on world markets and the role of universities in these processes.

In the Academpark, the Boiling Point accumulates the best intellectual resources in the region. The platform brings together working groups dealing with training issues for future markets, discussing

prospects for the development of breakthrough end-to-end technologies, developing products that will increase duration and improve quality of life, intelligent management systems and the like. The focus is on the best practices of education, development of small and medium entrepreneurship, perspective ideas for business, social projects, regional strategic initiatives, etc.

The multi-format and multi-thematic program of the Boiling Point event includes informal meetings of professional communities and large business forums, conferences and non-stop hackathons. The name hackathon comes from the words hack (hacker - hacker) - and marhaton (marathon). It is a forum of developers, during which experts from different fields of software development (programmers, designers and managers) solve the problem together. Hackatons usually last from one day to one week (<https://tass.ru/ekonomika/6012161>).

Boiling Point project in Belgrade

During 2019, conditions were created for the first international Boiling Point to be opened in Belgrade, as early as April 2020. This event will enable daily dialogue and exchange of best practices. Earlier, Russia and Serbia agreed on cooperation in the development of digital technologies. The relevant memorandum was signed during the official visit of Russian President Vladimir Putin to Serbia. Also during the visit, a memorandum of understanding was signed between the Agency for Strategic Initiatives of Russia (ASI), the Russian Entrepreneurship Company (RVC), VEB Innovations and the Government of Serbia, as well as the Digital Serbia Initiative on cooperation in innovation and technological development (<https://www.netokracija.rs/srbija-tacka-kljucanja-153424>).

The first Serbian-Russian forum Digital Dialogue was held on January 17, 2019 in Belgrade. The first space of collective work, the Boiling Point, could be opened in the capital of Serbia in April this year, said the Serbian Minister of Innovation and Technological Development, on January 17, 2019, at the Forum for Digital Dialogue in Belgrade. Business improvement in Serbia has great prospects in cooperation with Russian technology companies. The Serbian government plans to retrain several thousand employees during the year. Some of them will be able to pass the necessary educational modules, including those provided by the Russian University project 20.35 in Belgrade's Boiling Point (https://www.rvc.ru/eco/education/2035_university/, October 21, 2019). It is planned to create new formats for the interaction of Russian and Serbian technological leaders, products, services and companies, and to create new opportunities for educational and technological transfer between the two countries. The result of the work will be strong joint Russian-Serbian projects.

The Smart City Project

The Smart City Project is aimed at increasing the competitiveness of Russian cities, creating an efficient city management system, safe and favorable living conditions for citizens and it is based on 5 key principles: (1) human orientation, (2) urban technology infrastructure; (3) improvement of the quality of urban resource management; (4) favorable and safe environment (5) focus on economic efficiency, including the service component of the urban environment (<https://russiasmartcity.ru/about>)

The main means of realizing these principles is the widespread adoption of advanced digital and engineering solutions in urban and communal infrastructure. The goal of Smart City is to digitally transform and automate processes and to comprehensively increase the efficiency of urban infrastructure. The project is being implemented by the Ministry of Construction and Housing and Communal Services of the Russian Federation within the national projects Housing and Urban Environment and Digital Economy. A working group for the implementation of the Smart City Project has been formed within this Ministry, which includes representatives of all interested federal and regional authorities, representatives of the housing and communal services sector, technological development engineers, the professional community, universities and competence centers, as well as leading international experts.

With the support of Rostech, Rosatom and Rostelecom, the National Competence Center of the Smart City Project has been created, which will develop, implement and popularize technologies, equipment, programs to improve the digitalization of the city economy, as well as prepare and provide to assist international cooperation projects in the field of housing policy, urban development and natural resource management, which are primarily related to the creation and functioning of smart cities. In addition, the

National Center of Competence in cooperation with the Center for Strategic Research (CSI) has developed the concept of smart cities in Russia.

Digital Dialogue Between Serbia and Russia

In the new digital era it is necessary to build new relations between Russia and Serbia, at the same time respecting old traditions. The decisions that are made today will affect the quality of life in the coming years. An example of a new relationship could be the opening of a collective workspace Boiling Point in Belgrade. In this space, it will be possible to conduct daily dialogue and exchange best practices. The startup will be able to find investors, the necessary staff, managers - members of a quality team and students. Advanced students will be able to complete a personalized digital education program in accordance with the world's best technologies and standards.

As far as professions are concerned, new professions and professional orientations will appear. For example, in finance, instead of a financier, there will be different professions - a financial technologist, i.e. a man who can manage and establish business processes and synchronize the work of man and robot. So, we are no longer talking about computers, but about robots. The financial technologist will be able to synchronize, establish and increase work productivity. However, a new standard is expected to come from the Ministry of Education. The scientific community and education will be involved in the preparation process (<http://tv-gubernia.ru/programmy>, November 7, 2019).

Serbia and Russia are building a common vision of innovative growth. Innovations and the digital economy will play a key role in the development of relations between Serbia and Russia in the future, it was concluded at the first Digital Dialogue between Serbia and Russia, which was held in Belgrade, as part of Russian President Vladimir Putin's visit to Serbia. (<http://www.rts.rs/page/stories/>, January 17, 2019)

During the opening of the Digital Dialogue, the representatives of Serbia, led by the Prime Minister, pointed out that Serbia sees the 4th industrial revolution as a huge opportunity for further faster and more sustainable development. The Serbian government is making efforts in three major areas to make society, the economy and the state successful during the digital age, namely investing in education, a stimulating business environment and digital public services. As of January 1, 2019, Serbia has introduced very significant tax incentives to support all companies that contribute to the development of the knowledge economy. It was pointed out that Serbia has a unique potential to become a quality hub for Russian high-tech companies that are invited to open their offices and development centers in Serbia.

The Minister of Innovation and Technological Development of Serbia emphasized that this is the first digital dialogue between the two countries, and that it will be held at least twice a year, alternately in Serbia and Russia. The goal is to develop cooperation between the two countries, but also between Serbian and Russian companies in the field of innovation and the digital economy. That is the vision of the presidents of the two countries. Creating new value through innovation and digitalization represents the future of relations between Serbia and Russia. It was announced that the digital and innovation center Boiling Point will be opened in Serbia in 2019, following the example of such centers that already exist in Russia. With the formation of the Boiling Point in Serbia, this concept is expanding beyond the borders of Russia and represents a great opportunity for the innovation ecosystem of Serbia and its startup company (<https://inovacije.gov.rs/>, January 17, 2019).

The President of the Serbian Chamber of Commerce pointed out that, in addition to strengthening economic ties in traditional business segments of the two countries, such as energy, infrastructure and agriculture, it is especially important for the Serbian economy to open a new field of cooperation - in innovation, digitalization and modern technologies. The agreements signed in this area and the first Russian-Serbian digital dialogue will contribute to the exchange of information on cooperation opportunities, and enable the Serbian information and communication technology industry, which is constantly growing, to enter the large Russian market, export innovative, digital solutions and products of Serbian mind and knowledge, connecting with high-tech Russian companies that already recognize Serbia as their hub in this region and the implementation of joint projects for the development of digital platforms and advanced technologies.

The first digital dialogue between Serbia and Russia gathered over 60 leading Serbian and Russian technology companies. Topics such as innovation financing, innovation infrastructure development, innovation solutions and new technologies in the fields of artificial intelligence, agriculture, critical

infrastructure and energy, finance, education, creative industries and smart cities were discussed at the central panel and several thematic round tables.

In addition to leading Russian private companies in the field of innovation and digitalization, representatives of key Russian state institutions for the development of innovation and innovation infrastructure, the Agency for Strategic Investments of the Russian Federation (ASI) and the Russian Venture Company (RVK) also participated in the Digital Dialogue.

At the meeting between the Minister of Innovation and Technological Development of Serbia and the Minister of Industry and Trade of the Russian Federation, it was assessed that cooperation in the field of digital economy is the future of bilateral relations between the two countries. The Minister of Innovation and Technological Development of Serbia pointed out that Serbia is the only country in the world that has duty-free agreements with Russia and the European Union. Many companies from the European Union are investing in Serbia in order to have access to the large Russian market through Serbia, while at the same time, an increasing number of companies from Russia see Serbia as a place where they could expand their business in Europe. Lately, Serbia has been a leader in attracting foreign investments in Europe, thanks, above all, to the excellent incentive policy towards investors, but also to quality engineering human resources. Serbian engineers are one of the best in the world. This is especially important for attracting investments in the field of innovation and digital economy, so the future of the development of bilateral relations between Serbia and Russia can be seen in that. These investments create added value for the economy and lead to the creation of new high-tech jobs.

The Russian Minister of Industry and Trade emphasized that Russia wants to deepen the traditionally good political and economic relations with Serbia. He confirmed Russia's readiness to intensify economic cooperation with Serbia in the field of innovation and digital economy. Russia is interested in participating in third markets together with Serbia, such as the markets of Africa and the Middle East, where there is great potential for growth and development.

Exhibition of Russian digital cooperation at universities

The first international exhibition Russian Digital Cooperation at Universities was held from October 25 to October 28, 2019 at the Russian Center for Science and Culture ("Russian House") in Belgrade. The goal of the exhibition was the exchange of experiences and joint planning of further cooperation, successful selection and admission of foreign students to Russian universities. The exhibition presented educational programs and promising projects in the digital economy that have been implemented at Russian universities: Russian University of Economics "G.V. Plekhanov", Innopolis University, Moscow Institute of Energy (MEI), Financial University under the Government of the Russian Federation, Bashkir State University, Institute of Management Problems" VA Trapeznikov "and others. Russian experts, university representatives and business partners shared their experience and knowledge with exhibition visitors on a daily basis.

The business program included lectures, practical classes, round tables and workshops (<https://novaekonomija.rs/vesti>, November 7, 2019). The business program includes lectures, practical classes, round tables and workshops (<https://novaekonomija.rs/vesti>, November 7, 2019).

The key topics of the event were online education, virtual and augmented reality, artificial intelligence, higher education institutions as a platform for training digital economics experts, transformation of higher education institutions and educational programs within digitalization, digital university model and digital cooperation of higher education institutions and large companies.

Visitors of the exhibition and participants in the work program discussed the main world trends in the field of digital economy, perspectives of interactive technologies, practical application and social significance of the digitalization process. The initiator of this event was the Federal Agency for the Affairs of Independent States, compatriots living abroad and international humanitarian cooperation of the Russian Federation (Rossotrudnichestvo).

Conclusion

The paper deals with Russian projects and activities related to innovations and the digital economy in which Serbia has little participation, but also activities and projects in which Serbia has joint activities with Russia.

The Boiling Point and Smart City projects are also described and analyzed, as well as the international exhibition Russian Digital Cooperation at Universities, which was held at the end of October 2019 in Belgrade. The exhibition presents educational programs and promising projects in the field of digital economy that are being implemented at several Russian universities, which are being implemented in Serbia within the framework of bilateral cooperation between Serbia and Russia.

The first digital dialogue between Serbia and Russia, as part of the visit of the President of Russia to Serbia on January 17, 2019, concluded that innovation and the digital economy would play a key role in the development of relations between Serbia and Russia in the future.

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