



Russia – OECD: Monitoring of Science, Technology and Innovation Policies

Contents

Russia	3
The current year declared Russian Year of Science and Technology.....	3
New Basic Research Programme developed	3
The Priority-2030 programme approved.....	3
The government will start monitoring productivity of research projects	3
Decisions were made to upgrade research equipment	3
Reform of development institutions began	4
Seamless integration of innovation support initiatives agreed.....	4
New special economic zones to appear in Omsk and Krasnoyarsk	4
Composite Valley innovation centre to be established in Tula	4
Russia is stepping up production of vaccines and medical equipment.....	5
Digital transformation of economic sectors will be accelerated	5
Implementation of artificial intelligence technologies will be supported.....	5
Special legal regimes for digital technologies are in place	6
New mechanisms to support application of Russian software are being introduced.....	6

Global agenda	6
UN declares 2021 “International Year of Creative Economy”	6
India takes over BRICS presidency	6
New Horizon Europe Framework Programme approved	6
EU to reform its digital markets	7
European Commission invests in innovative start-ups	7
Ireland: public service innovation	7
Malaysia: an ecosystem of foundations to facilitate technological breakthroughs.....	7
India: new science, technology, and innovation policy	8
Cooperation with the OECD	8
OECD publishes new Science, Technology and Innovation Outlook	8
Increasing public trust in data technologies	8
Commentary	9

HSE Institute for Statistical Studies and Economics of Knowledge (ISSEK) continues to monitor state science, technology, and innovation policies. The first issue in this year presents initiatives regarding the Russian Year of Science and Technology, reforming development institutions, and facilitating the digital transformation; measures aimed at fighting the COVID-19 pandemic, and promoting economic recovery that are currently being implemented in Russia and the leading countries of the world; and related OECD recommendations.

Russia

The current year declared Russian Year of Science and Technology

[Presidential Decree of December 25, 2020 no. 812 “On the Year of Science and Technology in the Russian Federation”](#) was adopted. The initiative extends the state support for the development of science that has proved its particular importance for strengthening people’s safety and security, improving their quality of life, and responding to long-term global challenges and socio-economic shocks, such as the COVID-19 pandemic. The [Plan of the Main Activities of the Russian Year of Science and Technology](#), which shall include long-term national goals, is scheduled to be completed by the end of January 2021 to be launched on February 8 (Russian Science Day). Working groups comprising scientists, representatives of relevant companies and federal agencies were established to develop specific sections of the Plan.

New Basic Research Programme developed

The RF Government ([instruction of December 31, 2020 no. 3684-r](#)) approved the Long-term Basic Research Programme 2030. It is dedicated to obtaining new knowledge about fundamental laws governing development of man, society, and nature, which will enable the support the country’s sustainable scientific, technological, socio-economic and cultural development, strengthen national security and secure leadership in the global long-term scientific agenda.

The Programme includes 6 sub-programmes and a list of priority basic and exploratory S&T areas for 2021-2030; the funds will be provided via the national programmes “Scientific and Technological Development of the Russian Federation” and “Development of Healthcare”. Unlike the previous programme (for 2013-2020), the new document covers all basic research regardless of departmental affiliation.

The Priority-2030 programme approved

The Strategic Academic Leadership Programme “Priority-2030” was approved for implementation in 2021-2030 in the scope of the “Science and Universities” national project ([RF Government instruction of December 2020, 31 no. 3697-r](#)). This ten-year programme continues the [Project 5-100](#) aimed at improving the global competitiveness of Russian universities, and the programme for supporting flagship universities. The main funding tools are grants provided to participating universities.

The regulatory framework for competitive selection of beneficiaries will be developed by the Ministry of Science and Higher Education of the Russian Federation by March 1, 2021. Up to 120 universities are expected to be selected at the first stage.

The government will start monitoring productivity of research projects

It is planned to introduce a new system for assessing research projects’ results ([RF Government Regulation of December 30, 2020 no. 2381](#)). The distribution of over 350 billion roubles (4.7 billion USD) from the federal budget on applied research of civil S&T will depend on the productivity of the previously carried out R&D. Newly created and registered intellectual property with at least 50% of the total funding received from non-public sources will be taken into account. The [Unified State Information System for Civil Research and Technological Development](#) will be used for assessment purposes. All projects receiving public support must be recorded there.

Decisions were made to upgrade research equipment

Universities and R&D institutions that own shared research equipment centres and unique scientific installations will receive funding to upgrade them, and procure additional equipment ([RF Government Regulation of December 28, 2020 no. 2296](#)). Grants of up to 50 million roubles (680 thousand USD)

per year for up to 3 years will be provided in the scope of Sub-Programme 5 “Infrastructure for R&D, S&T, and innovation activities” of the “Scientific and Technological Development of the Russian Federation” national programme. The grant money may be used to pay salaries and purchase materials and software. More than 4 billion roubles (54 million USD) will be allocated for these purposes from the federal budget in the next three years.

Reform of development institutions began

Its main goal is to increase development institutions’ efficiency, eliminate duplicate functions, and optimise current expenditures. An interdepartmental working group was established to optimise the organisational structure of development institutions ([RF Government instruction of November 24, 2020 no. 3093-r](#)); the 2021 plan of the reform was approved ([RF Government instruction of December 31, 2020 no. 3710-r](#)); methodological recommendations on development and application of key performance indicators were issued ([RF Government instruction of December 28, 2020 no. 3579-r](#)), along with requirements for the format and contents of institutions’ reports ([RF Government Regulation of December 2020 31, no. 2447](#)).

The action plan (road map) includes lists of institutions to be handed over to the VEB.RF State Development Corporation (12 organisations including the Industry Development Fund and the Innovation Promotion Fund, Skolkovo Foundation, RUSNANO JSC), liquidated (6 organisations), and upgraded (12 organisations; in particular, the Russian Science Foundation will be merged with the Russian Foundation for Basic Research).

Seamless integration of innovation support initiatives agreed

The Russian Direct Investment Fund, Russian Venture Company, Skolkovo Foundation, Innovation Promotion Fund, Infrastructural and Educational Programmes Fund, and National Technology Initiative Platform signed a [memorandum](#) on launching in 2021 a mechanism for seamless integration of innovation support initiatives, based on stepping up information exchanges between these development institutions.

The plan is to create an efficient mechanism for accelerating companies’ growth, from recruitment and team building to commercialisation and industrial application of technologies. Companies will be able to receive appropriate support, primarily financial, at each stage of the life cycle. A success at one stage gives the company an advantage if it applies for support at the next growth phase. There are also plans to reduce the administrative burden on technology entrepreneurs, including reduced reporting obligations and improved quality of services provided.

New special economic zones to appear in Omsk and Krasnoyarsk

The RF Government approved the initiatives to establish new special economic zones (SEZ) in the Omsk and Krasnoyarsk Regions (RF Government Regulations of [December 29, 2020 no. 2347](#) and [December 29, 2020 no. 2332](#)). The total amount of investments by potential residents at the first stage is expected to [exceed 39 billion roubles](#) (530 million USD). The decisions aim not only to promote integrated modernisation of these regions’ industrial complexes but also launch new investment cycles, and create favourable conditions for attracting and retaining skilled personnel. In the Krasnoyarsk Technology Valley, the focus will be on promoting development of the aluminium industry, and in Omsk (SEZ Avangard) – on petrochemical projects.

Composite Valley innovation centre to be established in Tula

Composite Valley S&T Innovation Centre (STIC) will be created on the basis of the Tula State University ([RF Government Regulation of January 21, 2021 no. 26](#)), to bring together students, scientists, and representatives of businesses. The Tula centre will become the third STIC, along with the Sirius STIC in Sochi and the MSU Vorobyovy Hills STIC established in accordance with the “technology valleys” law no. 216-FZ which provides for a special legal regime for research, application of innovative solutions, and production activities.

The 29-hectare territory will host an S&T testing ground, an innovative development and experimental chemistry centre, BRICS Anthropogenic and Environmental Safety Centre, pilot production lines, and experimental production facilities. The Ministry of Economic Development, Ministry of Finance, and

Ministry of Science and Higher Education of the Russian Federation are developing a road map and plan to fund the establishment and operation of the new STIC.

39 companies confirmed their participation in the project, including ROSATOM State Corporation, Roscosmos State Corporation, Gazprom Neft PJSC, UNIHIMTEK State Corporation, RSC Energy PJSC, and UAC PJSC. The centre will specialise in multifunctional materials, chemical components and production technologies; modelling, design, and production of composite products; new environmentally friendly closed-cycle small-scale chemical production technologies; catalytic materials; and production technologies for chemical products for agriculture and petrochemical industry.

Russia is stepping up production of vaccines and medical equipment

The FORT company (Natsimbio holding of the Rostech State Corporation) is stepping up production of the innovative Ultrix Quadri vaccine of the latest generation against four current influenza virus strains. The product complies with the World Health Organisation's recommendations on inactivated vaccines, and is produced using a full-cycle technology meeting international GMP standards. [According to the company](#), 10 million doses of the Ultrix Quadri vaccine were produced in 2020. As of 2021 the supplies will be scaled up both in the domestic and international markets.

An almost twofold increase in the production of medical equipment (in particular for combating COVID-19) was [achieved](#) in 2020 by the POZIS company (Technodinamika holding of the Rostech State Corporation). First of all, it is medical refrigeration equipment, pharmaceutical refrigerators and freezers (to store blood, plasma, vaccines, etc.). All equipment meets the stringent "cold chain" requirements ensuring that medical substances are stored in a stable temperature environment in line with GMP standards. The production of disinfecting equipment over the past year increased 8.5 times, including bactericidal irradiator recirculators, the demand for which is steadily growing.

Digital transformation of economic sectors will be accelerated

The RF President [instructed \(Pr-2242 p.1g, 2\)](#) to develop and approve digital transformation strategies for the key sectors of the economy, the social sphere, and public administration, to achieve "digital maturity" (the RF Government should accomplish this by July 1, 2021, and heads of Russian regions by September 1, 2021, respectively). The strategies should provide for application of competitive Russian-made software and firmware, including those based on artificial intelligence (AI) technologies. Also, the RF Government ([Regulation of October 10, 2020 no. 1646](#)) instructed the federal executive authorities to develop and approve departmental digital transformation programmes for 2021-2023.

Implementation of artificial intelligence technologies will be supported

Following the conference "Journey to the World of Artificial Intelligence" held on December 4, 2020, the RF President approved a [list of instructions \(Pr-2242, para 1 "a-c"\)](#) for the RF Government to support the implementation of digital technologies.

Already in May 2021, the federal laws should be adopted to regulate application of experimental legal regimes in certain sectors of the economy and the social sphere to promote application of AI technologies. Also, relevant measures will be adopted (including tax incentives) to promote companies' investments in development and application of domestic software and firmware based on AI technologies. In July 2021, new legislation will appear to provide access to data stored in state information systems to developers of AI-based technological solutions.

In turn, the Ministry of Economic Development of the Russian Federation prepared, and in January of this year posted on its website for public discussion, a [package of draft RF Government Regulations](#) on the rules of subsidy provision to promote development of AI technologies; the total amount of federal funding in 2021-2023 is envisaged to exceed 16.5 billion roubles (220 million USD). The funding will be provided to support pilot projects to test such technologies in priority industries; to support small businesses which create and apply products, services, and solutions using AI technologies; to R&D centres, etc. A number of activities described in these draft regulations also provide for attracting non-public funding.

Special legal regimes for digital technologies are in place

As of January 28 of this year, the [Federal Law of July 31, 2020 no. 258-FZ “On Experimental Legal Regimes \(ELR\) in the Field of Digital Innovations”](#) drafted by the Ministry of Economic Development of the Russian Federation to facilitate application of digital innovations became valid. The exemption from certain current regulations allows, [for example](#), to use anonymised data stored in state information systems, or provide advanced telemedical services. ELR provide the experiment participants exceptional conditions for developing specific technologies.

New mechanisms to support application of Russian software are being introduced

The RF Government approved a list of Russian software for mandatory pre-installation on certain types of “technically advanced devices” ([instruction No. 3704-r of December 31, 2020](#)). The requirements come into force on April 1 this year. The list of domestic applications recommended for preinstallation was drafted by the Ministry of Digital Development of the Russian Federation. Of the 16 smartphone and tablet applications, 11 were designed by Mail.ru and Yandex: Yandex.Browser, Yandex Search, Yandex.Maps, Yandex.Disk, Mail.ru Mail, etc. For desktop and notebook computers MyOffice Standard. Home version, for example, was designed.

Global agenda

UN declares 2021 “International Year of Creative Economy”

At the 74th session of the UN General Assembly, 2021 was declared [International Year of Creative Economy for Sustainable Development](#). Indonesia came up with the initiative, joined by Australia, China, India, Mongolia, the Philippines, Thailand, and a number of other countries. The adopted resolution recognises the need to “promote sustainable and inclusive economic growth, foster innovation and provide opportunities, benefits, and empowerment for all, and respect for all human rights”; provide support to “developing countries and countries with economies in transition in diversifying production and exports, including in new sustainable growth areas, including creative industries”. The document calls on all stakeholders to celebrate the International Year in accordance with national priorities to raise awareness, encourage cooperation and networking, facilitate exchanges of best practices and experience, build up human potential, create an enabling environment for development, and tackle the challenges of creative economy. The [Year's programme](#) includes the Sustainable Innovation Forum (March, Surrey, UK/online), the Cultural Summit (March, Abu Dhabi, UAE/online), two global creative economy conferences (Bali, Indonesia in May, and Abu Dhabi in December), and numerous other global and regional events hosted by international UN organisations.

India takes over BRICS presidency

On January 1, 2020, India took over the BRICS chairmanship from Russia. This is the country’s third presidency since the creation of the association (previously, India presided over BRICS in 2012 and 2016). Its key priorities for the chairmanship were announced by the Prime Minister Narendra Modi in his [speech](#) at the 12th BRICS Summit on November 17, 2020. Among them are fighting terrorism, and improving the performance of structures such as the UN Security Council, International Monetary Fund, World Trade Organisation, and World Health Organisation. Also plans were announced to step up BRICS countries’ cooperation in healthcare and digital medicine.

New Horizon Europe Framework Programme approved

The new six-year [EU Research and Innovation Framework Programme Horizon Europe](#) was launched in 2021. It aims to promote economic growth, trade, and investment, and scale up social and environmental effects. The Horizon Europe 2021-2027 budget will amount to approximately EUR 95.5 billion (115 billion USD).

The programme is focused on the EU’s strategic priorities. These include economic recovery, green and digital transformation, improving quality of life; strengthening the role of science and technology in the EU by increasing investments in training highly skilled personnel and cutting-edge research;

strengthening competitiveness and promoting innovation in the EU's industrial sector; and facilitating access to advanced scientific experience for researchers across Europe.

The programme's key new features are related to supporting breakthrough innovations; involving the public in solving social problems; optimising the number of public-private partnerships; increasing openness to third countries with a potential in the field of science, technology, and innovation; promoting open science policies; coordinating Horizon Europe with other EU programmes; and reducing the administrative burden on programme managers and beneficiaries.

EU to reform its digital markets

The European Commission is planning an extensive reform of the EU digital environment, which would affect digital services and online platforms, in accordance with the [Digital Services](#) and [Digital Markets](#) Acts, aimed at protecting consumer rights, creating an open digital market, and supporting start-ups.

The *Digital Services Act* defines the responsibilities of online service providers based on their size and market importance. All digital market players will be divided into 4 groups (from niche ones to major online platforms) according to their impact on the EU economy.

Companies in all groups will have to submit reports on the transparency of their activities ("transparency reporting"), under certain circumstances cooperate with national governments, and have legal representatives in the EU. *Big players* are required to audit external risks, ensure transparency of their user recommendation systems, if necessary, provide access to data for research purposes, etc.

The *Digital Markets Act* describes the approaches to identifying dominant online platforms, and sets specific rules that will apply to them. The criteria include economic importance for the EU markets, prolonged steady operation in these markets, number of active users and transactions between them, etc. Companies meeting these criteria must open access to data aggregated by the platform to commercial users; provide access to their services to third parties; allow commercial users to promote their own products and enter into contracts with customers outside the platform; and monitor the advertising tools they use. They may be prohibited from prioritising their own products and services in the search results displayed on their platforms; restricting consumers' dealings with companies outside the platform; and limit customers' right to install/uninstall third party applications and software tools.

European Commission invests in innovative start-ups

Earlier this year the European Commission announced the first round of direct investment in innovative start-ups. The [European Innovation Council Fund](#) was established to provide financial assistance to young technology companies moving on from R&D to commercialisation of their results. The total investment will amount to EUR 178 million (215 million USD), to finance 42 innovative start-ups and small businesses developing new production technologies, artificial intelligence, robotics, etc. Each company may receive between EUR 500 thousand and EUR 15 million (600 thousand – 18 million USD). It is the first time the European Commission directly invests in start-ups, acquiring 10-25% of their equity.

Ireland: public service innovation

In November 2020, the Ireland's Department of Public Expenditure and Reform [published](#) a public service innovation strategy. The planned actions, their rationale and success criteria are grouped into 4 priority areas: development of feedback tools, interaction with citizens; fostering a culture of innovation among employees including building of relevant skills; building a system for identifying and disseminating best practices in applying public administration innovations; and overall stepping-up of innovation policy based on forecasts, continuous improvement, and testing new support mechanisms.

Malaysia: an ecosystem of foundations to facilitate technological breakthroughs

In the scope of an initiative to develop disruptive and high technologies in the country, the Malaysian Science, Technology and Innovation Ministry [announced](#) the establishment of five new foundations to support research and development (mainly for start-ups and small and medium-sized businesses). The foundations will focus on different technology readiness levels (TRL). For example, the Strategic Research Fund will provide grants (up to 15 million ringgits, or 3.75 million USD for 3 years) for the

development of products with TRL between 3 and 9; the Technological Development Fund 1 will support products with TRL 2-4 (from 1 million ringgits, or 250 thousand USD for 2 years); the Technological Development Fund 2 – TRL 4-7 (3 million ringgits, or 750 thousand USD for 3 years). The Bridging Fund can provide support in the amount of up to 4 million ringgits, or 1 million USD for 3 years, to finalise products with TRL between 7 and 9; and the Applied Innovation Fund will consider individual applications to support development of technologies with TRL 2-4 (up to 500 thousand ringgits, or 125 thousand USD for 1-1.5 years).

India: new science, technology, and innovation policy

In December 2020, the Government of India [published](#) a preliminary version of the Fifth Science, Technology and Innovation Policy (STIP 2020), a key document that sets the development vector for the country (the first one was published more than 60 years ago). The main goal is making the national innovation system, and the country as a whole, “self-sufficient”. The establishment of the National STI Observatory is of particular interest on the extensive list of proposed measures. It is the central repository of all relevant data including information on support measures; providing free access to results of state-funded research (including free access to scientific articles for all citizens); fostering establishment of innovation units with a dedicated budget in all organisations in the country (from central government ministries to local authorities and private companies); among other sources, these units will be funded by the STI Development Bank to be established soon; supporting collaboration of “grassroots innovators” with researchers; and establishing virtual “knowledge centres” to promote international cooperation.

Cooperation with the OECD

OECD publishes new Science, Technology and Innovation Outlook

On 12 January 2021, the next issue of the [OECD Science, Technology and Innovation Outlook 2021](#) was presented. The new issue is entirely devoted to the role of STI in solving the global COVID-19 problem. The main topics include the [pandemic-related challenges for science, technology and innovation](#); ways to mobilise government funding for research, development, and “open science” infrastructure; the roles of the academic and corporate R&D sectors, and the scope for providing public support for them. The traditional for recent outlooks topic of international cooperation is considered from a new angle, with a focus on bioengineering and robotics which seem to be particularly promising in the view of the current crisis. Science, technology and innovation policy recommendations have received special attention, since effective and coordinated actions by all governments are seen as a major factor in overcoming the global COVID-19 crisis.

Increasing public trust in data technologies

The OECD released a new analytical report [Public Provider versus Big Brother](#) as part of its annual reporting on key public administration trends. The researchers analysed the role of data in effective governance and digital transformation of the public sector, drawing attention to the level of public trust in data collection and processing technologies, in particular biometrics and face recognition.

The report provides 3 main recommendations for developing data policy initiatives.

- *Actively engage with data confidentiality and security issues.* Government action (addressing emerging problems, timely development of regulatory frameworks, etc.) must ensure that data technologies are used appropriately and provide clear benefits for citizens, while limiting the negative effects.
- *Earning trust from the public.* The OECD recommends informing citizens which data is collected about them; how it is used and stored, and that openness and transparency principles have been applied when working with data.
- *Strengthening international collaboration.* Cooperation between countries is necessary to deal with issues such as managing and regulating cross-border data, for example, data generated by mobile devices and applications.

Commentary

The end of the last year, and the beginning of the current one, were marked by a number of important events in the Russian science, technology, and innovation sphere. The RF President declared 2021 the Russian Year of Science and Technology, which entails a whole range of events to support and promote Russian science. The government approved a major programme Priority-2030 which should give a new impetus to the development of university science. A number of new reforms announced by the RF President at the Science and Education Council meeting on February 8, 2021 are aimed at improving the national science management system, including the creation of a special government commission for science and technology development.

In the field of innovation, key decisions have been made on reforming development institutions. The most resonant news for Russian scientists was the merger of science foundations – the Russian Science Foundation and the Russian Foundation for Basic Research. The expert community has not yet reached a consensus about the consequences of this decision.

Introduction of preferential tax regimes in Russian regions continues, indicating the development of innovation agenda and gradual emergence of regional technological priorities. Another Russian policy trend (also observed in many leading countries) is active support for the application of digital technologies, including artificial intelligence.

These processes are taking place against the background of the new Strategy for Russia's Socio-Economic Development 2030 being designed, which focuses on promoting emergence of new high-tech economy and strengthening the national innovation system.

Important changes in the science and innovation sphere are also taking place the world over. A new framework programme was adopted at the EU level, which is expected to provide powerful support for researchers and companies, both in Europe and elsewhere. For many countries promoting the development of creative industries is becoming a priority: sectors merging culture, arts, intellectual activities, and advanced technologies. Accordingly, the United Nations declared 2021 the International Year of Creative Economy. The role of the BRICS countries is increasing, who make a progressively important contribution to shaping national and international innovation agendas.



Sources: official websites of the RF President, RF Government, Ministry of Science and Higher Education, Ministry of Economic Development, Unified portal of the RF budgetary system, Rostech, TASS, D-Russia.ru, OECD, UN, European Commission, BRICS, and foreign countries.

■ **The team of authors:** Tatiana Kuznetsova, Mikhail Gershman, Vitaly Dementyev, Galina Kitova, Konstantin Vishnevskiy, Anna Pikalova, Elena Nasybulina, Stanislav Zaichenko, Sergei Bredikhin, Sofia Privorotskaya.

Information collection: Roman Shcherbakov, Daria Semenova, Maria Bronitskaya.

Contacts

HSE ISSEK Centre for Science, Technology, Innovation and Information Policy

e-mail: stipolicy@hse.ru

Web: <https://issek.hse.ru/en/stipolicy/>

HSE ISSEK Competence Centre for Cooperation with International Organisations

e-mail: globalcentre@hse.ru

Web: <https://globalcentre.hse.ru/en/>

This proprietary HSE material may be reproduced (copied) or disseminated in full only with prior consent from the HSE (please email at issek@hse.ru).

Parts (fragments) of the material may be used if the source and the authors are indicated, and a live link to the HSE ISSEK website (issek.hse.ru) is provided. Use of the material beyond the permitted scope and/or the specified conditions will constitute copyright infringement.

© HSE University 2021