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**IMPROVEMENT OF INFRASTRUCTURE SUPPORT OF RUSSIAN  
INNOVATION SYSTEM**

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***Abstract***

This article analyzes ways and means of improving the infrastructure support of Russia's innovation system as an instrument for achieving its social and economic development. Today almost all countries of the world are trying to form an innovation type economy based on the implementation of the latest knowledge and technological solutions in the real sector of the economy in the current economic conditions. Leading scientists and economists predict in the near future to reduce the degree of dependence of economic systems of states on hydrocarbon raw materials, since new technologies and new ways of energy supply that can replace natural energy resources will be of primary importance. At the same time, human capital will become even more valuable, since it is the person who can generate, implement and perceive innovative solutions at all levels of society at a qualitatively high level. This explains the priority role of innovation in the economic development of world powers. But for this, it is necessary to provide infrastructure support for innovative activities of the state, in particular, Russia. It is important to create a set of interrelated elements of the national innovation infrastructure that can create conditions for the effective implementation of innovative processes.

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**Keywords:** Innovative infrastructure; improvement; innovative system.



## **1. Introduction**

In modern conditions of world economy, an unquestionable priority is to ensure the most effective formation of an innovation-oriented economic system in Russia. The most important principles laid down in the philosophy of this process are the formation of the institutional basis of the state. It is the innovative economy that has the ability to make the most efficient investments in human capital and ensure its development (Doroshenko et al, 2013; Taburchak et al, 2013).

However, it is worth noting the need for infrastructure support for economic systems in particular and for the innovative economy as a whole. Today, there is a decline in innovative activity. There are several reasons for this process. So, innovative activity is associated with high commercial risks of investment (a significant amount of investment resources, lack of confidence in the return of investment, imperfection of the regulatory and legal framework that regulates innovation and others). Innovative infrastructure is designed to neutralize such risks, as well as to form a stable mechanism for the implementation of innovative processes at all stages with the possibility of obtaining a positive effect (Glagoleva & Vaganova, 2013; Veselovsky et al, 2015).

Since one of the significant problems hindering the economic development of Russia is the destructive link between science and production as the stages of innovation activity, it is the innovative infrastructure that is called to become an effective way of interaction between science, education and production in order to ensure a stable interaction of all participants in innovation activity and to reduce time between the creation of innovative development and its production.

## **2. Problem Statement**

The formation of an effective innovation system, ensuring the effectiveness of innovation, the intensification of innovation processes - all these are the results of the functioning of an effective national innovation infrastructure, which is designed to ensure the production of competitive science-intensive products. And at the present time, the problem of creating infrastructure support for innovative systems of all levels is given increased attention. In the conditions of actively proceeding integration processes of a modern society, the innovation infrastructure is called upon to create conditions for the integration of science and the real sector of the economy, the development of innovative entrepreneurship, and the activation of investment in innovation.

## **3. Research Questions**

Activation and stimulation of research and innovation in science and higher education of leaders to the formation of a favorable investment and innovation climate. The study of problems of formation and development of innovation infrastructure is important, since these processes will have a positive impact on strengthening the innovation capacity of regions, the possibility of commercialization of results of intellectual activity, which stimulates the production of science intensive and competitive products in the real sector of the economy and leads to economic growth.

#### **4. Purpose of the Study**

The aim of research is consideration of theoretical and methodological approaches to finding and implementing ways and means of improving the infrastructural support of the innovative system of Russia. In conclusion, let us note that the creation of the innovative infrastructure of Russia is a necessary stage on the way to the formation of an innovative economy. However, the improvement of the infrastructural support for the innovation activity of economic systems, first of all, should be to create conditions and prerequisites for the partnership of the state, business, science and the academic sector. The policy of innovative development of Russia should be carried out, proceeding from the principles of the need to strengthen the country's innovation and investment potentials and intensification of innovation processes, therefore innovative activity and intellectual property, as its result, are of strategic nature.

As a result, neutralization of the factors restraining the activity of subjects of innovation activity will contribute to the improvement of the country's innovation infrastructure and the innovative development of its economy.

#### **5. Research Methods**

The main methodological approaches used in the study of innovative processes were elaborated in the works of foreign and domestic authors, namely J. Schumpeter, R. Cantillon, P. Draker, A. Marshall, G. Markowitz, N.D. Kondratieva, S.Y. Glazyev, I.G. Andreev, R. Cantillon, A. Marshall, V.Y. Gorfinkel and others.

Principles and prospects for innovative development are presented in the works of such scientists as M. Miller, F. Modigliani, S. Ross, B. Terborg, V.V. Bocharova, Y.A. Doroshenko, D.A. Endovitsky, I.V. Somina, A.G. Ivasenko, N.V. Kiseleva, A.A. Rudychev, P.P. Taburchak and others.

The use of the capabilities of the innovation infrastructure at the present stage of the development of the domestic economy is conditioned by state regulatory and legal acts aimed at supporting and developing small entrepreneurship created on the basis of universities (217-FZ, Government Decision No. 220, etc.).

#### **6. Findings**

Thus, it is important to determine the economic meaning of such category as the innovation infrastructure.

As Y.V. Ioda and E.V. Ioda, the innovative infrastructure is a system of interrelated and complementary organizations of various orientations and different organizational and legal forms, as well as the order of their interaction, which ensure the implementation of the stages of the innovation process, beginning with the technological mastery of the completed scientific development (Ioda & Ioda, 2006). At the same time, the authors emphasize the important role of legal, financial, socio-economic and information elements that form the national innovation infrastructure.

In the Strategy of Innovative Development of the Russian Federation for the period until 2020, the innovation infrastructure is defined as objects of innovation that generate new knowledge and

technologies with the aim of transforming them into new products and services of high quality for distribution and consumption in market conditions.

A.A. Safonov, A.V. Kabanova understand the organizational, material, financial and credit information base for creating conditions conducive to effective accumulation and distribution of funds and provision of services for the development of innovative activities of technological transfer, commercialization of scientific and technical products in conditions of increased risk under the innovative infrastructure (Safonov et al, 2011).

A.S. Komlev defines the infrastructure of innovation as a set of subjects of innovation that provide the conditions necessary for the implementation of innovative activities and the functioning of innovation processes (Komlev, 2013).

The study of the principles and methods of formation and functioning of the innovation infrastructure of the economic system is being actively pursued by domestic and foreign scientists, and there are many approaches to the definition of this economic category. Analyzing and summarizing available scientific approaches, let us present the definition of the innovation infrastructure of the economic system. The innovative infrastructure is a set of objects of innovation activity, the purpose of which is to create favorable conditions for the effective implementation of the innovation process within the economic system at all its stages: from creation of innovation to commercialization.

To find ways to improve the innovation infrastructure of the economic system, it is important to determine the tasks that face it (Safonov et al, 2011):

- an honest selection of prospective projects with the involvement of professional experts in the subject area of knowledge;
- creation of a favorable climate conducive to the development of subjects of innovative entrepreneurship, especially small ones;
- ensuring sustainable interaction with major centers;
- creation of a material and technical base for the development of small innovative enterprises;
- creation of conditions for investment in innovation, etc.

In modern science, there are such elements of the innovation infrastructure as (Safonov et al, 2011; Komlev, 2013; Vladika et al, 2013):

- Technopark structures: scientific, technological and research parks; innovation-technological centers, business incubators; engineering centers; technopolises.
- Information and technological system: the base of scientific, technological, technical and legal, technical and economic information.
- Financial and credit system: budgetary, venture, credit, insurance sources of investment in innovation, as well as business angels.
- Information system: mechanisms of information interaction of infrastructural elements among themselves and with the external environment.
- Personnel system: centers for the training of scientific personnel.
- Expert-consulting system: centers of intellectual property, standardization, certification; Consulting centers.

- Sales system: structures designed to actively promote innovative products in the real sector of the economy.

D.S. Sokolov, N.S. Tomilina offer the following scheme of innovative infrastructure, depending on the type of resource provided by one or another infrastructure object, formed on five blocks (Table 01).

The effectiveness of innovative systems of different levels depends on the quality and effectiveness of the innovation infrastructure that creates favorable conditions for the successful implementation of innovative activities. The innovative infrastructure performs the organizational function in the economic system (Kurbatov et al, 2013). A.A. Beatlev offers a model of the national innovation infrastructure, whose task is to ensure the effective interaction of infrastructure elements (Beatlev, 2012).

M.Y. Veselovsky, L. Romanovich and others emphasize that the innovative infrastructure will be considered effective only when its elements are in a stable interaction and a state of coherence, thus ensuring the effectiveness of the innovation process (Beatlev, 2012; Romanovich et al, 2014).

**Table 01.** Scheme of Innovation Infrastructure

<b>Infrastructure block</b>	<b>Type of infrastructure organization</b>
Industrial and technological	Technoparks, innovation and technology centers, technology and innovation zones, centers for collective use, engineering centers
Information and consulting	Databases and knowledge centers, technology transfer centers, business incubators, centers of scientific and technical information, regional information networks, Internet
Staffing	Educational institutions for the training and retraining of personnel in the field of innovation, scientific and educational centers, centers of practical training, training laboratories
Financial	Budgetary and off-budget funds for technological development, venture funds, guarantee funds
Sales	Specialized intermediary firms, Internet, exhibitions, foreign trade associations

It should be noted that when developing the innovative infrastructure of Russia, it is important to integrate the scientific achievements of foreign and domestic scientists, to take into account the positive experience of the innovatively developed countries, but it is also important to adapt the findings and results to the economic, socio-cultural, political and legal features of Russia's development (Glagoleva, Glagolev, 2013; Kupriyanov et al, 2014).

## **7. Conclusion**

Summarizing the main results, let us note:

- The development of intellectual activities is a priority for the innovative development of the state.
- In the innovation economy, investment in human capital is maximally efficient and its development is ensured.

- The destructive link between science and production as the stages of innovation activity hinders the country's innovative development.
- Innovative infrastructure is designed to create conditions for the integration of science and the real sector of the economy, the development of innovative entrepreneurship, the activation of investment in innovation.
- The effectiveness of innovative systems of different levels depends on the quality and effectiveness of the innovation infrastructure.

Innovative infrastructure performs the organizational function in the economic system.

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