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**TRENDS OF INNOVATIVE ECONOMIC DEVELOPMENT
IN THE RUSSIAN FEDERATION:
SOCIO-ECONOMIC PROSPECTS
FOR PUBLIC-PRIVATE PARTNERSHIP**

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**ТЕНДЕНЦИИ ИННОВАЦИОННОГО РАЗВИТИЯ ЭКОНОМИКИ
РОССИЙСКОЙ ФЕДЕРАЦИИ:
СОЦИАЛЬНО-ЭКОНОМИЧЕСКИЕ АТРИБУТЫ
И МЕХАНИЗМЫ ЧАСТНО-ГОСУДАРСТВЕННОГО ПАРТНЕРСТВА**

This article discusses the need for new approaches to improve the competitiveness of the Russian economy and prospects of Public Private Partnerships in Russia, based on the tendencies of innovation development. Innovative development ensures sustainable development of the economy. The analysis conducted by the authors has the main idea to evaluate the prospects of economic development and to identify the key areas of economic recovery.

INNOVATION DEVELOPMENT. CLUSTERS. ECONOMIC GROWTH. SUSTAINABLE DEVELOPMENT. DEVELOPMENT POTENTIAL. ASSESSMENT OF ECONOMIC PROSPECTS. PUBLIC-PRIVATE PARTNERSHIPS.

Проанализированы возможности повышения конкурентоспособности экономики России, перспективы развития государственно-частного партнерства, основанного на инновационных подходах. Инновационное развитие обеспечивает устойчивый рост экономики в целом. Анализ, проведенный авторами, позволяет выявить ключевые возможности оздоровления экономики.

ИННОВАЦИОННОЕ РАЗВИТИЕ. КЛАСТЕРЫ. ЭКОНОМИЧЕСКИЙ РОСТ. УСТОЙЧИВОЕ РАЗВИТИЕ. ПОТЕНЦИАЛ РАЗВИТИЯ. ГОСУДАРСТВЕННОЕ ЧАСТНОЕ ПАРТНЕРСТВО.

In the context of the subject-oriented study of innovative economic trends in the Russian Federation, it is necessary to analyze the forming stages of the institutional framework for technical research and high technology product development as well as the stages of technology commercialization process and public-private partnership infrastructure development in the field of innovation.

At present, the high-technology cluster in Russia comprises more than one hundred theoretical and practical fields of research; among them seventeen can be regarded as cutting edge and innovative: biotechnology and bioengineering, nuclear and spacecraft technology, biocompatible agents development, artificial intelligence and virtual reality systems as well as the development of recombinant vaccines, ultra-hard materials, membranes, catalysts, electron- and ion-plasma technologies, etc. The allocation of funds to

support these and many other fields of research will enhance innovation and facilitate the economic growth in the Russian Federation.

Taking into account the fact that material production is based on theoretical and empirical research and the competitiveness of goods is to a large extent determined by their research intensity, the state support of innovation is an imperative element of market-institutional relations. This socio-economic phenomenon was pointed out by the founder of cybernetics N. Vinner, who said that «Modern society estimates the value of ideas in dollars and cents, though the value of ideas is much more lasting than the value of money. The discovery, which perhaps only fifty years later could be put into practice, has almost no chance of being profitable for those who paid for all the work done for its sake» [1, p. 267].

Due to the need for the public support of innovation and direct funding of scientific and

technological programs, a number of economic and legal acts for the innovative development in the Russian Federation were adopted: the Russian Federation Presidential Decree of 17 September 1994 on private investment stipulated the annual allocation of 0.5 % of GDP to fund research projects in 112 thousand economic entities; in 1997 the Federal Fund for the Assistance to Small innovative enterprises was established whose activity ensued an increased number of small innovative companies by 11–12 % with the volume of sales increased by 25 %; in 1999 the management company of the first Russian venture capital fund «Vinflin» was established by the Federal Fund for the Assistance to Small innovative enterprises together with the Ministry of Science and Technology, the Research and Production Center Soliton-NTT and the Federal Bank for innovation and development; and in 2004 the program «Innovative activities in Russia», which facilitated the development of regional innovation and technology centers with techno-parks, business incubators and other elements of innovative business was adopted [2].

However, many strategically important research projects aimed at the development of the national high-tech products failed or were only partially implemented as a result of poor economic investment policy of the state. Most of the national research centers lost major orders, which was one of the reasons for the lower output in the industrial cluster and reduced investment returns. As a result, the volume of investments in 1996 amounted to 29 % in comparison with 1991, and during the following five-year period the capital investment fell by 12 % as compared to 1996. Because of the long-lasting national economic crisis, the share of the consumer sector in 2000 decreased to 30.8 % from its figure of 53.4 % in 1990 and the share of resource-based sector in Russia 3.5 times exceeded its average value in other countries of the world community. The share of innovation and investment segment was significantly reduced, resulting in more than 2.5 times lower volumes of high technology production [3, pp. 38–45].

Realizing the need for the radical changes in Russian science and technology policies and the strategic importance of the national high-tech cluster, in 2006 the Government issued the Federal target-oriented program «Research and

development in priority fields of science and technology complex of Russia for 2007–2012», and «The strategy of science and innovation development in the Russian Federation for the period up to 2015» approved by the Interdepartmental Commission on Science and Innovation Policy of the Russian Federation Ministry of Education and Science came into effect in 2006, the primary objective of both programs being the development of innovative scientific and technological potential of the state.

The strategy formulated the task of forming a cluster of fundamental and advanced research and development on the basis of so-called «scientific and technological corridors» that provide allocation of material and financial resources and targeted investment into enterprises of high-tech industry clusters ensuring high efficiency, modernization, and competitiveness of science-based technologies. The federal target-oriented program contains a comparative analysis of problems and challenges of the Russian Federation socio-economic development and suggests algorithms for their solutions in terms of science and innovation development (Tab. 1).

Equally important in terms of conceptual development is «The concept of long-term socio-economic development of the Russian Federation for the period up to 2020», approved by President Vladimir Putin in 2008. It sets the priorities for improving national competitiveness through the innovative activities at the enterprises with the advanced technologies and legislative support for the development of small and medium-sized innovative businesses.

According to the concept of long-term socio-economic development, the gross domestic product in 2020 will be 2.3 times higher than in 2007, the income of the population will be 2.6 times higher, the poverty rate will be reduced to 6.2 %. In 2015–2020 Russia is to enter the top five countries in terms of GDP (at purchasing power parity). The innovation plan for the national development implemented by the Government of the Russian Federation is highly resistant to a possible fall in the world prices for oil, fuel and raw materials: the growth rate of gross domestic product will fall by an average of 0.5 % in case of the world economic decline and lower oil prices (on average by \$ 20 per barrel over the forecast period).

Table 1

The Stages and Socio-Economic Prospects for the Development of Science and Technology Cluster in the Russian Federation

Stage	Socio-economic prospects for Russian Science and Technology Cluster development
<p align="center">STAGE I</p> <p>The development of science, technology and engineering priority programs in the Russian Federation</p>	<ol style="list-style-type: none"> 1. Intensive development of science, technology and engineering in accordance with the list of crucial technologies for Russia. 2. The commercialization of technologies in accordance with the priority fields of science, technology and engineering. 3. The consolidation and concentration of resources on advanced scientific and technological developments through the introduction of public-private partnerships and through the research and development activities initiated by private businesses and innovative companies. 4. The engagement of young highly qualified specialists into research, and the development of leading scientific schools. 5. The enhancement of research in higher educational institutions. 6. The assistance to small innovative enterprises in scientific and technical field, and their integration into the system of scientific and technical cooperation
<p align="center">STAGE II</p> <p>The formation of the research sector and effective innovation system, providing technological modernization and competitiveness of the economy, and transformation of science and technology into the basic resource for sustainable economic growth</p>	<ol style="list-style-type: none"> 1. The development of the competitive research and innovation sector. 2. The formation of a cost-effective infrastructure for the national innovation system. 3. The intensification of innovation activities at the enterprises and organizations in the field of technology commercialization. 4. The improvement of the effectiveness of social and economic benefits of the national public-private partnership. 5. The development of competitive research organizations and institutions of higher education conducting fundamental and applied research. 6. The creation of computational and analytical tools for forecasting the scientific and technological development of Russia

At Krasnoyarsk Economic Forum in 2011 Prime-minister D. Medvedev made a presentation outlining the basis for the formation of the innovative Russian economy. «At the moment Russia is implementing a new government policy in the innovation sector of the Russian economy, which should be based on four «I»: innovation, investment, infrastructure and institutions. These are the priorities for the development of the national innovation system within the government economic policy,»- Medvedev said.

The implementation of innovation strategy in Russia involves substantial investment in high-tech sector of the economy, which can entail the problem of finding material and financial resources. In today's world economic crisis this problem can only be solved by inviting private investment into national high-technology cluster.

There is no doubt that the development of the national public-private partnership coordinating socio-economic interests of the state and businesses is of the strategic importance [4, 11]. Innovation policy in high-tech industries of the Russian economy should be based on the effective

mechanism of public-private partnership and regarded as a guarantee of overcoming crises, providing structural modernization of the economy and competitiveness of production.

Public-private partnership in the innovation cluster of the economy can be seen as a market-institutional consensus reached between the government and private sector and generated for the effective and timely implementation of innovative projects in the areas of polymorphic research. It is based on the joint activities of the state research and educational institutions, the federal state unitary enterprises and private industrial, financial, and innovation businesses.

In terms of subject-oriented studies, it is necessary to differentiate the financial and non-financial institutions of innovation development: the former include the State Corporation «Bank for Development and Foreign Economic Affairs (Vnesheconombank)»; Investment Fund of the Russian Federation, «Russian Venture Company» Ltd and the regional funds; GC «Russian Corporation of Nanotechnologies», «Russian Investment Fund for Information and

Communication Technologies» Ltd, etc; the latter include technological and business innovation centers; research and technological parks; business and technology incubators; technology transfer centers and other institutions of the innovation infrastructure; special economic zones for

technology development and experimental industrial production; regional development corporations; regional institutions for public-private partnership. The main socio-economic characteristics of these institutions as well as their management tools are given in Tab. 2.

Table 2

Main Socio-Economic Prospects for Public-Private Partnership in the Innovation Cluster

Socio-economic prospects	Contents and specifics in the innovation cluster
Socio-economic properties	<ol style="list-style-type: none"> 1. Partnership shall be presented by both public and private economic sectors. 2. Relationships in the public-private partnership shall be stated in the official documents (agreements, programs etc.) and be equal. 3. Parties of the public-private partnership shall have common goals and clearly stated socio-economic interests. 4. Parties of the public-private partnership shall share costs and risks, participate in the usage of results.
Socio-economic factors, imbalances	<ol style="list-style-type: none"> 1. High extent of financial and information uncertainty, variability and risk in the innovation sphere. 2. Long unprofitable period of innovation projects, which demotivates private investors. 3. Inability of small/medium-sized businesses to concentrate resources for innovation projects. 4. Inability of the market to provide cooperation, necessary for innovative breakthroughs, between science and business, internal innovation segments and corporate economic sector
Socio-economic targets	<ol style="list-style-type: none"> 1. Breaking the stereotype of the socio-economic inability of the market to innovate. 2. Development of the socio-economic infrastructure. 3. Elimination of regional development imbalances caused by the specific government structure of the Russian Federation. 4. Reduction of private investors' innovation risks. 5. Support of innovations at early unprofitable stages in R&D. 6. Creation of favourable conditions to develop small/medium-sized innovation entrepreneurship. 7. Horizontal coordination between research institutions, innovation companies, and businesses
Socio-economic regulation tools	<ol style="list-style-type: none"> 1. Information support of innovations: consultations on research areas, assessment of results, organization of researcher and specialist councils, creation of innovation data bases, advisory and consultation support to plan and implement innovation projects. 2. Staffing for innovation companies and infrastructure in order to regulate professional training for venture businesses, professional development programs for the managerial staff of venture companies, hiring and consulting by world leading specialists. 3. Creation of infrastructure for the innovation market: setting up stock exchanges to trade shares of innovation companies, high tech businesses, venture foundations etc.. 4. Economic and legal consulting on copyright, registration of innovation companies, drafting and conclusion of contracts etc.
Finance and investment regulation tools	<ol style="list-style-type: none"> 1. Preparation of budgeting documentation to invest into the innovation sphere. 2. Grants and forgivable loans. 3. Guarantees, insurance and share financing. 4. Creation of mechanisms to attract investments from the Investment Foundation of the Russian Federation, Bank for Development and Foreign Economic Affairs (Vnesheconombank) and other investors. 5. Issue of infrastructure bonds. 6. Government guarantees and budgetary funding in compliance with regional laws: investment tax credit, government guarantees of Russian Federation subjects, municipal guarantees
Economic and legal regulation tools	<ol style="list-style-type: none"> 1. Concession agreements on high technological markets. 2. Lifecycle contracts for innovations. 3. Consolidation of municipal projects in the public-private innovation cluster



Scientific research of the above-mentioned and many other market-institutional aspects of the Russian innovation sector shows insufficient development of all economic and legal units/institutions which have to support the innovation policy; among them are specialized state and private corporations, which are expected to overcome the market inability constraining the social and economic development of the country.

Moreover, the laws regulating mechanisms of public-private partnership were passed in 59 subjects of the Russian Federation (St. Petersburg, Tomsk region, Republics of Altai, Dagestan, and Kalmykia) and these laws have significant administrative and economic disadvantages [5, 12].

Such disadvantages result from an inappropriate correlation between federal and regional public-private projects, contradictory in their legislation support; ineffective usage of socio-economic tools in promoting the Russian innovation sector for regional and national investors; inadequacy of economic and legal procedures leading to permanent collisions with the federal legislation; formal and bureaucratic decisions in the public-private partnership.

On the one hand, such an unfavourable socio-economic situation has a negative effect on the investment climate in Russia; on the other hand, it prevents Russia from developing and gathering pace of scientific and high technological clusters.

All categories of newly-introduced leading technologies – design, engineering; production, treatment, assembly; automated monitoring equipment; production information systems; integrated management and control etc. – show steady growth, which reflects the enhancement of the scientific progress and activation of innovative processes in the Russian economy. However, these processes are constrained by finance-investment barriers and political and legal collisions and obstacles.

At the Capital Investment Forum «Russia 2012» President V. Putin emphasized the necessity to overcome destructive trends in the Russian innovation sector, saying: ‘The global economy needs innovation breakthrough. New economic centres are obviously going to appear all over the world. One of them can be in Moscow. Membership in the WTO, establishment of the Common Economic Space

with Kazakhstan and Belarus make up promises for leadership. Russia is the sixth largest economy in the world and the third country richest in the gold reserves. However, according to the investment climate, we are shamefully rated 120 in the world. Unfortunately, poor realization of the rich potential is Russian’s historical problem. Our short-term goal is to join the list of countries with most favourable business climate. We have to move 100 steps ahead, rated from 120 to 20».

Timely achievement of such important and indispensable goals, contributing to the steady scientific and technological development of the country, is impossible without establishing and stimulating the effective mechanism of public-private partnership in the Russian economy. Thus effective and proper implementation of public-private partnership is an essential prerequisite for the onward social and economic development of the country.

«By priority economic indices Russia keeps up with other EU countries, -stated President V. Putin at the Capital Investment Forum «Russia 2012», – but by productivity Russia 2.6 times lags behind; by energy usage effectiveness – thrice behind, GDP per capita – twice behind. Moreover, Russia lags behind in competitiveness. The latter is associated with the quality of professional resources and the ability to establish innovation economic system.

The economic and political structure of government institutions which manage the innovation sector is presented as the aggregate in Fig. 1.

In the process of Russia’s innovative development, the regional component of the scientific and technological progress is gradually becoming more important, as the regionalization of R&D activities has gained the governmental support. This reflects the current market-institutional situation, socio-economic regularities and democratization trends in the Russian society. Innovation changes in the Russian economy have enabled to activate the processes of decentralizing scientific and technological management, delegating the rights of R&D ownership to the regions, taking responsibility for design and production of high technological products. This has dramatically modified the social, economic and political status of the Russian Federation subjects.

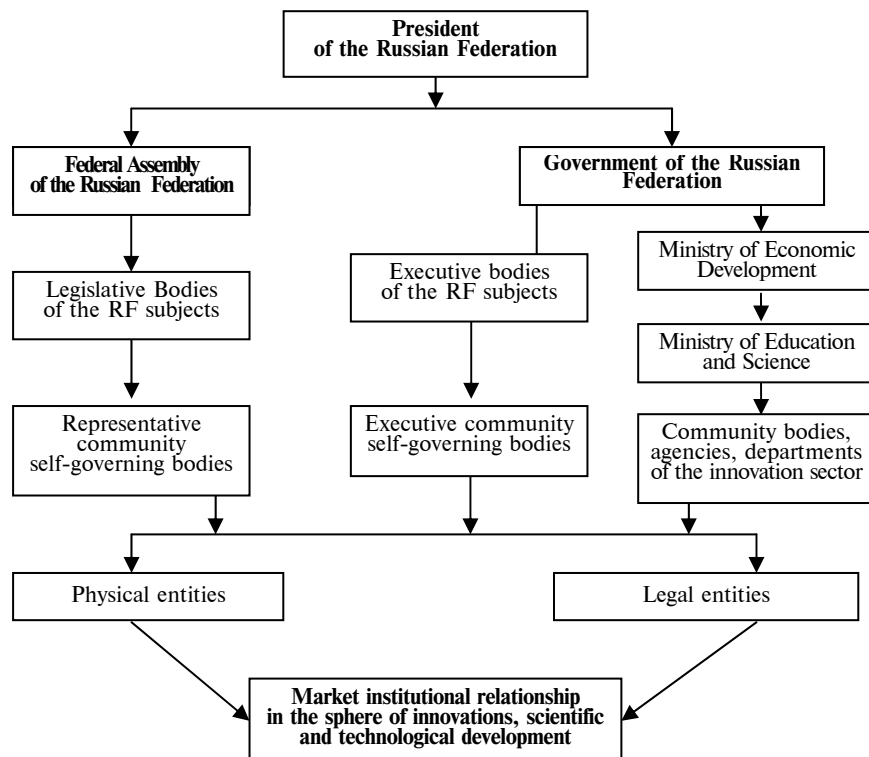


Fig. 1. Differentiation structure of the market-institutional management of the innovation development in Russia

Besides, it adds the R&D importance to North West Federal District, Russia. With its highest intellectual potential, the District obviously represents the «pole of the innovative growth» of the Russian real economic sector, encourages the development of high technological production and national science-based cluster, makes an unrivalled prerequisite for the scientific and technological breakthrough of the country.

Generalizing the results of researching the conceptual and methodological fundamentals, socio-economic imperatives of the innovative development in the conditions of globalization, evolution and mechanisms of public-private partnership in Russia during world-wide recession, it is necessary to draw the following conclusions:

1. Scientifically, innovation represents the socio-economic outcome of the fruitful and prospective public activity, which integrates creative and intellectual human abilities. Moreover, this outcome is targeted at maximizing the income and competitive advantages of both the economic subject and international community.

2. Globalization as a socio-economic imperative of the public progress regularly stimulates innovation clusters and venture activity, intensive labour division, deeper specialization of R&D production, economizing at the expense of production/ sales, cutting costs. It also contributes to the optimal allocation of resources throughout the world.

3. Stochastic market-institutional conditions of globalization permanently complicate the economic structure with such dominating elements as interindustrial science-based clusters which transform changing market science-based industrial relationships into pre-planned ones with the emphasis on such a finance and investment activity as venture business.

4. The evolution of the innovation sector led to the two autonomous paradigms in the high technological development – Eurasian and American – whose principles are of great R&D importance at the current transitional stage of forming the national innovation policy in Russia.

5. Main strategic factors of the steady innovation development are as follows: scientific and technological (forming and operating high technological clusters in order to improve



production facilities of the economic subjects); social and economic (implementation of socio-economic stimulators of the technological progress); managerial (creation and introduction of innovation algorithms to plan and manage industrial economic activity); legal (establishment of the effective economic and legal mechanisms to regulate the innovation and technological spheres).

6. While forming the Russian innovation strategy, a great socio-economic significance is given to algorithms of public-private partnership as market-institutional consensus between the government and business leading to the timely and effective realization of innovation projects in the polymorphous area of research. This partnership is based on the joint activity of state research and educational institutions; federal unitary enterprises; private industrial, financial and innovative business.

7. Public-private partnership as a socio-economic alliance is aggregated with the industrial and financial potential of state and entrepreneurial institutions which stimulate the development of the innovation system, on the one hand, and contribute to the polymorphous

investments into the Russian innovation sector, on the other hand.

8. Putting to practice the innovation activity of the Russian economic subjects, aimed at the maximum realization of the socio-economic potential of the public-private partnership, will contribute to the modernization of the national industrial complex, formation of the high technological cluster on the basis of world scientific achievements, effective commercialization of the research outcome, implementation of the high technological development strategy, establishment of the socio-economic fundamentals for the Russian innovation community.

9. The issues of scientific interest are as follows: computational and analytical research of regional priorities, problems and development specifics of public-private partnership clusters as a whole and venture business in particular; verification of results with empirical and factual information attributed to the economic activity of subjects in North West Federal District, which is a representative scientific and industrial region in Russia and one of the largest development centers in Europe.

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