Innovative Territorial Clusters

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ABSTRACT

The emergence of new centers of economic growth, which will unite scientific, educational and industrial potentials, and would also enhance the competitiveness of enterprises and the region organizations as research and education in the future will have a multiplier effect on the shaping of economic processes, which helps to attract investment. This trend of building new centers, implementing efficient activities will affect the transition of Russian economy to innovative type of development. The relevance of the implementation of innovative type of economy development on the basis of innovative territorial clusters is dictated by the need to ensure balanced and sustainable development of national economic systems through the unwinding of selected innovative areas of the state. Such territories are actively formed at the present time can become innovative territorial clusters. These formations of the modern world, they had a different policy and the implementation of its activities, to present the latest shapes and signs of competitiveness are a kind of "springboard" in the economy of the future. The competitiveness of the economy of the region, the state, the region now depends not only on technical achievements, inventions, but also on organizational changes that contribute to their business results and marketing innovation in the field of promotion and implementation of regional clusters.

Keywords: Cluster, Innovation, Region, Competitiveness, Cluster Policy, Efficiency
JEL Classifications: F63, O10, O22, O29, L59

1. INTRODUCTION

Formed spatial state economic space has led to significant differentiation of subjects of the state on the level and nature of socio-economic development. Progressive experience of civilized territories shows that their competitiveness at the state level is largely based on consolidated on the basis of the business entities.

In this regard, education is latest paradigm of innovation economy are closely interrelated with the formation of zonal and polar forms of organization "critical mass" of activity of subjects of the state. Based on this modernisation vectors of different variants of the meso policy should include the formation of cluster forms, as polar foci of economic growth, expansionary-penetrating capacity which is able to affect the adjacent territory, "involving" them in the zones of business activity and escalation.

In a market economy the territory of the insufficiently used potential of joint capabilities to solve problems of life support from the standpoint of formation of mechanisms of state interaction and actualization of the concepts of leveling, pole and harmonized development based on the cluster-territorial approach, which allows to harmonize and coordinate the interaction between territorial and industrial entities, infrastructure and social services.

Objectives of cluster and regional policy in the context of the economic system are the development of the sector of small and medium enterprises around big companies with domestic and foreign capital, the creation of new jobs and, ultimately, improving the innovative capacity and competitiveness of the state, as well as the distribution of growth points in the territory to ensure the uniformity and balance of spatial development.

However, the Russian economic science is not yet unified approach to the definition of territorial clusters (Zakharov et al., 2016), insufficient methodological support of the diagnostic potential of clusterization of choosing the optimal model of cluster innovation policy, taking into account the specifics of development of economic system, estimation of efficiency of innovative cluster development in a particular area. In addition, the cluster organization of the territory of the domestic economy, its individual sectors investigated so far fragmentarily, in fact, partly due to the complexity of both object and subject.

The relevance of this writing is due to the need for implementation at the state level, new models of the consolidation of the business units joint ventures, commercial activities, contributing to the multiplier effect in the creation of gross regional product, implementation of innovative component of economic policy and the basis of devices of control and management of innovative territorial development of the cluster.

2. MATERIALS AND METHODS

Theoretical and methodological basis for the writing of this article was the classics, economic and management publications in the definition of the innovative cluster, understanding of the innovation cluster as factor of increase of competitiveness of the region and the state as a whole, the development of the cluster policy of the state and the world powers, domestic and foreign scholars, human resource management, potential, common organizational formation of innovation clusters of enterprises and economic sectors, economic processes of domestic and foreign policy activities of regional clusters.

The research methodology is built on the dialectical method, systemic and strategic approaches to analyze objects (Lorenzini, 2014). Scientific provisions, conclusions and recommendations made in the article are based on the use of a range of methods of historical and logical analysis, comparison and synthesis, induction and deduction, economic-statistical method and expert evaluations.

The information base of the research were the laws of the Russian Federation, the official publication of the state statistics, bodies of management of social-labor relations in the sphere of innovation development of the cluster policy, territorial sector, International labour organization, thematic collections and reference books, information published in scientific editions and periodicals, Internet resources.

When writing work has taken into account the data characterizing trends in the development of institutional and socio-labor relations in the system of innovative economy, marketing research both external and internal market regional clusters.

3. DISCUSSION

Theory of development and formation of innovative clusters and their policy implementation in the social and economic sphere of

activity attracted the attention of scientists and trainees in a very recent time (Shkurkin et al., 2016). But, despite not really long-term data and trends in the Russian scientific community, this theme becomes relevant and often discussed.

In 2012 the government approved and submitted a list of innovative clusters, as well as introduced a program to support cluster initiatives and initiatives.

A document establishing the basic framework for the development of innovative cluster policy in Russia is the concept of long-term socio-economic development of the Russian Federation for the period until 2020.

This document contains the basic conditions of modernization of the economic sphere and realization of competitive advantages of regions allocated to the creation of a system of territorial clusters.

On the development of regional clusters, their relevance and strengthen the growth of the economic system is not drawn little attention in legislative documents, resolutions and decrees of the Ministry of economic development of the Russian Federation. Pursuant to the instructions of the President of the Russian Federation Ministry of economic development announced among the economically employed population, the competition for the selection and inclusion of innovation clusters.

After completing the procedure of selection of candidates was formed a list of 25 programs of formation and support the effective implementation of innovative territorial clusters.

For the formation of these systems you must have basic selection criteria: World level of competitiveness of enterprises (Ryumkin, 2009; Ksenofontov et al., 2016), dynamics of continuous growth of production volume, significant NTP as a research and educational organizations.

Not a small range of models of development of innovative territorial clusters determines the feasibility of tacking a tool of state support, taking into account the major distinctive criteria and characteristics of the areas where the formed cluster.

However, this instrument of state support can influence not only to innovation policy, cluster development and also address other areas: Housing construction, development of transport and energy, engineering and other infrastructure development areas (Zhang et al., 2016).

On the basis of the list of selected innovative clusters and their development programs, taking into account their innovative and productive potential, the extent of the examination of the submitted applications were determined 2 groups.

The first group includes 14 clusters, programs of their development and main activities project activities will be supported by grants from the Federal budget of the Russian Federation on the territory of their location and implementation of activities.

Subsidizing these innovative clusters produced over 5 years from 2013 to 2018, the total amount of cash receipts will amount to 5 billion rubles annually.

The second group includes 11 regional clusters; programs of their development require some modifications and upgrades.

For a more precise definition and characteristics of all existing regional clusters and their innovation policy development conduct analysis of territorial and branch structure of the domestic clusters.

In accordance with the specific economic sector of the state, the geographical feature of these clusters was formed in 6 industry areas:
1. Nuclear and radiation technologies;
2. Manufacture of aircraft and spacecraft;
3. Pharmaceuticals;
4. New materials;
5. Chemicals and petrochemicals;
6. It and electronics.

In order for these areas to develop effectively, had the highest world levels of competitiveness in relation to world markets need rational distribution of these areas within a favorable site for the implementation of their activities?

Analysis of their location within the boundaries of the state suggests that the country's leadership pays special attention to the leading regions (Federal districts), which provide the primary production potential, favorable social and development infrastructure.

A major percentage of innovative territorial clusters in the European part of the state, since this area has the greatest population density and the leading economic activity.

The Asian part of Russia includes in its potential, only 7 of the 25 innovation clusters. The main part of the cluster is based in the rapidly developing regions with high level of innovation activities: Privolzhskiy (9 clusters), Central (6 - Moscow, Moscow oblast), Siberian (5 clusters).

Innovation clusters Volga region constitute more than a third of the clusters, but their scale is not so great (Barycheva et al., 2014; Silnov and Tarakanov, 2015). The total number of such innovative entities in the form of territorial clusters is almost on the same level with the Central Federal district, which reflects approximately equal to the production capacity of the clusters.

One cluster has the Ural and far Eastern Federal district. Policy of innovative development cluster is reflected in the activities of the Titan cluster, cluster aircraft and shipbuilding Khabarovsk territory. Their location and area of operation due to the fact that the basic materials, production resources and raw materials located within walking distance, but, despite this, there are also its negative side is the low equipment of transport infrastructure the degree of development and distance from potential consumers of products.

The newly formed clusters, which were included in the list of innovative, have features and characteristics of different models of territorial organization of productive activities in the sphere of economic activity (Ryumkin, 2012).

So from the point of view of the territorial arrangement we can distinguish the following clusters:
• In a clearly designated and provided with the boundaries of functioning (but "Sarov innovation cluster," Zheleznogorsk);
• Associations of enterprises, scientific and educational organizations in the framework of the network of large-scale agglomerations;
• The clusters, dispersed throughout the territory.

Innovative territorial clusters are distributed mainly in areas with a high level of concentration of NTP and production capacity. These territories are characterized by the location of special economic zones, closed administrative-territorial entities: Sarov, Moscow, Troitsk, Perm, Khabarovsk, etc.

Many of the resulting innovation clusters have formed their work on already existing specialization of industrial enterprises; these include innovative territorial clusters located in the Republic of Tatarstan, the Arkhangelsk oblast, and Khabarovsk Krai. Their future operation originates in the dense transition results in NTP activities already engaged in the production of industrial companies. The main attraction is the creation of new small or medium-sized clusters, which will reflect the main economic activity of the enterprise and the region as a whole.

The development of productive capacities and attracting investment partners of the innovation cluster is a key development programme and the achievement of goals of the cluster.

After all, for the implementations of the planned achievements are not always enough of those budget subsidies, then it is necessary to conduct the proper preparation of the image of investment-attractive enterprises (Oleinikova et al., 2016). In general, when the characteristics of the innovation project each cluster have its own potential growth, unusual functioning and existing on-site locations manufacturers.

In order to analyze the functioning of the Russian clusters is necessary to assess its most important indicator-the total economic potential.

The indicator of economic potential includes the following characteristics: Industrial, investment and scientific and technical progress.

Production capacity is the main factor that determines the potential and existing territorial competitiveness of the cluster. One of the indicators which allow evaluating the production potential of the cluster is the volume of total revenues from sales of non-commodity products. So in 2012, the total volume of this index was 1.9 trillion rubles, and in 2016, 3.8 trillion rubles, the rate of increase was 105%.

The leading place in terms of total revenue took a territorial cluster on the branch line - "Chemicals and petrochemicals." Revenue this innovative project for the year amounted to 1.1 trillion rubles, but the child clusters of this industry has also not remained aloof and has an aggregate amount of not less 274.4 billion rubles in average per cluster industry trends.

Such positive dynamics of development of innovative clusters is not left without attention of the Ministry of energy of the Russian Federation approved the plan of development and functioning of innovative territorial cluster of industry for the period until 2030, which contains the investment projects of Russian companies.

This policy involves the creation and development of 6 petrochemical clusters: West Siberian, Volga, Caspian, Northwestern, East Siberian and far Eastern.

The average indicators of development of innovative clusters and their total revenue refer to the Information technology and electronics - 174.4 billion rubles and the smallest rate are in the innovation clusters of the industry "Nuclear and radiation technologies - 73.6 billion rubles, and "Pharmaceuticals" - 45.5 billion rubles."

In order for policy innovation territorial cluster expected results, necessary in the daily activities of enterprises to make adjustments in the production of goods, provision of services, development of raw material and much more. All these measures and actions are interrelated with the implementation of the main organizational-economic activities.

4. RESULTS

Currently, the Russian economy has received even a small, but significant practical and theoretical experience in the creation of innovation clusters. It is therefore important to generalize the experience of their development, and also try to assess the impact of clusters on innovation activity of Russian regions.

Treatment of innovative types of clusters is different. On the one hand, there is a statement that they are characterized by the presence of the only research centers, technology parks, business incubators and other research institutions. On the other hand, deserves attention and a broader understanding of their content as the traditional types of clusters: Innovation can be industrial clusters, but they must have the specialization in knowledge-intensive industries. This implies that innovation cluster is required, in addition to industrial enterprises and financial institutions, centers of learning and innovation, allowing using the benefits of market mechanism. As a result, the cluster faster and more efficiently "transmitted" the new knowledge, scientific discoveries, and inventions. The difference of the innovative cluster is that the cluster companies are not going to complete the merge, and create an interface that allows them to maintain the status of a legal entity and cooperate with other enterprises, forming the cluster and beyond (Mikhaylov, 2015). They formed a complex combination of competition and cooperation, especially in innovation processes.

In addition, regional clusters act as an important instrument of modern innovation policy of the regions of the state. They are promoted as the role of the so-called tools "Assembly" and structural renovation of many areas of economic activities which constitute the individual elements of innovation systems in the region (science, business, educational activities and more).

But the main goal of innovative clusters in the process of formation of their joint projects is unchanged and unwavering, is the growth of the major signs of the competitiveness of all participants and active members of the cluster.

There are examples where enterprises of such industries as metallurgy, petrochemicals, actively export their products, providing intensive interregional integration, raw material independence (Hjalager, 2010), was able to reduce production costs, and received substantial financial and organizational sources of investment and innovation. Savings, additional revenue through the introduction of deeper processing of raw materials allows such companies to produce the innovation processes of the reconstruction, modernization and technological re-equipment.

Domestic and foreign experience allows asserting that there is a strong impact of cluster integration on investment and innovative activity of the enterprises of a petrochemical complex.

Integration in the petrochemical industry aimed at reducing the "double overhead," respectively, the increase in profits of all the subjects as a source of financing of innovations allows to consolidate and refresh formed the technological chain, to eliminate complexity independent of the output of domestic enterprises on the external market.

Socio-economic upbringing of the regions, developing on their territory of an economic system involve the consideration of the interests and sustainable conditions for the functioning of industrial companies, forming potential of the region and largely determine social and political stability. In this regard, regional policy and strategy development of regions should be based on a comprehensive analysis of the functioning of the regional companies and the consistency of regional and sectorial objectives (Manova et al., 2015). This applies to budget-regional companies forming the economic profile of territorial-industry complex of the region. The priority of development of such structures embodied in the concept of long-term socioeconomic development of the Russian Federation until 2020. In this policy document as one of transition to innovative model of development of the country named the creation of a network of regional production structures, realizing the competitive potential of the territories. Clusters have a high capacity for innovation, because the cluster members are able to respond quickly to the needs of customers, they have access to new technologies. Also inside the cluster possible cooperation in the implementation of scientific research and competitive pressures encourage businesses to innovate. Important is the fact that the feature clusters are closely linked with characteristics of the institutional environment and infrastructure of the region where clusters form. The direction of the relationship is determined bilaterally. The development of clusters is affected by the

development of supporting infrastructure in the region. Effective clusters help to develop the region's economy by structuring of the regional business space.

The influence of clusters on the socio-economic development of the region in the form of feedback can be seen in the resulting innovation activity of enterprises in the region. Clusters contribute to positive externalities associated with the presence in the same area of companies whose activity is aimed at creating a single product or service. These externalities are manifested in the increase of innovative activity at the concentration of human capital. The result of the interrelation of the level of clustering of the regions and the share of innovative products in the region.

5. CONCLUSION

In domestic science has developed conceptual approaches to methods of assessment of the impact of clusters on innovative activity of regions that allow demonstrating a strong correlation between indicators of cauterization and innovative activity in the region.

There are practical examples of such integration implemented in the created special economic zones, techno parks, business-incubators, etc., in our opinion, it is necessary to lend a helping hand research in this field.

Evaluation of the efficiency classes of the cluster expects to take into account such indicators as the number of innovative start-ups took investments for their development. They can be brought into the funding strategy of the clusters located in the region.

The practical effectiveness of the cluster policy in the Russian economy is connected not only with modernization of production and infrastructure, but with their support from the state. The role of the human resources (Sergeevich and Vladimirovich, 2015), research and innovation centers to improve innovative activity in the region-based cluster is a priority and strategic.

The contours of the emerging program of support to clusters in general correspond to the best foreign experience. However, it is impossible to completely discount risks of its surface sources, without substantial changes to the format and improving the efficiency of interaction between organizations in clusters. The improvement of cluster policy is an implementation of a set of measures in the following key areas: Institutional mechanisms and a culture of coordination between the different actors in the clusters, with an emphasis on new approaches, an effective mix of economic activities of companies; the absolute priority should be the principle of achieving consensus solutions to common problems of competitiveness; the development of control systems in the cluster based on feedback between the participants (in the future, the transition to certification of quality management cluster program the European Cluster Excellence Initiative); organization of training for cluster managers; active involvement of private companies, especially small and medium-sized, state-supported projects of the cluster; the implementation of joint projects of cluster members in the field of research, development

and innovation; special attention should be given to business cooperation with scientific and educational organizations; the involvement of clusters in the process of formation of strategy of development of region; formation of associations (networks) clusters; internationalization activities of clusters (search for investors, suppliers, markets; inclusion in the international network of practitioners and experts; formation of clusters and brand building communications in the context of globalization).

Clusters represent a developing system. Successful today due to various reasons (including the external-progress of science and technology, changes in world market conditions, etc.), tomorrow they may lose the dynamism and prospects.

Rapidly growing clusters often face a variety of barriers and restrictions due to which implementation of joint projects can take years, and the maturity to take decades. The difference in the dynamics and effectiveness of cluster development provokes new risks for policy: The latter can lose its effectiveness if the original selection of objects to support later will be suboptimal (or even incorrect). In this regard, of particular importance is the monitoring and evaluation of performance of clusters, which is designed to lay the information basis for subsequent adjustments of the list of participants supported by the state, and the extent and directions of such support. The present report is the first step towards establishing a system of information and analytical support of the cluster policy in Russia.

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