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**ОРГАНИЗАЦИЯ УПРАВЛЕНИЯ ТЕРРИТОРИАЛЬНЫМИ  
ИННОВАЦИОННЫМИ КЛАСТЕРАМИ**

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**Аннотация.** В статье рассматривается проблема управления территориальными инновационными кластерами. В современных условиях территориальный инновационный кластер рассматривается как самостоятельный объект управления. Определена значимость кластеров для инновационного развития территорий базирования кластеров. Необходимость интеграции организаций-участников кластера, инфраструктурных объектов, финансовых институтов, научно-исследовательских, внедренческих и инвестиционных фирм является ключевым условием обеспечения оптимального функционирования территориального инновационного кластера. В работе обоснована возможность взаимодействия между участниками кластера на основе государственно-частного партнерства. В рамках исследования выявлены особенности управления территориальными инновационными кластерами в регионах РФ, связанные со спецификой условий их функционирования. Рассмотрена роль и выделены формы управляющих компаний территориальных инновационных кластеров РФ, которые предоставляют методическую, организованную, экспертно-аналитическую, информационную поддержку кластерам. В статье представлены факторы и условия, оказывающие влияние на организацию управления территориальными инновационными кластерами и структуру управляющей компании. Особое внимание уделено начальному этапу создания управляющей компании и определению состава участников управленческой структуры. Обоснована необходимость создания особых условий для проявления кластерных инициатив, способствующих появлению и развитию кластера в регионе. Кластерные инициативы, получившие поддержку через центры кластерного развития, позволяют реализовать общие интересы участников кластера, способствуют осуществлению совместной инновационной деятельности и повышению результативности инновационного процесса.

**Ключевые слова:** инновационный территориальный кластер, кластерная инициатива, управляющая компания кластера.

**MANAGEMENT ORGANIZATION OF TERRITORIAL  
INNOVATION CLUSTERS**

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**Abstract.** The article deals with the problem of managing territorial innovation clusters. In modern conditions, the territorial innovation cluster is considered as an independent object of management. The significance of clusters for the innovative development of cluster-based regions is determined. The need to integrate cluster participant organizations, infrastructure facilities, financial institutions, research, implementation and investment firms is a key condition for ensuring optimal functioning of the territorial innovation cluster. The article substantiates the possibility of interaction between cluster participants on the basis of public-private partnership. The research reveals the peculiarities of managing territorial innovation clusters in the regions of the Russian Federation, related to the specifics of their functioning conditions. The role and forms of management companies of territorial innovation clusters of the Russian Federation, which provide methodological, organized, expert-analytical, and information support to clusters, are considered. The article presents the factors and conditions that influence the management organization of territorial innovation clusters and the structure of the management company. Special attention is paid to the initial stage of creating a management company and determining the composition of participants in the management structure. The necessity of creating special conditions for cluster initiatives that contribute to the emergence and development of a cluster in the region is substantiated. Cluster initiatives supported through cluster development centers allow realizing the common interests of cluster participants, promote joint innovation activities and improve the effectiveness of the innovation process.

**Keywords:** innovative territorial cluster, cluster initiative, cluster management company.

*Problem definition in general form and its connection with important scientific and practical tasks.* Currently, researchers pay close attention to the preparation and development of innovation systems at various levels, such as the national innovation system and the regional innovation system [1]. In contrast to the existing innovative approach to system management, the authors focus on managing territorial innovation clusters, considering the specific conditions for cluster formation and operation.

The formation of a cluster that adapts to changing market requirements allows regional economies to intensify constantly their specialization and focus on new and more complex activities [2].

Spheres of activity and regions, where clusters have been successful, attract investors [3]. Regional competitiveness

depends more on the innovation potential of regional companies and clusters, rather than on individual companies, which increases the importance of cooperation and expansion of joint innovation activities [4,5]. The implementation of joint innovation projects not only contributes to the possible use of synergy between different companies within an integrated structure, but also contributes to a significant and systematic strengthening of the entire economic structure [6].

In this regard, it is necessary to identify the concept of "innovation cluster" as an independent object of management. In the post-industrial era, clusters designed for innovative growth will improve [7]. The competitive advantage of clusters is not so much in territorial proximity as in functional interdependence and complementarity [8].

Innovation clusters are considered as a network innovation ecosystem [9].

Companies in the territorial innovation cluster are usually more interested in joint projects involving other research and development companies that finance the transfer of innovations and prefer to join together to implement the innovation process. In modern conditions, the main feature of innovation clusters is that the nature of interactions leads to the rapid development of new products in response to changing consumer needs [10].

Therefore, we define innovation clusters as effective forms of the innovative type integration - a system of interconnected technological and territorial communities of companies, organizations, infrastructure facilities, financial institutions, research, innovation and investment firms to ensure the optimal functioning of all structural elements in the process of creating innovative products and technologies [11].

In addition to producers and consumers, the cluster innovation structure includes intermediaries, investors, information infrastructure, government agencies, and international relations infrastructure.

*Analysis of recent researches and publications.* The presence of cluster initiatives in a particular area is considered an important condition for identifying the potential impact on the development of innovative clusters. Integration of participants economic interests in regional clusters means involving public authorities, science and business in the innovation process. The term "cluster initiative" is common in the modern world. This concept was born in 2003. It was presented by Swedish scientists K. Ketels [12], G. Lindqvist [13] and O. Sorrell [14].

These initiatives are being implemented in various regions and affect research institutions, government agencies, and cluster companies. Most cluster initiatives are related to the implementation of project-oriented cluster development activities. These activities are an effective tool for cluster policy at both the regional and federal levels. Most cluster initiatives include:

- initiatives of various organizations and companies (scientific, private, public);
- managing initiatives (general process management);
- funding initiatives based on approved budgets.

Cluster initiatives in the global economy are considered as mechanisms for the growth of new clusters that allow achieving the following goals:

- seek support from local authorities and develop long-term innovative strategies based on modern information technologies;
- organization of scientific research in order to form a technical basis for the growth of regional clusters;
- activation of efforts to attract new sources of investment in innovative clusters of the territory;
- creating new jobs, increasing the percentage of innovation and export products, creating new businesses, and gaining access to investment.

Therefore, the cluster initiative is a system of activities aimed at the emergence and development of a cluster in any region. All activities are carried out through joint efforts of all cluster participants: the head cluster organization, national authorities and companies-members of the cluster.

*Formation of the article goals.* Justifying the usefulness of the management organization of territorial innovation clusters, it is necessary to determine what conditions and factors contribute to the formation and development of innovative type clusters in certain regions.

To determine the starting conditions for creating integrated cluster structures, it is necessary to identify management objects in the process of forming and developing regional innovation clusters:

- cluster initiative;
- innovative activity of participants;
- innovative behavior;
- active interaction between scientific and commercial

organizations and representatives of the state municipal administration.

*Presentation of the main research material with full justification of the scientific results.* The possibility of interaction between the cluster participants is provided on the basis of public-private partnership. Federal Law 224-FL, adopted on July 13, 2015 "On public-private partnership" [15], municipal-private partnership in the Russian Federation and amendments to certain legislative acts of the Russian Federation", is aimed at creating a legal environment that attracts investment in the Russian economy and allows improving the quality of goods, works and services. The law regulates legal aspects and general principles of relations, establishing interaction between private companies and public institutions. In addition, this law defines the procedure for participation in private public partnerships. The Federal Law defines the basis for legal regulation of relations between participants in municipal-private partnership projects; the creation, implementation and termination of projects; public-private partnership agreements, partnership agreements between municipalities and the private sector, including public-private partnerships for state and local authorities, protection of legal rights and interests, partnership agreements between municipalities and private services [16].

As part of the adoption of the law, which entered into force on January 1, 2016, the legislative norms and legislation of the subjects of the Russian Federation were brought into compliance with it by July 1, 2016. This law has had an impact on regulations adopted in the regions where innovation clusters are based in the Moscow, Samara, and Tomsk regions.

In particular, the adoption of the law "About public-private partnership" of the Tomsk region, considering the specifics of regional relations, ensures the attraction of private, municipal and state resources, including scientific, technical, intellectual, financial, material and other resources necessary for the development of the socio-economic sphere in the region and improving the standard of citizens living. Main measures aimed at developing public private partnerships:

- attracting new investments to the regional economy;
- development of projects to address socio-economic issues;
- effective property management on the balance of regional and municipal authorities;
- improving the quality of services, jobs, and products provided to local residents.

The management of a territorial innovation cluster is related to the need to define an authorized management [17]. In accordance with the requirements for the development programs of territorial innovation clusters for 2013-2014 years, a prerequisite for receiving grants is the specialized organizations creation for cluster management. Management organizations provide methodological, organized, expert-analytical, and informational support to clusters. Most of the pilot innovative territorial clusters in the Russian Federation were created by management companies that have significant differences in organizational and legal forms, the number of employees, their qualifications, and their place in the regional power structure [18,19].

The cluster management system in the Russian Federation is complex and has a multi-level nature. The modern management system of innovative territorial clusters is characterized by a wide forms variety of management organizations:

- management company;
- cluster development center;
- public and private organizations;
- government development agencies;
- regional, municipal and federal authorities;
- the company participating in the cluster.

The management company of an innovative territorial cluster is a specialized organization responsible for

providing methodological, organized, expert-analytical and informational support.

Table 1 - Management companies of an innovative territorial cluster in the regions of the Russian Federation

Region	Name of the organization
the Krasnoyarsk region	JSC «Agency for development of innovative activity in the Krasnoyarsk region»
Moscow region	Non-profit partnership «Dubna» Pushchino state institute of natural sciences Non-profit partnership «Center for development of the biopharmaceutical cluster «Severyn» State-owned organization of the Moscow city «Zelenograd development corporation»
the Nizhny Novgorod region	Federal state unitary organization «Russian federal nuclear center. All-Russian research institute of experimental physics»
the Ulyanovsk region	Autonomous non-profit organization «Center for development of the nuclear innovation cluster of the Dimitrovgrad city, the Ulyanovsk region» Regional state-owned government institution «Development of the Ulyanovsk region aviation cluster»
the Arkhangelsk region	Center for technology transfer and cluster development of NASU M. V. Lomonosov
the Perm region	JSC «Proton-Perm motors»
the Samara region	State autonomous institution of the Samara region «Center for innovative development and cluster initiatives»
the Khabarovsk region	JSC «Far eastern innovation promotion agency»
the Kaluga region	JSC «Agency for innovative development - Kaluga region cluster development center»
the Leningrad region	Organization «Center for strategic research «North-West»
the Tomsk region	JSC «Center for cluster development of the Tomsk region» Tomsk state university of control systems and radioelectronics
the Novosibirsk region	Scientific institution «SibAcademSoft»
the Republic of Mordovia	Autonomous institution «Technopark-Mordovia»

Currently, there is an acute problem of developing a cluster management system that provides:

- formation and accumulation of cluster potential;
- creation of organizational mechanisms for interaction between various entities in clusters;
- development of the information exchange system and providing feedback from cluster participants;
- training and advanced training of cluster managers.

Based on the functioning practice analysis of territorial innovation clusters, the purpose of managing specialized organizations within cluster structures is identified: creating conditions for effective interaction of organization-participants in the cluster, educational and scientific institutions, non-profit organizations, government agencies and investors in the interests of developing an innovative territorial cluster [20].

The main types of management activities in specialized organizations are:

- promotion and implementation of projects for the development of territorial innovation clusters carried out by 2 or more participants;
- assistance to participants in developing cooperation in the field of innovation, including with external organizations;
- consulting services for cluster participants;
- training and retraining, advanced training and organization of internships for cluster personnel;
- organization of events, promotion of clusters,

organization of activities for the participation of cluster entities in exhibitions, fairs, exchange events, including in foreign countries;

- organizing the provision of marketing and advertising services, providing legal support for cluster members.
- development and assistance in the implementation of innovative programs for the development of an innovative territorial cluster.

The author's research allows us to specify the process of creating an innovative company for managing an innovative territorial cluster. An important stage is the initial stage of creating a management company and determining the composition of participants in the management structure [21]. Cluster employees, especially cluster managers, must have qualifications and knowledge of industry specifics, and have management experience based on participation in management processes. The decision to choose the management company structure and administration should be made by all responsible cluster participants. Initially, it is necessary to form a project team for the implementation of daily activities. The size of the project team depends on the number of cluster participants, but must include at least 3-5 people. The professional team must be carefully selected.

The next step is to create a cluster advisory authority (Advisory Council). The Advisory Council consists of 10-12 participants and performs the following functions:

- it advises on the implementation of cluster initiatives, strategic positioning, control and monitoring of network activities.
- it supports the project team, focuses cluster initiatives on existing and potential markets and technical requirements;
- it assesses completed projects in terms of recognizing their profitability for other cluster member companies, and it develops new cluster development plans.

The Advisory Council receives all necessary documents from the project team, and meets four times a year if possible. When determining the conditions for starting cluster initiatives, it is important to determine whether there is a cluster development center on the territory of the cluster location. Based on the performance analysis of the innovative territorial clusters of the Russian Federation determined the regions in which the centers of cluster development: the Moscow region, the Kaluga region, the Ulyanovsk region, the Samara region, the Voronezh region, the Lipetsk region, the Kurgan region, the Astrakhan region, the Republic of Tatarstan, the Republic of Bashkortostan, the Republic of Sakha, the Perm region.

*Conclusions of the study and prospects for further research in this area.* The cluster development center is defined as a structure that unites all subjects of innovation clusters, promotes the development of communication within an integrated structure, and is a tool for implementing strategies for advanced development of regions. Cluster initiatives are implemented through cluster development centers, common interests of participants are determined, and a platform for joint innovation activities is created, gaps between the stages of the innovation process are eliminated. The implementation of joint projects of cluster participants contributes not only to the using the potential of individual companies, but also to obtaining a synergistic effect and strengthening the integrated structure as a whole.

Innovative activity in the innovation management system "state-society-science-technology-economy-education", includes a wide sphere of state, innovation and educational policy for the creation and development of knowledge-intensive and resource-saving technologies, effective use of acquired licenses, disclosure of know-how at the regional and cluster level. It should be considered that an important role in the cluster management system is played by the use and development of the cluster innovative potential. Management organization of territorial innovation clusters allows forming the ability of the system to transform into a new state in order to meet the existing or newly emerging needs of participants in the territorial innovation cluster.



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