

*Materials of Conferences***CLUSTER CONCEPT IN REGIONAL INNOVATIVE DEVELOPMENT: THEORY AND RUSSIAN PRACTICE**

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At the regional level, clusters are considered as balanced mechanism policy of innovative development of the area, are favorable conditions for the effective cooperation of regional actors and institutions of science, government and business, the development of various forms of public-private partnerships in the area of innovation. General recommendations for regional policy development clusters lie in the fact that such a policy eliminates or reduces regional barriers and supports clusters, does not replace market mechanisms that form of objective conditions for the development of clusters. The central part of the innovation cluster structure in the region – companies, which depends on the actions of the direction of the cluster, the nature of the projects and programs developed by the commercialization of scientific -governmental organizations for innovative products and the latest technology. In some regions of Russia already has several clusters formed around key industry sectors and selected Russian cities with a high concentration of activities in the field of research and development in certain areas. Among the key issues in the development of domestic cluster structures at the regional level: the lack of funding, the choice of the industry in which a given region could be developed, informed economic agents about ongoing and planned cluster initiatives. In the Krasnodar region initiative on creation and development of cluster structures are offered in the following areas: engineering cluster, the cluster woodworking processing, a cluster of food processing industry, wine cluster, a cluster of petrochemical, transportation and logistics cluster.

**The Introduction.** The cluster theory is especially highlighted, among the various formation and development mechanisms of the economic systems competitiveness of the localization different levels. The «cluster» concept is practically at its basis, as the efficient and the interconnected groups' concentration of the competing companies, having provided the competitive positions in the industry, national, and the global markets. Thus, the clusterization has been become the increasingly significant part of some countries' regional policy in the field of the innovation development. For example, the European Union, in the framework of the funds development for the clustering structures financing for 2007–2013-es ha been allocated

the substantial sums to be supported the clustering initiatives further development in many European regions and areas. In 2009, 26 from 31 European countries, having entered into the EC, the clustering programs have already been implemented at their national level. So, the European Clustering Observatory is practically being operated at the EC level. The «Regions of Knowledge» implemented knowledge, as a part of the Framework EC Program for the Research and Development is being promoted the networking cooperation at the all – European level between the innovation clusters, having included into themselves the local authorities, the enterprises, and the research centers. This initiative budget (e.g. 2007 – 2013-es.) – is 126 mln. euro. So, the final result should be strengthened the investment and innovation the regions' capacities, as well as their ability to be participated in the all – European Research Projects [9]. The Report of the US National Research Council [4] is also the considerable attention is practically paid to the clustering policy, including the development measures policies at the Regional level. In particular, the US Department of Commerce is charged with the competitive grants selection for the innovation regional clusters, as well as the Research and Information Programs Establishment for the regional innovation strategies further development. So, in 2010, by the US federal Government, at the aims of the activities coordination, in the field of the clustering policy, the Commission has been established by the territorial innovation clusters (e.g. the Federal Task Force on Regional Innovation Clusters). Also, the inter – agency coordinating bodies at the different times have already been established in Finland, France, Norway, Sweden.

So, the clusters are being acted by the balanced mechanism of the development policies in the region, they are the favorable condition for the efficient cooperation among the regional subjects and the science, government, and business Institutes, the various forms creation of the public and private partnership. The innovation activities are being activated in the regions; the innovation infrastructure is being formed and further developed through the clustering process, resulting in the industrial potential further increase of the area. It should be considered in the mind, the regions are being differed by their economic development level and because of this, their innovation results are being varied considerably, with the clustering concept further development at the regional level. In this regard, there cannot be the regional – universally policy, each region should be developed their own unique set of the measures to be supported the clustering structures.

So, the general recommendations to the clusters further development regional policy are reduced to the fact, that such kind of the policy is eliminated or is decreased the existing regional barriers, and it is supported the clusters. But, at the same time, it is not replaced the market mechanisms, having formed the objective conditions for the clusters' establishment and their further development in the certain areas. As the world practice is practically testified, the regional cluster policy is preferred mostly to the indirect tools and, in some cases, it is avoided the direct intervention.

#### **The Cluster Concept: the General Notions**

So, there are quite different clusters' types and their classifications: the financial, the innovation ones, and the others. In particular, under the innovation cluster they are understood the geographical concentration (e.g. the projected or the spontaneous one) interconnected innovation – oriented firms and the companies, the core of which is a few of the most sustainable enterprises of the real sector of the economy, that can be provided the effective and the solvent demand for the innovation developments and their design [2]. The cluster members are practically connected by the external and the mutually complementary relationships, which are usually situated next to each other (e.g. within one region or the neighboring areas) [3]. The regional cluster is practically considered, as the area of the highly concentrated activities of the interconnected companies and the organizations from the same or the related sectors of the economy, having operated and developed in the limited geographic area (e.g. the region).

The quite different mechanisms and the instruments for the clusters further development stimulating are used in the framework of the state cluster policy of the countries, including the creation of the specialized coordinating, the advisory, and the working bodies, the organizing and the expert – analytical analysis analysis support provision of the regional clusters further development, the direct state co-financing of the programs and the projects realization of the regional clusters further development and the others. In particular, the project on the Bio Regio biotechnological clusters further development has been realized in Germany since 1995. The program on the innovation clusters formation – the competitiveness poles – is practically being realized in France. The cluster approach has also been used for the industrial policy further development of Finland in 1991 – 1993-es.

The cluster members are usually enjoyed a variety of the different economic benefits and their advantages, due to the geographical proximity and the activity specifics: the access to the specialized human capital and the suppliers, to the unique knowledge and their replication in the other sectors, the efficiency and productivity increase. So, the administrative, Institutional, and organizational links are led to the fact, that one cluster is practically con-

nected with the others. The key point in the cluster's structure – is the innovation spread on the entire value chain and the single logistical window for the interaction with the external environment [1].

The clusters are increased their productivity and the regional enterprises and the companies functioning efficiency, through the linkage, the external effects and their interaction between firms and the companies and the related enterprises and the agencies, the further coordination improvement, and the best and the advanced practices further dissemination. The clusters are further stimulated the innovation environment and the technological innovations further development. For example, the IT-clusters in the Silicone Valley, and Bangalore. So, one cluster is often generated and activated the other clustering structures activity, because it is resulted in the activity «dissipation» in the value creation chain (e.g. «the domino effect») for the risks reduction, in the access improvement to the cheap resources, in the services improvement of the specific regional markets. «The domino effect» example – is the optics cluster in Arizona, which has been stimulated the clusters' organization in the aerospace industry, informational technologies, and the biological sciences.

#### **The Clusters' Development in Russia at the Regional Level**

The creation value of the innovation clusters in the different regions is conditioned by the need in the efficient further economic development of Russia. Within the cluster, all the members are given their opportunity to be functioned, as the competitive enterprise, having sheared their experiences in the formal and the factual collaboration with the other firms and the companies, while, for all this, maintaining their flexibility and the possibility to be increased the innovation potential. Within the frameworks of the further development regional policy, the clusters are being considered, in the context of the new competitive advantages formation of the regions, the growth poles, as well as the existing infrastructure strengthening of the regional production.

Several clusters have already been existed in some regions of Russia, having formed around the key branches of the industries: the Aerospace one in Moscow and Samara, the Agro-Industrial one in the Krasnodar Region, and Belgorod Area; the Information and telecommunications one in Moscow, Saint-Petersburg, Novosibirsk and Tomsk Regions, the Machine Building one in Lipetsk and Samara Regions and the others. Some Russian cities and towns with the high level activities' concentration in the field of the Researches and the further Development in the certain and the specific areas are the significant generators of the knowledge and the potential centers of the scientific clusters: Dubna, Obninsk (e.g. the Nuclear Technologies); Korolev, Khimki (e.g. the Space and the Missile Technologies); Zhukovsky (e.g. the Aviation Technologies);

Zelenograd (e.g. the Radioelectronics and the Microelectronics) and the others.

According to the WEF's experts, the domestic clusters cannot, yet, be competed with the foreign structures, and the entities, as they have been created, mainly, in the traditional sectors of the economy, which are weakly developed. In addition, the domestic clusters almost cannot be functioned without the Government support. Today, even the Moscow Region and Saint-Petersburg cannot be competed with, as the world leaders (e.g. Tokyo, the Silicone Valley, Seoul), well as with the averaged ones, by their development level of the Regions' innovation clusters (e.g. Helsinki, Tel Aviv). So, not high and low level of the Russian's clusters' development is confirmed the rating by the Global Competitiveness Index, according to which, Russia, for this indicator, is in the list's outsider, and it is lagged behind not only a number of the developed countries, but also from the BRICS's group countries. So, in 1912, it took only the 114-th place among the 144 countries throughout the world (e.g. China, Brazil, and India the 23-rd, 28-th, and 29-th places, respectively). One of the clusters' formation challenges in Russia is the sector's industry choice, in which one or another Region could be developed. Another challenge – is about the economic agents' information on the clustering initiatives and the clustering policy, on the whole. There is, moreover, and the objective need in the persuading on the positive effect from the business members' clustering – the process, that traditionally do not accept any innovations and they do not willing to be taken any risks, having participated in the inter-firm and the corresponding inter-company cooperation.

It is aimed to be changed the emerged situation on the allocation and the project's government support of the leading innovation clusters of the country. To this end, in August, 2012, it has been approved the list of the 25 Russian's innovation regional clusters [8]. The Biopharmaceutical cluster in the Arkhangelsk Region, the Shipbuilding innovation regional cluster in the Kaluga Region, the Cluster of the ZATO Innovation technologies in Zheleznogorsk town and the others – are among all these clusters. Thus, the clusters are completely supported from the Federal and the Regional budgets, on the basis of the co-financing to be met the challenges solution of the infrastructure's further development. Thus, the already selected clusters in their perspective are practically designed to be provided the positive external effects for the Region's innovation system and the country's innovation environment, on the whole, the intellectual capital attracting to the intensive scientific and the research work. So, it is proposed, the cluster members to be jointed the related the technology platforms in order, to be enhanced the achievements' effect and the networking cooperation expanding inside the cluster itself.

Thus, the clusters further development at the regional level are contributed to such latest Governmental initiatives, such as the following:

- the networking creation of the national Research Universities, by the leading Higher Educational Institutions' of the country assigning the corresponding status («the National Research University»), which is allowed the Institutes of Higher Educations, the Universities, and the Colleges to be gained the access to the governmental funding for the purpose of the new curricula, the international mobility, and the scientific and research infrastructure supporting;

- the further development program of the Universities' innovation infrastructure (e.g. the business – incubators and greenhouses, the industrial and technology parks, the engineering centers);

- the technology platforms creation – the networks on the basis of the partnership – having aimed at the strengthening ties and the cooperation among the leading manufactures the suppliers, the scientific and research organizations, the Universities, and the engineering companies [5]. Such kind of the platforms have already been organized, as the public – private partnerships, and, they, moreover, are included the laser and the optical technologies, the national software platform and the others;

- the project realization on the «Skolkovo» Innovation Center implementation [6], having included the Technical University («SkolTech»), and as well as some specialized clusters (e.g. the Information technology one, the Aerospace one, the Biomedical one, the Energy efficiency one, and the Nuclear one), and the Industrial and the Technopark.

Thus, the objective assessment of these above – indicated public and governmental initiatives on the clusters further development to be conducted much early, as the arrangements have recently been realized, and many of them have had the long – term effects. So, it is quite obvious, that the final results will be depended on the coordinated and the systematic actions of the Government, the needs and the interests of the business and the other stakeholders and the subjects concerned satisfaction (e.g. as the national, well as the foreign ones). The efficient and the transparent legal system, the positive business climate, the internal competition, the stimuli and the incentives for the direct foreign investments, the Governmental initiatives' and their reforms' transparency, the complete confidence from the business side to the policies implemented – are among the key factors for the final success.

#### **The Innovation Cluster Formation Direction in the Krasnodar Territory**

As the world practice in the innovation further development management of the regions has been testified, the cluster approach is one of the most efficient methods to be ensured the economy growth. So the clustering strategy formulation, in the framework of the general innovation

strategy of the region, the first – priority sectors of the clustering support identifying is practically the most actual challenge and the urgent task, in the framework of the regional policy of the Krasnodar Territory's innovation further development.

By the level of the innovation further development, the Krasnodar Territory is referred to the «innovation leaders» in SFD (e.g. the organizations' share, having involved in the scientific researches in the subjects of SFD is made up 20,8%), and it is on the 27-th place among the subjects of Russia. By the value of the Russian Regional Innovation Index of 2012, having calculated by the SRM HSE, the Krasnodar Territory is occupied the 57-th place in the rating. In the period, from 2007 up to 2011-es, it is observed the innovation activity level decrease of the Krasnodar Territory's organizations, having engaged in the technological innovations (e.g. from 6,4% down to 4,6%) [7].

Among the most significant challenges of the innovation process further development at, as the national, well as the regional levels – the lack of the developed communications and the science with the production interaction, the mechanisms, having provided the commercial application of the scientifically – research and the innovation developments. It is presented, that the clustering program will be bridged the gap between the fundamental, research works and the directly introduction into the production implementation, and the further these results' commercialization on the market. The cooperative and the competitive relations formation between the potential members of the regional cluster will help to be modernized the production and the management processes, and, ultimately, to be improved the overall level of the innovativeness of the Region.

So, the regional administration is served by the regional clustering programs' initiator. The industry's sector evaluating and its further selecting challenge are practically faced before it, in the framework of which the cluster further development is much profitable. So, it is proposed a number of the clustering initiatives implementation, including: the Machine building cluster (e.g. the cluster centers – are Krasnodar, Tikhoretsk, Kropotkin, Armavir, Abinsk); the Cluster of woodworking and the production of wood products; the Food and processing industry cluster; the Wine – making cluster; the Petrochemical cluster; the Transport and logistics cluster, and the others by the Ministry of strategic development, investments and foreign economic activity of the Krasnodar Territory.

It, moreover, should be noted among the main recommendations for the clustering structures' establishment and their further development on the Krasnodar Region's territory, that the central part of the clustering structure in the Region should be acted the business – enterprise of the specific branch of the industry, which is practically dependent on

the actions of the cluster further development direction, the nature of the projects and the programs developed, the commercialization of the innovation products and the latest technologies use, having developed by the scientific organizations. So, the clustering processes influence, as a rule, is extended beyond the single branch of the industry, therefore, the enterprises' potential realizing is involved the partners from the related branches of the industry and the intermediaries (e.g. for example, the financial and the logistic one), having taken their responsibility for the non – profiling or the underdeveloped functions execution.

Thus, it is quite possible the conclusion can be made by us, that the efficient challenges' solution in the field of innovation further development (e.g. including the inadequate funding, the poor participation of the business circles members, the low interest in the cutting – edge researches deployment, the low degree of the innovation products commercialization) at the regional level is presented by means of the mutual relations system modernization among the economic subjects of the Region, their innovation activity intensification on the basis of the clustering approach. The innovativeness overall level of the Krasnodar Territory can also be upgraded, due to the cooperative and the competitive relations formation among the potential members of the regional cluster.

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