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Сборник представляет доклады международной конференции "**Пространственный анализ социально-экономических систем: история и современность**", которая состоялась в ИЭОПП СО РАН 10-13 октября 2016 г. Доклады посвящены вопросам пространственного анализа и моделирования социально-экономических систем, использования новых методов и данных в этой области.

Конференция была посвящена памяти академика А.Г. Гранберга, внесшего неоценимый вклад в становление региональной науки в России. Публикуемые здесь труды ученых из разных регионов и стран, принадлежащих к разным научным школам, представляют современное состояние региональных исследований на постсоциалистическом пространстве.

Идеи и выводы авторов не обязательно отражают мнения представляемых ими организаций.

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STRATEGIC DIRECTIONS IN CREATION OF INNOVATIVE CLUSTERS IN UKRAINE

Abstract

Authors of the study set a goal of creating the strategic directions of innovation clusters in Ukraine. To solve it the authors analyze the experience of formation of modern methods of clusters in the European Union. As an initial guideline the author adopted EU strategic objectives and the methods of "Europe 2020" and the theoretical concept of clustering as a form of efficient use of regional resources and scientific and technical potential. Taking into account the geopolitical and geo-economic position of Ukraine, priority is given to industry, where the use of cluster organizations makes it possible to tackle the dual task of raising living standards and national security. As a methodological basis for the formation of the cluster system of Ukraine the authors accepted the competence network widely used in Germany, which provided integration into one of the most successful groups of innovative and complex country. The article defines the national priorities of Ukraine in the following order: agriculture and food industry, medicine, medical tourism, machine and shipbuilding, aviation and space. A schematic diagram of territorial distribution centers of competence networks is developed.

Keywords: cluster, cluster policy, innovation, national priorities, network competence strategy.

1. Forming the cluster policy of regions

Regional development relies primarily on using the region's own resources. In this context, studying of the cluster forms of industrial organisation, which have spread in particular all across Europe, is of great importance. Cluster policy is primarily oriented towards the development of small and middle enterprises since they provide an opportunity to solve the problems with employment and engage large masses of employees in innovation activity, activating the development of the entire region.

In the developed economies, the share of employees working at such enterprises reaches from 50 up to 70%, while the contribution of such enterprises to GDP is from 50 up to 60% [1]. These enterprises form the basis for creation of the cluster-type production systems that can exploit traditional advantages of small businesses, such as the ability to respond quickly to changes in business environment conditions, extended limits of economic freedom, creation of additional jobs, innovative activity, and middle class formation. Integrating small and middle enterprises into clusters allows to generate benefits, which have traditionally been typical of large-scale production. Among them, it is worth to specifically mention such benefits, as an increased financial capability to use the achievements of science and technology progress and economies of scale.

The foreign experience shows that successful realisation of the cluster approach calls for the development of a special national programme that would determine the incentives and support for clusters in various spheres of the economy. At the same time, one can consider both the traditional approaches to creation of local production systems interpreted broadly as agglomerations and the specific ways of creating world-class innovation clusters.

The programme analysis of economic reforms in Ukraine (in particular its regional policy), which encompass both the current and future periods, shows that small business and clustering are not given proper significance. Clustering is a new economic phenomenon, which has become a mechanism allowing to resist the pressure of global competition and to form intra-national and enterprise-specific competitive advantages. Development of the state clustering programme should clearly identify the level at which it is targeted.

Since the cluster approach is primarily a managerial method of integrating of small and middle enterprises, it must, therefore, be oriented at increasing of the competitiveness of the region where cluster participants are located. It is through the prism of regions that the influence of clustering on the development of industries and the entire state should be considered.

As a rule, national ministries articulate general strategic targets. They also determine budgetary goals and decide on establishment of new bodies of power. Other public institutions and regional authorities play a leading role in the development of programmes and their management. The programmes include specific initiatives, which are realised by applying instruments at the discretion of particular regions or sectors. An important role in this process belongs to institutions, which develop the initiatives. Therefore, many actors take part in the development and realisation of the cluster policy, which requires elaborating of effective mechanisms for coordinating of their interaction.

It would be reasonable to use a star methodology for cluster policy differentiation. This methodology was developed by the experts from the European Cluster Observatory. Similar to hotel classification, clusters are assigned by stars as measures of their performance ranging from zero to one, two, and three stars, depending on cluster size, specialisation and focus indicators.

The methodology of assigning stars to European clusters was analysed by such Ukrainian researchers, as Burmych, Lukyanenko, Panchenko, and Chuzhykov [2]. The size of a cluster is a measure of its impact on employment. Its highest level should be higher than 10% of the standardised indicator for the top EU regions, and it is calculated as a ratio of the number of persons working in a cluster to total employees working across the EU. Specialisation in the star methodology is determined if the region within the European division of labour stands out in specific cluster category among the top 10% of the EU regions with highest employment in the respective industry. The third indicator -- "focus" -- is used to assign a star to a cluster, if it accounts for a major share of regional employment, in particular if the cluster falls within top 10% of similar clusters with the highest shares of employment in this region.

The development of cluster policy needs respective information systems. They can be created by institutions specialising in the information function. In particular, in the EU, the input data on clusters are formed by the INNO-Policy TrendChart [3] in cooperation with ERAWATCH [4].

Till now, more than 130 national measures on cluster support were registered [5]. At the same time, a new scheme for collection of information on cluster policy is being developed. Main attention is paid to provision of information on horizontal and vertical cluster strategies, as well as to programmes of financial support for clusters.

The elaboration of cluster policy for the Ukrainian economy is based on the experience which has been accumulated over recent decades in the countries of Euro-Atlantic space. However, it has never become systemic in nature. The Ukrainian literature mostly analyses separate attempts to create network structures in the European countries. With such an approach, one cannot expect to achieve proper implementation of the world's best practices.

A different approach evolved in the countries of Central and Eastern Europe. Thus, systematic research on cluster development, with regard for achievements of developed countries, has been taking place in Poland since 2002. Main attention is paid to small and medium businesses, their innovation capacity, and implementation of the "Third Italy" phenomenon [6].

2. Information support for clustering programme development in Ukraine

It is high time for Ukraine to develop clustering programmes in such spheres, as information and brokerage services; technical assistance and consulting; direct financing; organisation of official and training events; organisation of networked events; lobbying; marketing; monitoring and reporting. These programmes can create grounds for achievement of such goals as advanced training, cluster expansion, business development, deepening and expansion of business cooperation; R&P innovations, usage and improvement of business environment conditions.

It should be stressed that information representation for cluster policy design and implementation processes is a rather complicated task, so new, effective methods must be found and tried for its improvement. Such an activity has started in the EU. At that, one should take into account that the policy for a specific cluster can encompass a broad range of different tasks and measures of receiving support. Sources for the latter may be the “soft policy” measures aimed at facilitating self-organisation through various networks and information-sharing. One cannot exclude application of the “rigid” horizontal channels imposed by regional authorities upon clusters (this can often be reasonably linked to financial policy rigidities).

The structure of cluster policy should reflect the benefits of such integration to participants of the newly created production network. The experience of companies operating in the Euro-Atlantic space shows that the competitiveness of clusters in general and their participants in particular increases thanks to synergy effects arising from resource allocation, intensified market activity, increased productivity, and ability to accumulate capacity for the future.

Economic policy in the sphere of clustering should be based on the fact that clusters as a form of regional and innovative organisation, should appropriate adequate financial and infrastructural resources. These resources should be formed by specific way, other than traditional companies' resources. As a rule, these are internal and external funds or investments involved in joint project financing. In terms of infrastructure, clusters can have readily available office facilities, conference halls, internal communication networks, and laboratories. It is important to ensure that resource potential is not of one-time nature, but is available for common use of cluster participants over the long term.

Even though the enterprises and organisations that join the production networks in cluster formations are supposed to support the competition-induced productivity levels, they actually strive to at least not let them fall. However, the very fact of cluster creation makes it feasible and necessary to increase the network's productivity. In order to achieve this, it is necessary to plan for activities aimed at development of human resources, growth of competitiveness, enhancement of cluster's innovation capacity and its internationalisation. These measures should not duplicate the internal activity of cluster participants, but be determined and realised at the cluster's aggregate level. Generally, it is reasonable to say that cluster growth potential consists in the cluster's very model enabling better use of regional resources, science and technology, labour, as well as financial, information, and managerial capacity. At the same time, management capacity should be integrated in the system of state macroeconomic policy, enhancing its positions on the world market.

Expectations to effectively use cluster systems in industrial organisation may become reality at least if three conditions are satisfied. First, the clustering processes should conform to real economic situation in Ukraine. Second, the existing and future clusters should be embedded in the system of economic reforms stipulated by the EU-Ukraine Association Agreement. Third, in the Ukrainian economy, clustering should adjust the world's experience of exploiting cluster networks to national conditions.

3. European vectors for innovative development of regions until 2020

By forming the association with the EU and its member states, Ukraine receives a unique opportunity to adopt the European Strategy “Europe 2020” as a reference for its own development. This concerns both the goals and the means of their achievement. The main goal of the European Union for the second decade of the twenty-first century is to regain the positions lost in result of the crisis. «Europe needs to get back on track. Then it must stay on track» [7], said J. M. Barroso in the preamble to the European Commission's report on the European strategy for 2010–2020. Titled “European Strategy for Smart, Sustainable and Inclusive growth”, this strategy determines five priority directions for activity of the European countries: employment; research and innovations; climate change and power engineering; education; poverty reduction. Europe can go beyond the pre-crisis development trajectory only if it follows the path of sustainable growth. Slow recovery will generate small base for economic growth, leading to lower growth trajectory than that of the pre-crisis period. One more scenario predicts that Europe will gradually lose its wealth and potential for future growth. Thus, the strategy of sustainable recovery is an ideology, which should lay the basis for economic policy in the countries exiting from the crisis. Ukraine should adopt it as an important component in the development of its new strategy of socio-economic development [8].

In view of its geopolitical and geo-economic positions, Ukraine can use networked forms of industrial organisation to reach smart, sustainable and inclusive growth, starting with rejuvenation of the military-industrial complex. The general approach stipulates that the main task is to give a “second wind” to those science and research, education, test, and manufacturing enterprises, which perform the development, production and armament of military and special-purpose machines, ammunition, and armament. At the same time, new enterprises should be created in order for the country to have a closed loop in production of competitive armour.

The solution to the problem of achieving leadership positions in global economic space can be found in the area of knowledge-based development. The political-economy debate names it “taking a ‘decent’ place in the global competitive environment”. In the conditions when traditional trade flows with the Russian Federation are disturbed, it is primarily necessary to settle the problems of business reorientation from the countries of the Customs Union, especially the Russian Federation, towards the markets of other countries. In this respect, the Association Agreement between the EU and Ukraine creates favourable institutional conditions by opening access to European markets.

It is beyond doubt that European customers will have a demand for Ukrainian products of agriculture, food industry, and eventually power engineering. Today, these are the most successful Ukrainian products on the world market. In the future, Ukraine should develop a strategy for promoting itself on the markets for innovation products.

For the foreign markets, “of particular interest are new industries, since the future is theirs. IT, education and healthcare can give rise to inward medical tourism in Ukraine. We can already have such a complex product of Ukrainian land: not only chernozem, but people as well” [9].

The orientation of the cluster component of Ukrainian reforms towards knowledge economy is the exclusive condition for Ukraine to achieve real Europeanization, -- which is understood as adoption of modern values of the world civilisation, -- in the observable future. The concentration of effort on generation of knowledge and formation of new technological processes and industries is the most complicated but also the least risky way towards leadership, since economic growth based on production of traditional and standardised products brings no global recognition. African and especially Asian countries are good examples of this practice. Thus, in 2005–2012, world exports grew at an average growth rate of 3.5%, whereas North America had the growth rate of 3.5%, Central and Southern America – 1.5%, Europe – 2%, CIS countries – 3%, Asia – 7% (China 11%, In-

dia 10%, Japan 2.5%), Australia – 3.0 % [10]. Ukraine, being the country that integrates with the European economic space, should select the European Union as its main strategic benchmark. It is quite understandable that government authorities and businesses should primarily study thoroughly the processes of knowledge economy development that take place in Europe.

The reformers of Ukraine should take into account the fact that out of the five key goals of the EU Strategy until 2020, the EU set its target share of expenditures on research and development in the GDP at 3% (for the EU-27 countries). In 2011, this indicator was 2.03%, while in 2010 it was 2.01%. These indicators (average for the EU-27 as a whole) are lower than R&D expenditures in many developed countries. Thus, according to recent statistical data published by the State Statistical Service of Ukraine in 2013, the share of R&D expenditures was 2.01% in Japan, 4.0% in South Korea, and 2.87% in the USA (2009), but higher than in China (1.7% in 2009). Among the countries of EU-27, the R&D intensity exceeded the strategic target indicator of the USA only in Finland (3.78%), Sweden (3.37%) and Denmark (3.09%). In such states as Germany, Austria, Slovenia, Estonia, France, the Netherlands, and Belgium, the R&D intensity was above the average for the EU-27, but still lower than the target value of 3% (2.84%, 2.75%, 2.47%, 2.38%, 2.25%, 2.04%, and 2.04% respectively) [11].

R&D intensity in Ukraine is at a much lower level than in the developed countries and countries of the EU. In 2012, it accounted for 0.75% of the GDP, even though in 1990 it reached 2.3% [12].

Irrespective of the fact that in 2011 such a level was characteristic of some post-socialist countries (Slovakia, Latvia, Bulgaria, and Romania), as well as Malta and Cyprus [13], the existing state of scientific research and development creates no basis for the development that would be adequate to geo-economic and geostrategic place of Ukraine in Europe. To tell the truth, compared with less populated countries of the EU, Ukraine has an advantage in terms of absolute R&D expenditures, which reach \$2.4 bn. However, the circle of EU countries whose R&D expenditures are lower than in Ukraine is limited to Latvia, Bulgaria, Estonia, Lithuania, Slovakia, and Romania.

On the whole, in terms of R&D expenditures, Ukraine is by far the biggest laggard compared to other European countries. The countries which rank closest to Ukraine include the Czech Republic (whose R&D expenditures exceed those of Ukraine by the factor of 2.2), Poland (2.4), Denmark (2.6), Finland (3), Belgium (3.5), Austria (4), and the Netherlands (5.9). At the same time, France spends 20.1 and Germany spends 37.2 times more on R&D than does Ukraine.

The analysis of R&D expenditures in Ukraine allows making at least two conclusions. First of all, the collapse of the country's economy due to creation of an oligarchic model in the conditions of weak state governance and exploitation of assets inherited from the Soviet times by private business people that were in power or in management of state enterprises, has brought the country close to being recognized as underdeveloped country. Second, in spite of numerous problems that have accumulated in the economy of the country, the government should adopt a programme for accelerated R&D development. The European target indicator of 3% of the GDP should lay its basis. If the existing level of expenditures is increased by 0.25 points every year, by 2020 Ukraine could reach the level stipulated in the strategy "Europe – 2020". Achieving the 3%-level of R&D intensity will make the share of R&D expenditures in the GDP equal to \$10 bn. This will place Ukraine at one level with such developed countries as Austria, Belgium, Denmark, the Netherlands, Finland, and Sweden in terms of both total financing volumes and per capita expenditures.

Finally, this strategy can transform Ukraine within a short period of time into a knowledge-based economy and remove the burden of oligarchic economic model. Frankly speaking, there will be no alternative for the oligarchs other than to get involved in the processes of transforming national economy into the knowledge economy or gradually fade away. The capital, which has initially been accumulated by collecting rent on corruption, must

be channelled to qualitatively new industries, productions and products. Otherwise, the power of oligarchic capital and of the post-Soviet type of business people¹ will be lost and used by new entrepreneurs.

The focus is on the new generation of business managers which is being formed today and, most probably, will be developing in the near future based on the chain reaction principle.

The idea of transforming Ukrainian economy into the knowledge economy can be successfully realised only if investment is undertaken in the R&D, which, first, will be of industrial importance and second, will contribute to forming a modern innovative national economic complex. For that, it would be feasible to adopt the German experience of harmonised implementation of the innovation strategy by the government and private businesses with the help of “competence networks” (Kompetenznetze), which are regional associations generating new knowledge based on concentration of industrial competences. Competence networks are created in order to search for new science and technology solutions involving target financing from the government. The grant application procedure is based on open competitive selection of projects prepared by regional consortia comprising academic institutions and private companies.

German specialists view the current stage of innovation policy development as a stage of transition. It is characterised by increased demands on the integrity of science and technology developments, which is expressed in attention paid to aspects of external environment, healthcare, transport, etc. [14] In the new conditions, one could also use the idea of using cluster forms in building the innovation capacity of enterprises, the practice which proved worthwhile in the world economy. However, the approach of M. Porter to geographic concentration of companies and research institutions within one industry or technological field has been extended. New approaches give preference to creation of networks of industrial and scientific structures, which adopt cluster principles in their organisation and management without necessarily binding them to a certain territory. They have an overarching, that is, territorial and institutional autonomy and encompass the groundbreaking developmental issues [15]. In Europe, such networks are called “cluster initiatives”, which are financed by cluster support programmes.

The overall framework for creating competence networks can be described on the example of the first federal initiative titled BioRegio programme. It was directed at new clusters, which have not yet grown stiff from long-term “fixating” on traditional approaches. Seventeen applications were submitted for programme participation, of which only three were selected. The winners received €90 mln upfront, with the level of support later increasing by another €1 bn thanks to excellent results of programme realisation.

No less important in the competence network initiative is the assessment system for submitted applications, since winners of the competitions are awarded by considerable amounts of research and development financing. Poland, for example, can attract €100 mn for five years to cluster support only from the all-European Fund of the Operational Programme for Innovation Economy (Program Operacyjnego Innowacyjna Gospodarka) [16].

It is also worth to assign an important role to small and medium business in the structure of cooperation relations. The mechanism of its inclusion in realisation of national projects should be flexible and provide support both from the bottom-up and from the top-down. On the side of the government, it will be necessary to focus on adoption of a legislative package ensuring real possibilities for and encouraging the creation and functioning of clusters in the system of competence networks.

¹ On the whole, huge doubts arise as to the capability of the majority of oligarchic capitalists to successfully operate in a new way without regulatory capture. It is highly probable they will undergo the processes of natural transformation of with the help of the market.

4. Priorities for forming innovation clusters in the regions of Ukraine

Using the experience of German competence networks in the Ukrainian conditions assumes that priorities for science and technology policy should be set. Even such a developed country as Germany cannot afford allocating financial support “to order”; thus, Ukraine should be especially careful with channelling funds to directions that can hamper the formation of the knowledge economy.

It would be logical to build this process according to the scheme “priorities – human and material providing – financing”. However, in the modern conditions, this process should be reverse. The scarcest resource in Ukraine is finance; thence, it is primarily important to define the necessary and possible volumes of investment for competence networks, and to substantiate the priorities in view of this.

The priorities in the science and technology sphere of Ukraine should first be determined as alternatives for consideration. Recently, they have been indirectly discussed in connection with the forced re-orientation of export flows from the Russian market to the European market. They can be arranged in the following order: 1) agriculture and food industry; 2) medicine and medical tourism; 3) machine- and ship-building; 4) aviation and space industry.

It should be noted that fundamental research in agriculture, food industry, medicine, and medical tourism can have one inter-industry programme. At the intersection of these sciences, one should always expect the appearance of the most perspective directions for applied research, which will be adjusted to know-how in manufacturing and practical medicine. The respective methodology can lay the basis for the strategy of building a competence network, which would encompass machine- and ship-building and aviation and space industry. Such approaches allow achieving maximum results with minimum expenses.

It is worth to anticipate that in the case if the competence network initiative is launched, there are high chances that a temptation may arise to monopolise access to finance based on the region's existing industry position. Thus, in machine- and ship-building, Dnipropetrovsk, Kharkiv, Mykolayiv, Odessa, and Kyiv might claim to have exclusive rights to shape the industry's science and technology policy. In order to prevent this, it is worth to choose a new geographic location for the coordination centre of the competence network, for example, the centre of the country. This will make it easier to attract new human resources than it is when the industry's largest enterprises and organisations are located in traditional places.

It is reasonable to select Central Ukraine as a place for the coordination centre of the competence network for agriculture and food industry. This could be South of Vinnytsya oblast, where the climate is similar to that in almost all regions of the country. The Centre for medicine and medical tourism could be Western Ukraine, which has comprehensive conditions for scientific research in the sphere of medicine and creation of new medical facilities based on using the factors of nature and climate. For coordination of new approaches in the machine- and ship-building industries, it is reasonable to consider Kyiv oblast (not the city of Kyiv), or the angle made by South of Kyiv oblast – North of Khmelnytskyi oblast – South-West of Cherkasy oblast. They are located close to leading science and technology institutions (Kyiv, Zhytomyr, Poltava, Kharkiv, Dnipropetrovsk, Chernihiv). Locating the coordination centre of the competence network for aviation and space industries in the Land of Kirovohrad is feasible in view of the economic and political factors. This region is relatively far from the borders and is not densely populated, which contributes to better security of commercial secrets. Moreover, the Flight Academy of the National Aviation University is located in Kirovohrad oblast.

The creation of centres for competence networks will provide for development of their human and material assets, which will be responsible for key scientific problems and involve best clusters towards achievement of the end objective. With time, they will lay the basis for national science and industrial corporations with global strategic goals. Certain distance of the centre from main oblast cities will allow to avoid corruption in selection of personnel and to

facilitate the settlement of everyday problems. For that, it will be necessary to allot territories for construction and development of scientific-industrial and housing complexes.

The prototype of such an approach can be found in the policy of cluster support in Great Britain, where the North East Process Industry Cluster (NEPIC) in the chemical industry was created in 2005 in Teesside as one of the most successful clusters in North-Eastern England.

The cluster turned out to be rather successful, especially in what concerns attracting new investment. Its staff was mostly local because chemical industry is a place for successful careers.

NEPIC evolved as a result of two regional cluster initiatives: Pharmaceutical & Speciality (P&S) Cluster and the Teesside Chemical Initiative (TCI). Their members came to conclusion that pharmaceutical and chemical industries are so interconnected that can generate mutual integration benefits.

The area of cluster's activity includes pharmaceuticals; biotechnology; chemicals, polymers, rubber, petrochemicals and other products. In these industries, the company has become a driving power of regional and national economic development. Companies of the cluster contribute nearly one billion pounds sterling annually to regional GDP (25%) and account for 20% of regional employment. In terms of output, petrochemical industry in Teesside ranks first in Great Britain and second in Europe.

The formation of new competence networks under the policy of transforming the national economy into the knowledge economy requires a systemic approach to selection of participants. It should be based on taking into consideration the socio-economic tendencies that are inherent to the country within the respective period in its development. It is especially important to perform the assessment of legal providing for development of long-term complementary cooperation, which would make it impossible to break the network, that is, to exit from the system of important links, which can slow down or even hamper the achievement of the goal. The operation horizon for all project participants should be global so that to guarantee the high competitiveness of final products.

There is no need to prove that generation of new knowledge requires that research and education institutions should be included in competence networks. However, in Ukraine, the mechanism of functioning of the latter was "conserved" in the first half of the 20th century. The new Law on Higher Education approved by the Verkhovna Rada of Ukraine in June 2014 brings it closer to European standards. However, the search for a new organisation model for science and education activity cannot stop at this point. On the contrary, the approved law creates certain grounds for a new search process. At the same time, one should take into account the experience of granting new functions to academic centres, which developed after the World War II in the USA, in particular the pioneering experiments in organisation of business contacts performed by Massachusetts Institute of Technology (MIT) and Stanford University.

The commercialisation of scientific research becomes no less important for the new approaches than science and education. According to Matusyak [17], the task of higher educational institutions in the era of globalisation is to transform themselves into international centres for entrepreneurship and technology transfer so that to raise the quality of education and scientific research. Academic transformation is a specific combination of the ideas proposed by Humboldt (unity of education and scientific research) and Shumpeter (creative destruction).

The commercialisation of scientific activity should not be dependent only upon subsidies and various grants. No less effective can be the cooperation mediated by institutions specialising in organising of direct contacts between science and business. Such practice is developing in Great Britain, where the Agency for Regional Development developed 9 programmes on creation of the Centres for Industrial Collaboration (CICs). They promote the adjustment of regional science and technology resources to the needs of entrepreneurs by facilitating their access to the most recent achievements of science and technology. The realisation of the programme allowed expanding the tasks of local universities towards marketing,

market research, elaboration of pricing policy, negotiating, and contracting. The orientation of universities towards needs of the business is underscored by the fact that CICs locate their offices in the direct vicinity of universities' degree-granting departments.

The fact that enterprises cooperating with the CICs do not receive any grants made companies understand the value of research financed from their own funds. Apart from that, the inclusion in the CICs network enabled access to world-class scientists and industrial modernisation with installation of top-quality equipment. It is important that the orderer of research managed to ensure its implementation within the agreed time and within the specified budget [18]. Thus, in Yorkshire & the Humber region, the CICs initiatives resulted in growth of sales, expansion of access to new markets and business development for hundreds of enterprises. CICs cooperated in performing 1700 projects together with enterprises for the total value of £40 mln, preserving 1300 jobs in the region [19].

Development of the state cluster programme must clearly determine the level at which it is aimed. Since cluster approach is primarily a managerial technique of integrating small and middle enterprises, it should be fundamentally targeted at raising the competitiveness of the region, where cluster participants are located. It is through the prism of the region that the influence of clustering on the development of industry and the state should be analysed.

The development of cluster policy has a multi-functional governance structure and depends on the profile of cluster's management subjects. It is feasible to differentiate clusters according to star methodology. This system was developed by the experts of the European Cluster Observatory by analogy with hotel classification. It has four grades – zero, one, two, and three stars, which are assigned to clusters according to indicators of size, specialization and location quotient.

In view of the peculiarities of cluster organisation, the priority directions within the cluster policy framework should be the orientation towards market challenges and leadership in the technology and product aspects, entrepreneurial activity; marketing and PR, internal communications; application of advances in science, generation of new knowledge, innovations, and unique value.

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**СТРАТЕГИЧЕСКИЕ НАПРАВЛЕНИЯ
СОЗДАНИЯ ИННОВАЦИОННЫХ КЛАСТЕРОВ В УКРАИНЕ***Аннотация*

Авторы исследования ставят перед собой цель проанализировать стратегические направления создания инновационных кластеров в Украине. Для ее достижения авторы анализируют опыт формирования современных методов внедрения кластеров в Европейском Союзе. В качестве исходного ориентира приняты стратегические цели ЕС и методы «Европа 2020», а также концепция кластеризации как форма эффективного использования региональных ресурсов и научно-технического потенциала. Учитывая геополитическое и геоэкономическое положение Украины, приоритет отдается промышленности, где использование кластерных структур дает возможность решать двойную задачу – повышение уровня жизни и обеспечение национальной безопасности. В качестве методологической основы для формирования кластерной системы Украины принята стратегия сетевой компетенции, широко используемой в Германии, и которая предусматривает интеграцию в одну из самых успешных групп инновационного комплекса страны. В статье определены национальные приоритеты Украины в следующем порядке: сельское хозяйство и пищевая промышленность, медицина, медицинский туризм, машино- и судостроение, авиационная и космическая промышленность. Приведена принципиальная схема территориальных распределительных центров сетевой компетенции.

Ключевые слова: кластер, кластерная политика, инновации, национальные приоритеты, стратегии сетевой компетенции.