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SUSTAINABLE ECONOMIC GROWTH THROUGH THE CLUSTER-NETWORK APPROACH TO ECONOMIC DEVELOPMENT

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Abstract: Global Recession 2007-2009 not only showed the financial-economic crisis in its traditional understanding, but became a kind of announcement of the establishment of a fundamentally different world order, starting with the adaptation of economic systems through a completely new paradigm. The authors stress that in the 21st century the world is transitioning to a new, networked way of doing business and living based on dynamic horizontal interconnections, and the world economy and its subsystems are modified into cluster network structures - more flexible than hierarchical structures and better integrated into the market model. Through the ICT revolution and globalization, economies have been forced to develop on the basis of continuous renewal, ie. to have innovative economic growth that will be sustainable. The paper presents the evolution of the industrial policy model, its models, as well as the cluster network approach according to Porter's diamond model. The authors also presented the EC smart specialization project through its implementation in the European Union.

Keywords: clusters, smart specialization, networks, industrial policy, competitiveness, productivity, diamond model

1. EVOLUTION OF THE INDUSTRIAL POLICY MODEL - FROM CLASSICAL TO SYSTEMIC

The term “industrial policy”, in the sense in which it is found in theory and practice, implies a variety of systems of measures that go far beyond the real processing industry. The term itself has a multitude of definitions, conceptual approaches, and empirical findings (Table 1).

Common to all modern theories of industrial policy is the fact that it is aimed at changes in the complete production economic structure, regardless of the presence or absence of goals expressed in relation to individual sectors. Thus, Rodrik claims that the object of industrial policy can be, in addition to industry, a rural household, as well as the sphere of services. (Rodrik, 2008) In a paper published in 2013, Warwick considers industrial policy to be “any (selective or horizontal) form of state intervention in the economy, regardless of the policy goal, aimed at improving the business environment or structure in favor of all activities capable of improving GDP growth prospects. or social welfare”. (Warwick, 2013) Such a broad definition of the term allows, according to Warwick, to consider different interpretations of industrial policy as a special case, adhering to the following typology (Warwick, 2013):

Table 1. Evolution, interpretation and definitions of industrial policy in the literature

No.	Interpretation/definition	Author	Year
1.	Industrial policy is about stimulating industrial growth and efficiency.	OECD	1975.
2.	Any government measure aimed at structural change.	Curzon-Price	1981.
3.	Anything that enables the construction of good conditions for economic growth and increased competitiveness.	Adams and Klein	1983.
4.	Policy generated from the causes of problems in specific sectors that enables their solution.	Tyson and Zysman	1983.
5.	Government initiatives and their coordination in order to increase production and competitiveness of the economy and its individual sectors.	Johnson	1984.

6.	Policy of influence on different sectors of industry or service sphere.	Graham	1986.
7.	Government measures to stimulate and redirect resources to those sectors of the economy that are considered a priority for future economic growth.	Obstfeld	1991.
8.	Policy aimed at specific sectors and companies within them in order to achieve those results that the state administration considers effective for the state economy as a whole.	Chang	1994.
9.	Any policy that affects the process of directing resources in the manufacturing sector, covering both macroeconomic measures and traditional areas of micro-economic policy.	Hamada	1998.
10.	Any form of government interference in terms of impact on the manufacturing sector.	Feldman-Peck and Frederico	1999.
11.	Industrial policy includes government-shaped measures applied to the industrial sector in order to achieve specific goals of individual branches.	Wasler	1999.
12.	In a narrower sense, these measures of targeted impact on specific companies and production sectors, and in a broader sense, these are any measures of impact on the competitiveness of companies and sectors of the economy.	Beath	2002.
13.	Industrial policy is a restructuring policy for more dynamic economic activities, regardless of whether it applies to the entire manufacturing sector or only to industry as such.	Rodrik	2004.
14.	It is an activity that provides a business environment for the development of European business - both in industry as a whole and in part in the sectors of industrial production.	Aiginger and Sieher	2005.
15.	It is a complete set of state measures aimed at improving the results of the country's economic activity in the desired direction.	Pitelis	2006

16.	Industrial policy is a set of measures, programs and actions that flexibly influence the realization of various industry goals, formulated by consensus of the government, industry and trade unions.	Gligorijević i Bošković	2014.
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- industrialization policy - raising the level of industries to a higher level of development (transition from the raw material industry to the processing industry and further to the high-tech industry);

- manufacturing strategy - a complex of stimuli aimed at the manufacturing industry and its subsectors (most often in developed countries);

- - development policy of individual sectors (from services to high-tech) - the narrowest model of industrial policy;

- - growth policy (economic growth strategy) or competitiveness strategy - the broadest model of industrial policy, including a set of measures to improve the business environment, where the measures do not have to include specific incentives for individual sectors, technologies or business processes.

Industrial policy models

Contemporary literature in the field of industrial policy enables the separation of three historical periods of its theoretical and practical evolution.

The classical vertical model is aimed at building and developing a critical mass of new industries and sectors in the economy. The first successful version of this model was developed and applied in Japan in the period from 1950 to 1960 as part of an industrialization development course. At the core of this model is the Japanese conception of development (developmentalism), more precisely, the ideology of the “developmental state”. Developmentalism suggests that the state must develop markets, optimize their branch structure in accordance with the tasks of the national strategy (program guidelines), as well as prevent market failures by maintaining an optimal balance between monopolies and competition. In accordance with that, administrations are *administrative leaders of the market* (administrative guidance), who slowly direct their development in the necessary direction through a system of various partnership agreements of all sectors, ie. based on the consensus of the environment. In doing so, the authorities allow markets to move comfortably in the chosen direction. In other words, the Japanese version of the industrial policy of “Japan incorporated” (the state as the only corporation) can be said to spring from the idea of a partnership

between the state and business in order to successfully implement a joint national project. An analogous idea of partnership harmonization exists in Japan and within corporations, among entrepreneurs and labor unions.

Later versions of the vertical model, applied in developing economies, indicate a greater connection with administrative governance - direct state interventions aimed at selectively tightening or protectionist protection of priority industrial sectors and companies. (Kuznetsov and Sabel, 2014)

Unlike Japan, where vertical industrial policy led to a post-war economic miracle, in most other cases, including even successful "Asian tigers", it turned around and brought doom to the state - market monopolization and unjustified budget losses. This was due to the behavior of selected winners who turned selective support into artificial competitive gain. (Warwick, 2013) Thus, there has been a market distortion in South Korea caused by the monopoly of large export companies.

Many European countries reacted to these failures with the absence of any intervention, focusing on the ideology of liberalism. Later, the idea of non-interference of the state was transformed into a new neoclassical model of industrial policy connected with the collapse of the market, the horizontal method.

The neoclassical or horizontal model formed in the period from 1980 to 1990, relying on the ideas of the Washington Consensus, assuming softer forms of state intervention in order to create favorable conditions for a more efficient market allocation of resources. It is about a general improvement of the competitive-market environment to *increase the effects of reducing costs in the economy, without applying selectivity*. (Warwick, 2013) This model stimulates production and exports through a broadly open economy and larger foreign direct investment through various incentives. For countries in transition, it has become the basis for the creation of a critical mass of new market institutes, with Central and Eastern European countries as a model.

Later, the ideas of neoclassical industrial policy expanded to the idea of dynamizing economic growth with the help of internal possibilities (for example: the US anti-crisis program).

At the beginning of the 2000s, and primarily thanks to the experience of the Scandinavian countries, a new model of industrial policy - systemic - began to be born and became more and more popular in world politics. (Warwick and Nolan, 2014)

The systematic model (systematic industrial policy) is characteristic of the era of

transition to the knowledge economy. In conceptual terms, this model relies on institutionalism in evolutionary theory, as well as a neo-Schumpeter approach to the process of creating innovation. (Warwick, 2013) Preventing systemic collapse requires soft state intervention in the economy horizontally, covering all branches and sectors, in order to improve the environment of partnership cooperation of economic agents and the formation of triple spirals. The tripartite network partnership of the state, business and science enables continuous optimization of the objects of state activity and obtaining aggregate effects of production growth, without distortion in the distribution of these effects in favor of any interest group.

At the same time, the system model implies that the transition to the innovation type of growth requires the implementation of systemic reforms enabling the transformation of the traditional economic model into the economy of dynamic network communications. This refers to the general socialization of management and the transition to horizontal connections, reducing hierarchical levels, as well as to the process of transformation of the system from branch to cluster.

The system model should lead to the creation of a critical mass of innovation clusters that will have self-sustained growth. (Warwick and Nolan, 2014) That is why this model is called an *industrial policy based on a cluster approach*.

The systematic model was applied by highly developed countries (USA, Canada, Great Britain and some EU countries). (Ketels, 2013; Warwick, 2013) It is noticeable that the system model is increasingly applied by former Asian leaders - Japan, South Korea and others.

Cluster approach to strengthening competitiveness (Porter's concept)

The cluster approach to industrial policy relies directly on Porter's theory of competitiveness. According to the latest version of the World Economic Forum (WEF, 2013) such a policy in a broader sense refers to strengthening the competitiveness of the entire national economy in favor of cooperation and the creation of national innovation ecosystems. In a narrower sense, it is about creating innovative ecosystems in the manufacturing sector in order to reindustrialize and develop the technologically prestigious industry of the new age (advanced manufacturing).

According to theorists and practitioners (Ketels, 2006, 2011; Nallari and Griffith, 2013, WEF 2013a, b) modern ways of strengthening competitiveness are characterized by much more specificity compared to others. First, the open, global character of competition shifts its focus from the macro level of the state and the micro level of the organization to the meso level of the location (cities and other territories), where

the network nodes of global value chains are formed. If earlier international companies fought for territories because of resources, today territories fight for the business functions of global companies. The competitiveness of the national economy depends on the general macroeconomic situation, as well as on the specific microeconomic environment in the regions in which the organizations operate. Secondly, efforts in that sphere are no longer the exclusive prerogative of the state, but have a complex character, relying on the coordinated actions of various institutional subjects. Thirdly, the possibility of support for increasing competitiveness is related to the formation of a certain institutional economic regime, which directly directs resources to the most competitive clusters, and within them to the most efficient companies (World Bank, 2009)

It is exactly this special institutional regime that has been the center of attention of the cluster literature, which connects the growth of competitiveness with the formation of strong clusters, and this with the continuous improvement of the overall economic environment. Dynamic knowledge economies function as a totality of many local network environments (innovation ecosystems), where collectively, based on dialogue platforms, different entrepreneurs, scientific and managerial circles work together to jointly create innovations. In favor of the fact that the formats of created innovations are born spontaneously, by market forces, in a winning position are those countries and territories in which the education of ecosystems and clusters is stimulated by a well-thought-out policy.

2 ANALYSIS OF COMPETITIVENESS AND THE ROLE OF CLUSTERS ACCORDING TO PORTER'S DIAMOND MODEL

The state of the economic environment depends on the totality of macro and microeconomic parameters that Porter states in his diamond model. The coordinated action of the state and individual circles on these parameters should provide such an organization of connections in the economy, which enables the intensive emergence of new cluster initiatives and their successful transformation into strong innovation clusters. (Ketels, 2009)

Porter believes that for the sustainable economic development of a country or region, it is necessary to have a good resource base and appropriate macroeconomic policy, and to support sustainable competitive winners through continuously raising overall productivity. (Porter, 1990) According to this theory, productivity is determined by the quality of interactions at the micro level, if the quality of the product

and the efficiency of production directly depend on it. The local working environment is formed under the influence of the policy of the central government and local conditions of development of the territory (conditions of production, supply and demand in a certain industry). In addition, the effectiveness of the behavior of the companies themselves plays a significant role, because they work in that environment and enter global markets. All three levels of formation of competitive advantage (countries, local territories and groups of companies) form a unique ecosystem, the parameters of which are evaluated by the diamond model. In the late 1990s, Porter reworked his original version of the "diamond." Guided by the tendency of market globalization, the progress of the IT revolution and the specificity of the structure of Silicon Valley, he turned the model in favor of the analysis of network processes and conditions for the collective creation of innovation. The diamond model preserved only four groups of indicators, with the role of state regulation (the sixth factor) being integrated into these four branches. The very essence of the model, on the other hand, has remained unchanged: an assessment of the ability of the economy of any level to form, renew and maintain its competitive advantage on the basis of innovation.

At the beginning of the 21st century, Porter introduced the term *innovative capacity* to assess the competitive advantage of a territory, denoting the ability to create and commercialize new products and services. The innovation of the territory is determined by the following conditions:

- development of innovation infrastructure (which results in state investments in human resources, good protection of intellectual property rights, incentives for innovators, openness of the economy to the outside world);
- development of inter-organizational networks (requires a good institutional environment for the development of horizontal links);
- intensity of formation of innovation clusters (this is determined by the integral interaction of factors that are in all four branches of diamond).

In 2008, these three conditions were integrated into a renewed version of the diamond in which the notion of productivity growth was replaced by the notion of continuous innovation. The four branches of the modern diamond represent the interconnected groups of micro and macro economic factors, which determine the innovation capabilities of the territory (see Figure 1).

It is about the existence of effective conditions for the following processes: (Nalarij and Griffith, 2013)

1. production of innovations (input conditions) - indicators of quality and de-

gree of specialization of all factors of production, starting from infrastructure and human capital, to system-administrative management and research and development;

2. demand conditions - indicators of sophistication of needs and availability of qualified users (organizations and individuals) who require new products and services;

3. inter-organizational competition that initiates companies to create new ideas, improve their business strategies and search for smart specialization (contest to create knowledge and smart strategies);

4. inter-organizational cooperation which leads to the formation of cluster groups of companies in branches that relate to each other (related and supporting industries).

Together, these four branches, according to Porter, make the economic environment conducive to continuous innovation and, accordingly, to continuous productivity growth. As interactive innovations occur at the junction of different types of activity, so in the economy of a cluster agglomeration, which unites companies of related but different branches (4 diamond branches), they represent its organizational orientation towards innovative type of growth. Delgado et al. (2012) testifies to the birth of a new, modern principle of organizational production, suppressing the previous, branch principle, characteristic of the industrial model.

Clusters increase productivity primarily due to the localization factor: the joint accommodation of companies generates various agglomeration effects, which lead to lower costs, the formation of network ecosystems, the creation and collection of new knowledge.

(European Commission, 2013a; Bpschma, 2005) The effects of productivity growth are multiple, especially if the participants in the agglomeration act in a collaborative relations. Clusters in which cooperation takes place in the form of a triple spiral, can become stronger and lead to innovative synergy¹. Only in such an organization can clusters generate aggregate network effects of collaboration, which enable continuous growth of overall productivity and the cluster group itself and the territory in which it operates. (Porter et al. 2008b) In this way, properly organized clusters, achieving the synergy of self-development, become real levers of growth: they maintain the required level of competitiveness of the local economy, and through it the national (competitiveness upgrading).

1 Strong clusters do not necessarily mean highly developed, but highly competitive clusters, capable of positively influencing their environment. Clusters can be strong in the local, regional or global economy. The latter refer to world-class clusters.

Organizing clusters in a triple spiral and transforming them into powerful ecosystems, they are able to create innovations in a continuous mode - this is the result of a complex integral interaction of all four branches of the diamond. (Delgado et al. 2012) Therefore, the policy of strengthening national competitiveness, ie. modern industrial policy in its broadest sense, must keep under control all branches of the diamond at the same time, ensuring continuous and complex improvement of the parameters of the economic environment at all levels of connection: national, regional and cluster.

According to Porter, modern industrial policy should directly link sustainable economic growth with the development of collaboration, a unique network of communication between governments at all levels, companies, scientific and educational centers, as well as intermediary institutes. Unlike other types of networks, clusters fulfill three important functions in this process (Porter et al. 2008b):

- platforms for disseminating accepted economic solutions;
- mechanisms for implementing these solutions;
- project initiatives that mobilize government efforts to improve the economic environment and take advantage of these efforts.

We find similar conclusions in the World Economic Forum (SEF) from 2013 on the methods by which countries and companies can achieve global competitiveness. Managers of six countries whose economies are considered central (America, Germany, Japan, China, India and Brazil) have shown the importance of strengthening the collaboration of public and private business circles. The basic way of reindustrialization should be the creation of powerful innovation ecosystems in the manufacturing sector ("manufacturing-innovation ecosystems") (WEF, 2013b)

In this work on industrial policy, Kuznetsov and Sabel talk about the fact that the best variant of cooperation between the state and private individuals is in a public-private partnership, which ultimately enables business to establish the closest ties with the world market. At the same time, as practice shows, this process can take place in those economies where the state relies on weak institutions, and most companies have inherent rent-oriented behavior and where, as a whole, both partners did not have partnership experience until then. (Kuznetsov, Sabel, 2014)

An example of best practice in the cluster approach to production modernization are the countries of Northern and Western Europe, where the cultivation of the triple helix in new, clustered sectors is carried out. The best example is the project "Support to Sectors Leaders" ("Top Sectors approach" initiative), which started in

2010 in the Netherlands. It includes nine sectors in those spheres of production in which the Netherlands occupies a leading position on the world market. In each of them, public-private partnerships have been formed that serve as a platform for the development of collaboration between companies, research centers (knowledge institutes) and government. After only two years of the project, the participants formed 19 network consortia specializing in knowledge and innovation, which began working on joint research programs. (Wawrick, Nolan, 2014)

3 METHODS OF SUPPORT AND DEVELOPMENT OF CLUSTER-NETWORK ENVIRONMENT

The sphere of cluster policy is today at the stage of economic development, with its theoretical elaboration slightly lagging behind its practical application. In the second half of the 2000s, the controversy of state officials in various countries revolved around the question of whether a cluster support program was necessary in principle, as well as how to better organize it. (Ketels, 2013)

If cluster policy is considered to be the establishment of cluster groups by the “from above” method, scientists have different views on it. If it is about the state helping to build networks and stimulating collaboration in relation to already formed clusters, such a policy has a chance of success.

The first state programs to support clusters appeared in the 1970s in several European countries (Italy, Germany, Austria) at the level of regional authorities. In the 1990s, developed countries developed the first nationwide cluster programs. In the 2000s, the stimulation of clusters and networks at the regional and national levels became mass phenomenon this wave affecting both developed and developing countries. The most developed countries released 60% of their cluster programs in the last century. In 2003, there were 500 of them worldwide, in 2005 there were 1400. In 2010, there were 2000 cluster programs in practically all countries of the world, EU member states and in many countries outside Europe. (Ketels, 2012; Finmarket, 2013)

In the early 2000s, two conceptual models of state support for clusters were established in world practice: Anglo-Saxon and continental. The Anglo-Saxon model, characteristic of the United States, Great Britain and Australia, is characterized by the fact that it treats the cluster as a market organism and believes that the role of the federal authorities is only to remove barriers to its natural development. In these countries, the key players are regional authorities and organizations that develop and implement cluster development projects together with other participants. The conti-

mental model is widespread in Asian countries, Japan, South Korea, Singapore, as well as in many European countries, Sweden, Germany, France. This model relies more on the action of the central government. It implements a wide range of measures - from creating a favorable environment to selecting priority clusters and financial programs for their development. (Granberg, 2000)

The most successful clusters are formed in those countries where the authorities adhere to two rules: they firmly adhere to the principles stated in the scientific literature and understand their new, horizontal role in economic regulation. (Sölvell, 2009)

Answering the question about the correct algorithm of state promotion of clusters, scientific literature in this field (Porter, 2003; Ketels & Meijer, 2008; Meier zu Köcker, 2009; Sölvell, 2009; Ketels, 2012) established the hypothesis:

- *cluster policy* - these are not narrowly focused measures for building agglomerations, but broad efforts to raise the competitiveness and innovation of the economy through the use of cluster networks. Its target object must be the development of collaboration among cluster participants. (Ketels, 2012)

- Cluster groups should not be established by experience, from scratch, acting from the top. A policy of “cluster activation” provoked by the market itself is necessary. The most successful clusters are those that are established on a voluntary basis by their members.

- It is important to *exclude a selective approach* and support all existing innovation clusters, regardless of the branch of specialization, scale or dynamism.

- The main task of the state is reflected in *the removal of all types of barriers that hinder the sustainability in the development of new cluster initiatives*. That is why it is up to the authorities at all levels to continuously improve the business environment in all territories. The quality of the business environment at the micro level is key to Porter's thesis and is one of the significant elements of the Global Competitiveness Index.

Thus from these theses that the “golden rules” of cluster policy concerning the order of building and financing clusters arise. The former were formulated by Porter and Ketels (Ketels, 2003), and the rest are generally accepted standards, especially in Europe (Rekord, 2010)

These principles of cluster policy give the state three functions aimed at forming a *smart specialization of the cluster itself and the territory in which it is located*:

- providing conditions for dialogue between participants regarding the choice

of *smart specialization*;

- conducting monitoring of cluster development in the context of the selected specialization;
- discovering the needs of participants arising from the chosen specialization and applying appropriate support measures.

Table 3. “Golden rules” of cluster policy

Objective: to develop collaboration mechanisms in innovation clusters to strengthen their synergistic network effects (continuous productivity growth) and to lead these effects in the local and regional economy		
Government is obliged to	Government may	Government does not have to
- to remove all barriers to the development of network connections and the formation of triple helices, creating an environment for the formation of cluster projects	- initiate and co-finance cluster projects, support the collaboration of participants, etc.	- form clusters from scratch, as well as in depressed branches and regions
- to help the growth of all emerging sectors (cluster groups in branches) regardless of their profile, size and dynamics	- create spin-off networks that are formed around the core new sectors	- strive to become the supreme manager or owner of cluster initiatives
- to ensure the process of statistical reporting at the level of each cluster group and the availability of this data for participants	- create regional and national platforms for uniting companies from different sectors and branches in the network	- selectively choose participants, projects or future cluster specialization for the purpose of financial support

The Table has been created based on the papers by Ketelsa, 2003, 2012; Ketelsa i Memedović 2008; Portera i Ketelsa 2009; Solvela 2009.

4 THREE BASIC TYPES OF CLUSTER PROGRAMS

The available literature in recent years (Ketels, 2009; Solvell, 2009; Lammer Gamp et al. 2012) makes it possible to single out three national cluster programs in world practice - framework, complex and classical.

Framework programs are horizontal programs to improve the business environment in a given territory and are implemented at the level of the entire economy. There are three types of these programs:

1. macroeconomic - support for financial stability of the economy;
2. structural - development of infrastructure and various markets, including the labor market, with emphasis on the specialization of clusters in different territories;
3. collaborative - support for continuous work and deepening of network processes through the removal of barriers, creation of national and regional platforms, cultivation of triple spirals and other innovation ecosystems.

Framework programs create a good environment for support, institutionalization and gradual spread of collaboration processes at the macro level, reducing the risks of inhibition of these processes or the threat of reversal. (Kuznetsov and Sebel, 2014)

Complex programs are those that support specific cluster groups of companies (agglomerations) that exist and operate at the level of specific territories. They are related to the development of new competitive sectors with an emphasis on their specializations. They are directed in two directions: different types of support for the economic activity of the cluster group and the formation of a critical mass of its participants and financial support for the spatial network that is created within the cluster according to the profile of the territory.

Classical programs are those that form and support cluster organizations as institutes of collaboration of participants of a specific cluster group.

5 CLUSTER APPROACH IN THE NEW INDUSTRIAL POLICY OF THE EUROPEAN UNION (EU)

At the EU level, the idea of supporting clusters connects two directions of the economic course - the Regional Development Program within the EU Cohesion Policy and the European Reindustrialization Program called “Complex Industrial Policy for the Globalization Era” within the Europe 2020 Strategy.

The role of clusters in the Regional Development Program is: a conceptual basis for the realization of smart specialization and cluster initiative as instruments of influence in comparing the advantages of a particular region as well as attracting stakeholders. (European Commission, 2013a, 2014a, 2014c).

The role of the cluster in the Industrial Policy Program is the following:

- clusters as instruments of education of regional innovation ecosystems and inclusion of small business in global value chains;
- clusters as mechanisms of integration of goals and tasks of EU industrial policy into strategies of smart specialization of the region with local specifics. (European Commission, 2013a, 2014a, 2014c).

The EU Regional Development Program 2014-2020 relies on a new approach to the development of European territories. Instead of the previous policy of budget settlement, applied until 2007, the principle of dynamizing the growth of lagging economies through cluster initiatives is now in force. The perspective of Europe's innovation transition is considered today as a task of the territories themselves, and their financial support from the EU budget depends on their elaboration and application of smart specialization. (Foray et al. 2009) Regional strategies must contain cluster initiatives and stimulate investment in those sectors that can strengthen the competitive position of a given territory. (European Commission, 2014c)

In the EU, smart specialization, RIS3, (Research and Innovation Strategy for Smart Specialization) means the choice of those domains of action that will enable the best effect of economic growth to support research and development as well as the development of innovations. Specifically, RIS3 is a document that defines the strategic direction of the region's development in the field of research and innovation in order to use the limited resources of countries and regions with the specifics and potentials of a country or region and their integration into the transnational network. It is important to note that smart specialization does not apply exclusively to high technologies or new production sectors. It can be in low-tech branches or in the sphere of services, but in those segments in which research and development affect the industrial development of the region and can give impetus to the development of other sectors of the economy. (Dežina, 2013)

The origin of the very concept of smart specialization is partly from the Knowledge for Growth expert group within the European Development Area (ERA). It all started when this group researched the reasons for Europe's lagging behind America, especially in research and development, as well as in competitiveness. It has been found that research in Europe is fragmented and that there is no coordination of investment in innovation and development from all stakeholders, and therefore there is no critical mass between them. It was observed that "there is only a syndrome of *only me* and that investments are made in similar areas and in what is modern such as ICT, nanotechnology and biotechnology" (Kranjac et al, 2015)

The EU leadership considers the policy of smart specialization not only as a prerogative, imposed from above, but much more as a course of the regions themselves developed from below, but harmonized with the general goals and tasks of structural transformation of the whole Europe, stated in the unique innovation and industrial policy of the European Commission. (European Commission, 2013a)

The EU's complex industrial policy (Integrated Industrial Policy) supports the regional one by focusing on improving the business environment for the smooth formation of cluster networks. Within this policy, clusters with a triple helix configuration serve as an instrument for the formation of regional innovation ecosystems, mechanisms for strengthening trans-European value chains and also as a way of combining specific tasks of reindustrialization of the region with tasks of developing their smart specialization.

The idea of applying a unified cluster approach to EU regional and industrial policy is supported by the Belgian government's conceptual report from 2013. The report emphasizes that the European Commission must urgently develop its own cluster policy, which will ensure mutual cooperation of European regional clusters and thus create conditions for the formation of world-class trans-European clusters. Combining the global scope of activities with the advantages of localization, such clusters will become drivers of the development of smart specialization in the region. It is not just about the mechanisms of generating and diffusing new knowledge. Overcoming technological and territorial boundaries, clusters realize a cross-border, interdisciplinary and collaborative approach to the development of economic systems. (Belgian Federal Cabinet, 2013)

In this way the EU coordinated its industrial policy with the innovation one and located it in the regions in which cluster groups of branches of the economy are the basic objects, and cluster initiatives as the basic channels of realization. The European Commission believes that such an approach will enable not only the more and more dynamic development of the regional economy, but also the deepening of European integration. As clusters have no administrative boundaries, regions can develop strategies for their development with an emphasis on the overall spectrum of cluster groups and initiatives, created both on their own territory and on the territory of neighboring countries. This will strengthen the cohesion of Europe's national markets.

6 CONCLUSION

In the 21st century, the state is no longer the supreme governor, but is moving towards horizontal interactions similar to a social agreement. The tendency towards decentralization and socialization of governance is present today on all continents, starting from the Anglo-Saxon countries all the way to the East Asian ones. This tendency is implemented by the emergence of a new systemic model of industrial policy at the center of which is the idea of diversification and dynamization of the economy by the bottom-up method. Governments leave the choice of priorities at the discretion of global market competitiveness, and themselves age the role of a catalyst and coordinator of network relations, helping markets to form cross-sectoral clusters or groups of sectors at the local level. Thus, the new industrial policy synthesizes development into a single set of measures, aimed at organizational restructuring of the entire production system into the format of network ecosystems, and through that at the transition of the economy towards innovation-oriented growth.

The cluster literature classifies in innovation clusters only those agglomerations that develop in the form of a triple helix. Since in addition to the cost-lowering effect, they also have a synergistic effect of innovation. Therefore, properly organized cluster programs are supported by the state not only through the support of individual participants and profile activities, but also the mechanisms of their collaboration in order to increase this synergistic effect. The ultimate task is to disseminate the aggregate network externalities of clusters in the territory of their operation, thus raising the competitiveness of the regions and through them the dynamism of the national economy as a whole.

In the non-linear world, instead of budget-credit micro-stimulations, organizational ones are needed. As the experience of the Scandinavian countries has shown, taken as an example for the entire EU, it is necessary to keep microfinance stability stable and unimpeded, in a routine mode. Nevertheless, governments must continually improve the economic and business climate at the macro and micro levels, eliminating all ongoing threats to the development of horizontal ties and the emergence of triple helices. A good economic and business climate for the formation and development of cluster initiatives raises the innovation activity of local territories, brings them smart specialization and, ultimately, ensures the diversification of the national economy in the optimal direction. This approach stems from the famous diamond model of Michael Porter. It is becoming increasingly popular and is being used by the World Economic Forum to measure the Global Competitiveness Index.

Improving the concrete position in the world economy without reliance on interactive innovations is no longer possible. This requires a transition to horizontal connections and the distribution of the mechanism of their coordination. That is why all countries, from developed to transitional, face complex reform tasks. As the literature testifies, the formation of such an institutional regime is forthcoming, which will enable a clear direction of resources towards the most competitive cluster groups, and within them towards the most efficient companies. It is significant that since 2010 the European Commission has introduced a cluster approach in its unique industrial policy focused on smart specialization of the regions and thus realizes its renewed model of economic integration through the idea of new regionalism (formation of cluster metasystems to unite national markets of Baltic, Danube and other macro-regions of Europe).

Realistically firm positioning in the global world will be achieved by those companies and countries that base their strategies on the horizontal logic of world development. The experience of world technology leaders shows that in order to raise the overall productivity of the nation, in addition to the informatization of society, it is important to get out of institutional conservatism and advocate the process of adapting the internal economy to the renewing global economy.

Therefore, whoever enters the global networks will never be on the periphery again - that is one of the advantages of the post-industrial era.

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