

## CLUSTER POLICY IN POLAND

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### Abstract

Nowadays clusters have become an indispensable part of the modern, innovative economies, and their importance for the country's competitiveness and innovation is growing. Clusters for proper development need an effective and consistent policy, that would provide them with a good conditions and growth possibilities. It is also true in the case of Poland. The Polish cluster policy largely involves stimulating cooperation between the economy and the world of science. Often it is treated as an element of innovation policy, although it should be remembered that the examples of clusters can be found in sectors with a high degree of technological advancement, and also in traditional ones. The tools for their implementation include creating conditions for the creation and development of businesses, joining these companies in clusters, and enabling them to commercialize new knowledge.

The main objective of the paper is the indication of the evolution of approaches towards cluster policy in Poland, along with the presentation of directions of its further development.

**Key words:** cluster, cluster policy, innovation

**JEL Code:** L53, O25, O38

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### Introduction

Clusters are one of the most important determinants of the transformation of the economy. It is therefore not surprising that the interest in clustering observed over the years is growing, as well as the need to eliminate barriers of cluster development, that directly contribute to the concept of clustering.

According to report of The Polish Agency for Enterprise Development there were 134 clusters in Poland in 2015. The largest number of clusters – 28, is located in Upper Silesia. The least number is located in Opolskie and Warmińsko-Mazurskie voivodships, one and two entities, respectively. Clusters in Poland are relatively young structures – created in the last 5 years.

The sharp increase in the number of clusters occurred in 2007, the second incremental increase took place in 2011 (Buczyńska, Frączek & Kryjom, 2016). The clusters population as

a whole includes a total number of 5,868 entities, operating in 134 clusters. Most of them operate in the ICT sector (14%), energy and RES (12%), construction (9%) and in the medical and tourism sectors (7.5%). A significant number of clusters is also in the sectors of business services and metalworking (7% each) and manufacturing technologies (5%). Individual representatives appear also in branches such as furniture, clothing, machinery, wood, nanotechnologies, geodesy, pharmacy and cosmetics (Buczyńska et.al., 2016).

The article presents an overview of the evolution of cluster policy that has taken place in Poland in recent years – leaving the quantitative approach and focusing on the qualitative aspects of clusters (supporting entities in innovative/development industries/sectors). This approach is also reflected in the Key National Clusters' competition. Thus, the purpose of this paper is to present the various stages of the creation of a cluster policy in Poland, and to indicate the direction of its further development. The analysis of the evolution of a cluster policy is based on the results of theoretical and desk research. The classical method of analysis was used to interpret the data.

## **1 Theoretical frames of cluster policy**

The most well-known and widely used definition of clusters is the one developed by Porter: “clusters are geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition” (Porter, 1998, p. 78). Next to Porter's definitions, it is possible to find many others. Very clear one was proposed by Anderson (1994). According to him, cluster is a net of companies, their clients, suppliers of materials, components or machines, tools or training and financial services. Interesting definition of clusters is given by the European Commission: “clusters can be defined as a group of firms, related economic actors, and institutions that are located near each other and have reached a sufficient scale to develop specialized expertise, services, resources, suppliers and skills” (European Commission, 2008, p.9).

Cluster policies from the other hand can be defined as regional, industrial, or technological policies that are implemented in the form of targeted subsidization or networking support under any of these aspects (Nishimura & Okamuro, 2010). According to Porter the cluster policy should remove obstacles, relax constraints, and remove any inefficiencies that have negative influence on productivity and innovation in the cluster (Porter, 2000).

It should be emphasized that the current Polish cluster policy is strongly linked to innovation policy, although not all clusters are highly technologically advanced, but operate in traditional sectors/industries. This linkage between clustering and innovation has proven to be a good solution in the context of the further development of clusters, where in particular great importance is assigned to the development of these entities by generating various types of innovation. This approach is designed to build the competitiveness of clusters and the national economy. Previous support for Polish clusters was characterized by a strong focus on the coordinator, differentiation at the level of voivodships, lack of coordination between regional and national levels, dispersion, support vs. investment financing, cluster collaboration vs. business co-operation (Szultka, 2012).

Cluster policy, or rather cluster support, has started to grow alongside with the increase of the European Union expenditures on the creation of such entities. After the year 2007, cluster growth is noticeable – PLN 422 million was allocated to their implementation. The next PLN 71 million was allocated to the creation of clusters exclusively in the eastern provinces, and PLN 14 million, to support coordinators and information activities. More money was invested by voivodships within the framework of the Regional Operational Programs (Zachariasz, 2012).

## **2 Cluster policy till 2014**

In principle, the cluster policy until 2013 can be divided into two periods: till 2007 and in years 2007 and 2013.

Actions implemented before 2007 were reflected in the *Sectoral Operational Programme Improvement of the Competitiveness of Enterprises 2004-2006*. The next activities were included in the *Operational Program Human Resources Development 2004-2006*, which among others served to support clusters and clustered structures. For example, within this Program, the Polish Agency for Enterprise Development implemented a system project entitled "Clustering training program". The basic idea behind the project was to show companies and local authorities the possibility of cooperation in the form of clusters. The project has contributed to rising awareness about clustering, defining areas for potential cooperation between businesses, and helping entrepreneurs to make decisions about the possibility of collaboration in the form of a cluster with the realization of joint ventures important to the development of companies and regions (Ministry of Economy, 2009) .

More attention to the issue of supporting the development of clusters in Poland was paid to in strategic document adopted by the government on 4 September 2006: Directions for Increasing the Innovativeness of the Economy 2007-2013, where the importance of supporting and development of clusters in Poland for the improvement of innovation of the domestic economy was underlined. It was also reflected in supporting joint actions of entrepreneurs directed on networking and innovation. The implementation of the program included:

- increase in the awareness of entrepreneurs about the benefits of cooperation with the scientific community and other businesses,
- introduction of effective public-private partnerships,
- creating and providing conditions for networking,
- support for cluster development,
- support for the development of technology platforms in high-tech sectors.

It should also be noted that in the financial perspective 2007-2013, cluster support programs were included not only in the national operational programs but also in the regional operational programs for individual voivodships. The most important document at the national level was Operational Program Innovative Economy 2007-2013. Activities included in this program were directed, among others, to support businesses, business environment institutions, and scientific entities providing services to businesses. Although the Operational Program Innovative Economy 2007-2013 does not directly refer to cluster support or clustering initiatives, implicitly cooperative links and scientific and industrial consortia are understood this way.

In addition, the Polish Agency for Enterprise Development implemented a program called *Support for Cluster Development*, aimed at developing and strengthening the competitiveness of existing clustering structures. The program was intended to stimulate and activate existing clusters in order to use efficiently and effectively significant financial resources from the structural funds, as recorded in the *National Cohesion Strategy*. The program provided support in the form of non-repayable financial support for the implementation of the project for selected areas of a cluster activity, with a particular emphasis put on improving innovation and attractiveness of their products, strengthening cooperation between businesses, academics and representatives of local and regional authorities, as well as strengthening export capacity through the implementation of joint ventures (Ministry of Economy, 2009) .

Apart from the national funds, cluster initiatives and clusters could also benefit from international programs. The level of co-financing was dependent on the program, usually between 85% and 15%. These programs supported projects in various fields, often characterized by their own priorities and specificities, but they had also some common ground or the purpose, for example the support of the cooperation of companies aimed at improving the innovation.

### 3 Cluster policy 2014-2020

The need to create a clustering support system in Poland results from the medium-term provisions of the *National Development Strategy until 2020*, which seeks to increase the use of innovative solutions through clusters. According to the strategy, the clusters are designed to increase the competitiveness of the Polish enterprises and to lead to combining companies, academic institutions and their resources, thus enabling faster market entry. In addition to the macroeconomic objectives, the *National Development Strategy* outlines microeconomic objectives: supporting the development of clusters should be a modern instrument for enhancing regional or local specialization (i.e. transformation of the nets of companies into dynamic clusters with high levels of competition and cooperation, interactions and external effects) (Ministry of Regional Development, 2012).

In the document entitled *The Innovation and Economic Performance Strategy Dynamic Poland 2020* clusters are described as an instruments for implementing smart specialization in Poland. According to the document clusters play an important role in the context of the territorial dimension of development policy. They are an effective mechanism for concentrating resources and are one of the best diagnosed ways to stimulate innovation and horizontal cooperation in the economy (Ministry of Economy, 2013).

There is also a reference to clusters in the executive program to the *Innovation and Economic Performance Strategy – the Enterprise Development Program (EDP) until 2020*. This document focuses on cooperation between companies in the research sector and the creation of the new products and services better tailored to the needs of the consumers. Achieving targets included in EDP will be possible primarily by concentrating public spending on clusters with the highest growth potential for the economy (key national clusters and key regional clusters).

The clusters issue was also included in the so-called Responsible Development Plan. Within the framework of the first pillar of the Program – reindustrialisation (supporting

existing and developing new competitive advantages and specialization of the Polish economy), regional and sectoral specializations are expected to be used more intensively, encouraging entrepreneurs to work more closely to build clusters. This gives companies better opportunities to grow and compete also beyond the local markets.

In the coming months assumptions of the Plan will be systematically detailed and transferred to operational level. According to assumptions, the clusters will become one of the most important instruments supporting the development of the Polish economy.

In the perspective 2014-2020 cluster support should be implemented in the following areas: research and development (R&D), support for international expansion of enterprises, development of human capital quality in enterprises, stimulation of industry cooperation, creation of new enterprises. It also focuses on support for clusters with the highest competitive potential – currently exhibiting international competitiveness or providing a real opportunity to build such competitiveness in the future. At the same time, regional policy actions will be characterized by a shift away from unfavourable specializations – such as inefficient mining or agriculture (Dzierżanowski, 2012) .

The aim of a cluster policy implemented within the framework of regional policy will be to strengthen the competitive potential and the transformation of the cluster of companies into dynamic clusters with a high level of competitiveness and cooperation. These actions will be based in particular on:

- R&D activity,
- support international expansion of enterprises,
- development of the quality of the human capital in enterprises,
- stimulating industry cooperation,
- the emergence of new businesses.

Cluster support is also reflected in priorities within the 2014-2020 financial perspective of the National Reform Program Europe 2020. The document includes promotion of enterprise investment in research and innovation, development of broadly understood academic entrepreneurship (a cooperation of the three communities – science, economy and administration), in particular in the area of product and service development, technology transfer, social innovation, eco-innovation, public service applications, networking, stimulating demand, clusters and open innovation through intelligent specialization. The implementation of these activities should contribute to smart development, understood in this case as knowledge- and innovation-driven growth, regarding increasing R&D expenditures.

Challenges and development goals of Poland in this field include increasing the competitiveness and innovation of the economy with the use of intelligent specialization, which assumes that each country and region should concentrate its sources on the limited number of priorities or economic specializations with a real innovation potential, in which it has real competences, capabilities and excellence on a global scale. Preparation of a smart specialization strategy on the national or regional level will be the prerequisite for granting EU funds for research, development and innovation (Ministry of Regional Development, 2011).

#### **4 Key National Cluster**

By looking at the direction in which the further cluster support will follow and how the cluster policy evolves, it can be said that only the strongest entities will survive. This is the reason behind the development of the Key National Clusters (KNCs).

The Key National Cluster status was designed to recognize and confirm the recipient's competitive advantage and economic significance, both in regional, national and global dimension. In line with the KNCs definition, the key status of a cluster is recognized on the national level based on a number of criteria, such as: critical mass, potential for development and innovation, the scope of present and prospective cooperation, the experience and market potential of the coordinating entity, and the quality of management. Clusters are selected based on criteria that address such areas as cluster's structure, cluster's strategy; cluster's management; cluster's economic potential, innovation and international competitiveness; cooperation, intensity of cooperation; internationalization of the cluster; the importance of the cluster for the economy of the country and the region. (Ministry of Development, 2017).

The requirements for clusters applying for the Key National Cluster status are high and for a large number of clusters practically unattainable. The number of conditions to be met by the cluster is really extensive. It seems understandable if one takes into account, firstly, the elitism of the group which he joined and the fact that limited number of specializations exist both at the national and regional level. Therefore, the number of clusters awarded with this title should not be large. The situation seems to confirm the first and second round of the competition for the status of the Key National Cluster, where the number of clusters that have successfully passed all the stages and received the above status was 7 and 9, respectively (Polish Innovation Portal, 2017).

KNCs operate in sectors like: ICT (3 clusters), aviation (2 clusters), manufacture of machinery, equipment and tools for industrial branches (1 cluster), chemistry (2 clusters), medicine biomedicine (2 clusters), medical services (1 cluster) , rehabilitation (1 cluster), intelligent sustainable energy and passive buildings, building automation and renewable energy technologies (1 cluster). The selection of Key National Clusters is held within the framework of the open competition organized by the Ministry of Development in cooperation with the Polish Agency for Enterprise Development.

It is also worth emphasizing that there are significant synergies in the KNCs, resulting from the enhanced cooperation of the cluster members, for example entrepreneurs and scientific units, which increases their research capacities and positively influences on the development of innovation. Clusters, as a platform for cooperation and exchange of experiences, create an ecosystem that trigger competitiveness of the economy.

## **Conclusion**

As indicated by the recently completed process of selecting Key National Clusters, clusters often take intensive, bottom-up initiatives to neutralize the inefficiency of labour market institutions as well as educational, training and advisory institutions with respect to clustering needs. Clusters have an impact on adapting curricula to the business needs, attracting highly qualified staff and graduates (talents). In addition, cluster development is beneficial for the development of the local entrepreneurship, as it supports the local business environment, develops them, increases the intensity and quality of relationships, and most importantly, attracts new business partners or creates the right conditions for the new businesses. Ultimately, they serve also as a tool of promotion of individual regions as well as the economy of the whole country. Combining the promotion of the cluster brand with the promotion of the region, is an unique opportunity to build the image of the region and the possibility to appear in social awareness in Poland and abroad.

Due to the importance of clusters for the economic development, it is important to support these entities. Before, the financial support has been indirectly implemented by cluster coordinators. Right now support can be addressed directly to businesses and institutions such as universities, research units, schools, specialized business environment institutions. These actions eliminate the imperfections associated with the coordination of administrative activities and disintegration of the support system.

It is not recommended to implement top-down clustering initiatives, but an incentive system is being developed to activate bottom-up initiatives by companies themselves,



business environment institutions, universities, as well as the scientific research units. Support for Key National Clusters includes public funds allocated to R&D, investment, human capital development (education and training), promotion and internationalization.

According to the author, a package of activities supporting the development of clusters included in various documents presented in the article, points to prudent and thoughtful areas of activation. In the new financial perspective, the activities will focus on the development of innovation and the increase in the competitiveness of clusters (and not the number of clusters as it was before), and thus the Polish economy. This means large financial support. Undoubtedly, this support will be more purposeful and difficult to achieve for "average", not prolific clusters. The money will not be allocated to everyone equally, and the most important clusters will be supported. These initiatives will be selected in the form of a contest, by independent board, composed of representatives of ministries and agencies, and independent experts from various disciplines. The selection will include the cluster's development strategy and action plan. The main goal in this area will be the internationalization of clusters. And all these activities will have to take into account the smart specialization of the regions.

Targeted actions, such as supporting innovative cluster development or helping to build cooperation between science and industry, are activities that follow international trends, and in the nearest future should contribute to the growth of the Polish economy.

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