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**THE CLUSTER INITIATIVES****Abstract:**

The development of the national economy of any country is (besides others) highly addicted to the economic success of its business entities. However, due to the process of trade globalization and market liberalization, the business environment has become more competitive that requires companies to build up own competitiveness not only in the domestic, but as well in the international measure. If we take into account the fact that approximately 99% of Slovak businesses are formed by small and medium enterprises (SMEs), next that our economy has character of opened one (in the meaning of export and import transaction), to compete with rival multinational companies is a question of their daily survival. The way how to support the development and competitiveness of such kind companies (that the practice has proved as well), consequently the regional and national economic development, the concept of business clusters is considered. "Business clusters are a striking and common feature in today's economy, nonetheless it is not exactly a new phenomenon - it has been the object of attention from a wide variety of social scientists" (Kuah, 2002, p. 207), economists and practitioners for much of this century. Currently, in broader sense of word, we may talk about the clustering of different economic activities - about the close cooperation between cluster members (constituents) such as different kinds of entrepreneurs of different size and business history, universities, independent research institutions, trade associations, and government and its institutions. The role of business clusters has become increasingly important for the Slovak economy, too.

The presented paper deals with the concept of business clusters. Briefly, at first its theoretical aspects are discussed (mainly from the point of view of its ability to support building competitive advantages for businesses and regional/national economy). Then we focus on brief presentation of the Slovak cluster policy and official cluster initiatives in Slovakia.

**Keywords:**

cluster, cluster initiatives, cluster policy, competitiveness, cooperation, globalization, innovations, regional development

**JEL Classification:** F60, F43, R11

## Introduction

The concept of business or economic clusters is close related to the economy of agglomeration, and may be considered as a common feature of today's economies of developed as well developing countries, even though it does not represent the brand new idea of business development and consequently of regional and national economy as a whole. The economy of agglomeration, as well the concept of business clusters, points on mainly positive externalities, which could be gain from the geographical proximity and proximity concentration of economic activities and it can intensify the development and economic growth of concentrated firms and industries, which they operate in, moreover regions and country. Mainly it is interested in the analysis of any economic forces that cause economic subjects (in general meaning) to locate close to each other, advantages and disadvantages of this process, following by restrictions, impacts on an individual economy of located subjects and other aspects. It is also in close connection with the urban economics and its main benefits have the character of economies of agglomeration that relate to the theory of network effects and economies of scale.

Usually, within it, two economies are considered – localisation and urbanisation economies. The localisation economy emphasizes effects that may arise just from the geographical concentration and cooperation of firms operating in the same industry – involves *“benefits to firms from expansion of their own industry, resulting in industry cluster”* (Cohen, Paul, 2008, p.2). On the other hand, the urbanisation economy emphasizes effects that cross the borders of the industry, when the firms may benefit from the expansion of an urban area due to geographical proximity of variety of industries – the economic diversity of the urban area may support the development of individual firms within different industry clusters located in that urban area (Cohen, Paul, 2008), (Jofrey-Monseny, Marín-López, and Viladecans-Marsal, 2012). Both cases are closely related to the development and economic growth of the hosting area/region.

At the beginning of the concept of clustering, the theory of comparative advantages created by Ricardo we may regarded. This theory developed the concept of national or regional specialization in an industry (or activity), in which a country is more competitively (has a comparative advantage). The specialization is their common feature, because cluster and its members are concentrated around the key activities, which puts them all together (directly or indirectly), allow them to cooperate closely together, produce goods at lower relative opportunity costs and compete not only nationally, but as well globally. Later, Marshall presented an opinion on greater firm productivity. He emphasized a close cooperation of firms, specifically SMEs, engaged in the same industry in particular localities, so called industrial district, which could help them to be more efficient and competitive (Marshall, 1920). It means that by spatial clustering cluster firms and consequently whole industry may benefit from their common synergy – use the concentration of a highly specialized work force, increase own output of products, operational efficiencies and achieve cost savings – in other

words to benefit from the presence of effects of the internal and external economies of scale. On this basis, we would argue, that Marshall also outlined the importance of industrial districts for the regional development and regional growth. Based on Marshall's work, the comprehensive theory of localization and industrial districts was later presented, e.g. by Becattini, who defined the concept of industrial districts, but unlike Marshall he also emphasized the social relationships between cluster firms (Becattini, 2002).

The current perception of clustering (business clusters) was popularized by Michael E. Porter in the 90s of the last century. At the present, the conception of business clusters is closely discussed in connection with the globalization and intensifying competition in global markets. First of all, the concept is mainly considered as a mean, how SMEs may incorporate into global markets on the basis of common cooperation and close geographical location. As well, its potential has been mentioned in connection with the close cooperation between smaller cluster members, which are usually grouped around and large multinational company. In this context the business clusters may be considered as a specific form of strategic partnership of industrially and geographically close companies, which come together for the purpose of common beneficially cooperation.

As well, the economically successful clusters are in the middle of interest of policy makers, because of their potential to support development and economic growth of hosting region by utilization of its unique specifics in order to create maximum work opportunities (Chlebíková, Mráziková, 2009) and consequently the whole country. State governments usually try to support business activities of clusters because they are seen to be beneficial in fighting against economic slowdown and economically strong and flourishing clusters are interesting for the qualified and skilled workforce, are centre of innovations and also help in attracting foreign investors (Brikinshaw, 2000). From this point of view, the concept of business clusters is not seen only as a strategy how SMEs may incorporate into global market (if as a cluster are able to move forward and fit into useful niches in global value chains), but as a mean of the regional and national development and economic growth. In this paper, mainly this perception of business clusters will be the focus of our interest and discussed in more details.

## **Definition of Business Clusters**

The most worldwide used definition of business cluster is from Michael E. Porter. He defines the term business cluster (also called as industry, enterprise, competitive or Porterian cluster) as: "*geographic concentrations of interconnected companies and institutions in the particular field, linked by common technologies and skills*" (Porter, 1998a, p. 199). Later, in next analyses, he upgraded and extended this definition to highlight the role of business clusters in innovation processes, transfer of information, experience and know-how with the positive impact on competitiveness and

productivity growth (Porter, 2000). Clusters provide conditions conducive to innovation, more specifically open innovation promoting new ideas. They can leverage this potential and increase their excellence if they create linkages with other clusters exploiting complementarities (CzechInvest, Ministry of Trade and Industry, 2013). The innovation as an important force that supports the development of the cluster's members and vice-versa is also considered by Krugman. He does not see them "as a fixed flows of goods and services, but rather as dynamic arrangements based on knowledge creation, increasing returns and innovation in a broad sense" (Krugman, 1991, p. 142). Sölvell in his model of cluster development in connection with the innovation emphasizes the necessity of participation of educational (mainly universities) and research institutions because of their ability to support or generate innovation processes by providing a pool of qualified and specialized workforce, technologies and knowledge (Sölvell, 2009). The management of knowledge is generally perceived as important in "building" competitive advantages (Štefániková, 2013) and at the importance of so-called knowledge-producing agents also the OECD points out (OECD, 2007).

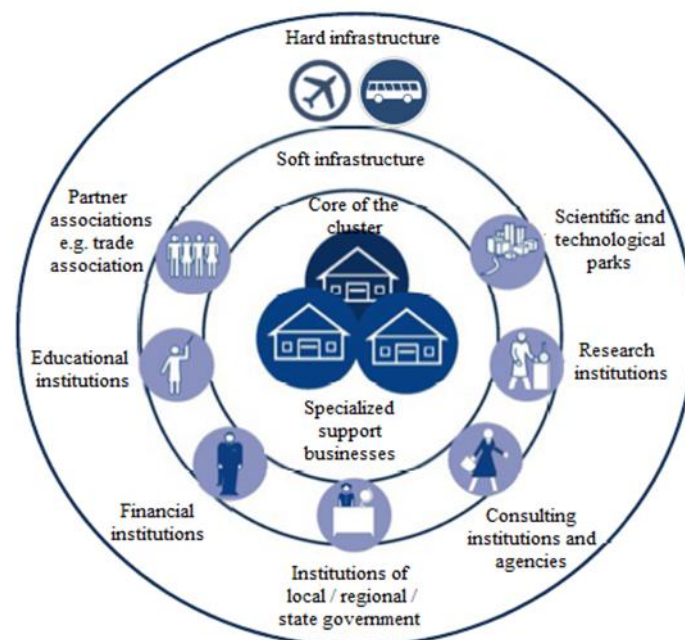
The concept of business clusters is important from the point of view of the European Union, too. The definition of business cluster presented by *the European Commission* is based on the traditional Porter's definition emphasizing proximity (by geography, by economic activities), networking and specialisation, as well as the fact that the concept of clusters currently covers "a variety of different business structures - national, regional, cross-border clusters, clusters of competence, industrial or production systems and innovation systems – and is used for different purposes – to increase the competitiveness of SMEs, support collective research, rationalise a whole industry, implement environment management system" (European Commission, 2003, p.15). In this sense, the business clusters are seen as the spearheads of region development, improving the productivity, performance, competitiveness, innovation capacity of the cluster members and skill formation. The Commission adds that clusters are important for the economic growth of the hosting region, its social wealth and the long-term business dynamics. These aspects also the definition of clusters of the *Union of Clusters in Slovakia* (in Slovak "Únia klastrov Slovenska") presented at its official website takes into account. It defines the term cluster as "the concentrated group of independent business entities and affiliated institutions linked at regional or sub-regional level, with the potential to increase their competitiveness and own economic growth", and thus "contribute to the development of hosting regions as well as other regions within the European Union" (Únia klastrov Slovenska, 2010).

The informal alliance CLOE (Clusters Linked over the Europe) has also pointed to the structure of connection between cluster members. Based on it the cluster represents "vertically and horizontally related economic partners of a certain industrial sector in a defined regions with international competitiveness" (CLOE, 2006, p. 8.).

In our opinion, the modified and extended definition presented by Porter matches the substance of business clusters and their members: "Cluster is geographic concentration of interconnected companies, specialized suppliers, service providers,

*firms in related industries, and associated institutions in a particular field that compete but also cooperate” (Porter, 1998, p.215). It represents a form of “network that occurs within a geographic location, in which the proximity of firms and institutions ensures certain forms of commonality and increases the frequency and impact of interactions” (Porter, 1998, p. 226). Based on these definitions, clusters and their members “include end product or service companies, suppliers of specialized inputs, components, machinery, and services, financial institutions, and firms in related industries. Clusters also often include firms in downstream industries (that is, channels or customers), producers of complementary products, specialized infrastructure providers, government and other institutions providing specialized training, education, information, research and technical support (such as universities, think tanks, vocational training providers), and standard setting agencies. Government agencies that significantly influence a cluster can be considered as part of it. Finally, many clusters include trade associations and other collective private sector bodies that support cluster members” (Porter, 1998, p. 216). Based on Porter, the structure of any cluster with the key components (in general) may be depicted as the following picture shows.*

**Picture 1: The key components of the business cluster**



Source: Authors based on CzechInvest. (2007) *Průvodce klastrem 2007*. [Online]. Available from Internet: <http://www.czechinvest.org/data/files/pruvodce-klastrem-63.pdf> and Porter, M. E. (2000). *Location, Competition, and Economic Development: Local Cluster in a Global Economy*. *Economic Development Quarterly* 14(1), [Online] 14(1). p. 15-34.

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## Brief Insights into the Issue of Cluster Initiatives and Cluster Policy

As we have already mentioned, the business clusters are often an important microeconomic structural element of the regional competitiveness and regional development mainly thanks to the presence of positive externalities. The theory as well as the practice in many countries around the world point to the cluster's spillovers, which have exceeded the borders of "own" clusters and by which have helped to create new business opportunities, consequently new businesses, new clusters and common cooperation between the cluster members as well as mutual cooperation between already existing clusters, support employment, innovation, and transfer of knowledge in regional, national as well as in transnational measure.

The positive aspects of business clustering, in connection with the development of hosting regions, are also emphasized e.g. Haviernikova (2013), Janošková, Král (in close relation to their innovation activities) (2012). The regions, with the strong clusters and higher share of employment in firms that belong to these clusters, are generally more prosperous (Enterprise and Industry Directorate-General, 2013). But on the other hand, Havierniková draws attention to too excessive focus on cluster formation within one sector, because it could lead to *"the significant economic problems"* (Havierniková, 2013, p. 778-779).

Taking into account the positive effects of business clustering, it is logical that the governments at any level try to support the economic development of business clusters, so called *cluster initiatives* by the adequate cluster policy. The basic perception of cluster initiatives is that initiatives are seen as projects that aim to support companies from the cluster, in more details as *"an organised effort to increase the growth and competitiveness of a cluster within a region, involving cluster firms, government and/or the research community"* (Sölvell, Lindqvist, and Ketels, 2003, p.1). Next, for instance the CLOE defines initiatives as *"organized regional sectorial networks among economic partners aiming at improving innovation performance and international competitiveness"* (CLOE, 2006, p. 8). The World Bank adds that adequate and well-designed cluster initiatives *"can expedite the process and provide a much-needed initial platform on which to grow in output and sophistication"*, which means that *"such initiatives should draw from and feed into the spillovers influencing economic performance within and across clusters"* (World Bank, 2009, p. 3-4). The cluster initiatives have been often mentioned with their *"ability to facilitate and accelerate innovation, then with the ability to bring them to market maturity, thus ensuring the longterm economic success of companies involved in the initiative"* (CLOE, 2006, p. 2).

The cluster initiatives are usually involved in many activities, as the most important are usually considered (Sölvell, Lindqvist, and Ketels, 2013):

- activities aimed at cluster expansion (increasing a number of firms, through incubators or by promoting inward investment to the hosting region),

- activities aimed at business development (mainly of SMEs), which promotes firm operations (e.g. through joint export promotion, purchasing or sharing of services to cut down costs),
- activities aimed at innovation and technology objectives to promote products, services and process innovation (mainly based on cooperation and networking between cluster firms, and cooperation between the business, educational and research sector in order to commercialize academic research),
- activities aimed at general cluster networking,
- activities aimed at human sources upgrading to develop the available skills pool,
- activities aimed at enhancing the microeconomic conditions for business and overall business environment (psychical/technical infrastructure, legal/institution settings, regional branding).

The practise has shown that clusters are *“generally built up spontaneously by the local business players who want to take advantage from the synergy of several factors existing in the geographic area (the presence of customers and suppliers, the access to qualified labour force and know-how, the availability of specific natural resources and infrastructure, low transaction and communication costs due to geographical proximity, the vicinity of universities, training centres and research institutes, and the presence of financial institutions and other private and public organisations”* (European Commission, 2003, p. 16-17) and usually without any help of particular policy designed to build up business clusters.<sup>1</sup> Thereby the initial development of clusters is mainly own initiative of cluster members. But the already mentioned positive effects of business clusters to the regional development has caused that currently policy makers try to cooperate with the cluster members and governments at all levels support initiatives of business clusters by the adequate cluster development policies (if the official cluster policy exists) or by other policies (not officially known as cluster development policies, e.g. innovation policy, industrial policy, regional development policy etc.) that may support the creation (a high-profile role of governments in initial stages starting with mapping of potential clusters) and development of clusters at local, regional or national level.

The importance of the government support the findings of Innobarometer has proved, too – approximately 68% of managers of asked cluster firms within the European Union indicated that *“public authorities have at least important if not fundamental role in supporting clusters”* (Gallup Organization, 2006, p. 123).

The cluster policy may differ from country to country, may be officially declared, or just be a part of other politics (industrial policy, research and innovation policy, policy of

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<sup>1</sup> Note: It is not always rule that clusters are created without any governments support. For instance, in Slovakia among the most important clusters the automotive clusters belong. Their main feature is that the core of these clusters consists from foreign automakers, important source of FDI and regional development, which were supported by the Slovak government from the very beginning of the automotive businesses. For that reason we can claim, that the government support (although it had not the character of real cluster help), has attracted the subcontractors of the automakers and supported the creation and further development of these automotive clusters in general.

development SMEs etc.). If the explicit cluster policy exists, it is seen as the policy, which is “*aimed at mobilising the inherent capabilities of clusters and spurring their upgrading over time*” (Enterprise and Industry Directorate-General, 2013, p. 15) and its “final face” usually depends on the government structure and activity profiles of the policy. In general we may consider three main types of clusters policies (Slovenská inovačná a energetická agenúta, 2009, p. 11):

- policies dealing with the cluster development (support in the process of cluster creation, support to strengthen already existing clusters),
- specific horizontal policies, which try to increase the effectiveness of existing regional clusters and their members (support in the area of R&D, know-how and transfer of knowledge),
- policies aimed at the improving of general microeconomic business environment, by which the government tries to increase the likelihood of formation of brand new clusters, support the further development of already existing clusters or eliminate existing barriers in the business environment and support the competitiveness of regions.

Usually, the countries with the official (declared) cluster policy, implement it through different programmes (tools of the cluster policy), which are set up to promote cluster development. The cluster development programmes provides financial aid or other kinds of cluster supports. The programmes are usually carried out by already existing government institutions or special government agencies under the different ministries. As well, the centralization of the cluster support may be different.

The importance of the cluster policy at a regional level is usually highly correlated with the cluster policy at a national level – if country considers the cluster policy as important at a national level states that it is important at a regional level, too (Oxford Research, 2008, p. 8).

## **Briefly to Business Clusters, Cluster Initiatives and Cluster Policy in Slovakia**

The Slovak Republic is divided into 8 main parts – regions, officially higher territorial units (in Slovak “*Vyššie územné celky*”), namely: Higher Territorial Unit Bratislava, Higher Territorial Unit Trnava, Higher Territorial Unit Trenčín, Higher Territorial Unit Nitra, Higher Territorial Unit Banská Bystrica, Higher Territorial Unit Žilina, Higher Territorial Unit Košice, and Higher Territorial Unit Prešov. Their social-economic development is first of all influenced by firms that are located in these regions. Based on Havierniková, the close relationship between the regional GDP, business and employment indicators was defined as significant (Havierniková, 2013). In each of these regions can be identified firms that form business clusters and cluster firms usually belong among the most important employees in the hosting region.



The clusters in Slovakia have been formed either spontaneously using specific features, potential or sources of regions or have been formed around multinational firms (usually they also represent the most important source of FDI for the hosting region, as well for the Slovak economy as a whole), which decided to do investments in Slovakia (e.g. automotive clusters in Trnava, Bratislava and Žilina region). Their business activities have attracted a lot of other firms, especially sub-contractors firms, as a part of their own value chain.

Most of clusters have character of technological, tourism or knowledge clusters. In the recent years a formation of clusters in the creative industries has been observed, too. In the case of these clusters, Bratislava region takes an important role. It is one of the leading European regions from the point of view of concentration of employment in the creative industry. Approximately more than 5% of workers are employed in this sector that indicates a significant specialization. In addition, about 46% of all businesses in the creative industries are located in Bratislava region and approximately 91% directly in Bratislava. Currently, as the most perspective sectors of the creative industry are considered design and software programming (Ministerstvo hospodárstva Slovenskej republiky, 2013, p. 27).

Clusters, unlike other associations in Slovakia, may not be formally established (as a legal form) and they are also able to operate on an informal basis. The legal form of business clusters in the world is given by the individual legislation in force in each country. This legislation differs as well within the member countries of the European Union. In case of Slovakia, the special legislation on business clusters does not exist, even the Slovak legislation does not know the term “cluster”. Thereby the clusters in Slovakia, if the firms in the cluster want to formally organize, have to choose their legal forms within the already existing legislation. Based on it, the cluster organizations – official cluster initiatives in our country have a form of *interest association of legal persons* or *civil association*, which are registered in the *Register of Interest Associations of Legal Persons* or in the *Evidence of Civil Association* and they govern priority by the Civil Code (the Act No. 40/1964 Coll. the Civil Code as amended) and by the act on the association of citizens (the Act No. 83/1990 Coll. on the Association of Citizens as amended). However, the legislation of these associations is general and does not take into account any specifics of cluster initiatives.

The legally existing cluster organizations in Slovakia (including both active and inactive acting initiatives) are listed in the table below (Table 1). Mainly, they operate in the fields of automotive industry, IT technologies, electronic industry, energetic industry (the most important industries from the point of view of FDI of the Slovak Republic, logically for the hosting region, too) and tourism. Based on the survey “Innobarometer on Cluster”, the departments of cluster firms in Slovakia, which mostly benefit from being in the clusters, are marketing, sales and human resources (Gallup Organization, 2006, p. 43).

**Table 1: Cluster Initiatives in Slovakia**

Official name of cluster (in Slovak)	Official name of cluster (in English)	Region	Year of foundation
BITERAP	BITERAP	Košice Region	2004
Automobilový klaster Slovensko	Automotive Cluster Slovakia	Trnava Region	2007
Košice IT Valley	Košice IT Valley	Košice Region	2007
ABC - Academic Business Cluster	ABC - Academic Business Cluster	Bratislava Region	2007
Z@aict	Z@aict	Žilina Region	2008
Združenie cestovného ruchu Balnea	Turism association Balnea Cluster	Banská Bystrica Region	2008
1. slovenský strojársky klaster	1st Slovak Engineering Cluster	Banská Bystrica Region	2008
Elektrotechnický klaster - západné Slovensko	Electrotechnical Cluster - West Slovakia	Trnava Region	2008
Klaster cestovného ruchu - západné Slovensko	Cluster of Turism - West Slovakia	Trnava Region	2008
Klaster LIPTOV - združenie cestovného ruchu	Cluster LIPTOV - association of turism	Žilina Region	2008
Energetický klaster - západné Slovensko	Energetic Cluster - West Slovakia	Trnava Region	2009
Klaster TURIEC - združenie cestovného ruchu	Cluster TURIEC - association of turism	Žilina Region	2009
Slovenský plastikársky klaster	Slovak Plastic Cluster	Nitra Region	2009
Klaster ORAVA	Cluster Orava	Žilina Region	2009
Dunajský vedomostný klaster	Danube Knowledge Cluster	Bratislava Region	2010
Energetický klaster CENTROPE	Energetic Cluster CENTROPE	Trnava Region	2010
Klaster AT+R	Cluster AT+R	Košice Region	2010
Klaster pohraničných hradov	Cluster of Border Castles	Banská Bystrica Region	2010
Klaster Smolenice	Smolenice Cluster	Trnava Region	2010
Klaster cestovného ruchu Košice Turizmus	Cluster of Turism Košice Turism	Košice Region	2010
Stavebnícky klaster Slovenska	Construction Cluster Slovakia	Trnava Region	2010
Klaster HOREHRONIE - združenie cestovného ruchu	Cluster HOREHRONIE - association of turism	Banská Bystrica Region	2011
Energetický klaster Prešovského kraja	Energetic Cluster of region Prešov	Prešov Region	2012
Klaster pre podporu inovatívnych a zelených technológií	Cluster for Green and Innovative Technologies Support	Trnava Region	2012
Klaster TOPOĽČANY	Cluster Topoľčany	Nitra Region	2012
Národný energetický klaster NEK	National Energetic Cluster NEK	Bratislava Region	2012
KITech klaster inovačných technológií pre nakladanie s prašnými anorganickými odpadmi	KITech Cluster of Innovation Technologies for the Handling with Dusty Inorganic Waste	Trenčín Region	2012
Klaster MONOCRYSTAL	Cluster MONOCRYSTAL	Žilina Region	2013
Slovak IT klaster	Slovak IT Cluster	Trenčín Region	2013
Trnavsko-myjavský strojársky klaster	Trnavsko-myjavsky engineering cluster	Trnava Region	2013
Klaster pre akumulácie energie z OZE	Cluster for Energy Storage of RE	Nitra Region	2013
1. spišský klaster	1st Cluster of Spiš	Košice Region	2014
Kláster Huculská magistrála	Claster Hucuslká magistrála	Banská Bystrica Region	2014
EMOCITY - Klaster pre elektromobilitu a smart city	EMOCITY - Cluster for E-mobility and Smart City	Bratislava Region	2014
Potravinársky klaster	Food Cluster	Nitra Region	2014
Železničný dopravný klaster	Railway Transport Cluster	Prešov Region	2014

Source: Authors based on the information from the Evidence of Civil Associations of Slovak Republic, Register of Interest Associations of Legal Persons of Slovak Republic, ClusterCollaboration.eu, and European Secretariat for Cluster Analysis.

The initiatives highlighted by grey colour have been awarded by the *bronze label of the European Cluster Excellence Initiative* based on the findings of benchmarking of the European Secretariat for Cluster Analysis (the survey was based on 36 indicators with regard to the clusters' structure, management and governance, financing of the cluster management, services provided by the cluster management, contacts and interaction within the cluster and achievements and recognition of the cluster). Currently, any cluster does not have more than 50 members (Spišáková, 2013, p. 6) and in the term of this criterion, the Automotive Cluster Slovakia is the biggest one – it has 49 members (till the end of 2013).

As regards the identification of cluster members, most clusters have been built on common cooperation of cluster firms (cooperation within the private sector), but it is important to mention, that also educational institutions, mainly Slovak universities, have played important role in clusters' formation.

The first cluster with the participation of the educational institutions was Košice IT Valley (The Technical University of Košice, Pavol Jozef Šafárik University in Košice). At the present time, if we consider just the participation of Slovak universities and the Slovak Academy of Science in the clusters initiatives (we abstract from the participation of secondary schools and technical secondary schools), we may find out that the *University of Žilina in Žilina* has participated in the clusters: Z@ict, Danube Knowledge Cluster, Cluster AT+R, and Cluster MONOCRYSTAL, the *Technical University in Zvolen* has participated in the 1<sup>st</sup> Slovak Engineering Cluster, the *Alexander Dubček University of Trenčín in Trenčín* has participated in the clusters: BITERAP and Cluster MONOCRYSTAL, the *University of Economics in Bratislava* has participated in the clusters: BITERAP, ABC – Academic Business Cluster, Danube Knowledge Cluster, the *Slovak University of Technology in Bratislava* has participated in the clusters: Automotive Cluster Slovakia, Slovak Plastic Cluster, Danube Knowledge Cluster, and EMOCITY – Cluster for E-mobility and SmartCity, the *University of Ss. Cyril and Methodius in Trnava* has participated in the clusters: Automotive Cluster Slovakia, Cluster for Green and Innovative Technologies Support, and Energetic Cluster – West Slovakia, the *Comenius University in Bratislava*, the *School of Economics and Management in Public Administration in Bratislava*, the *Pan-European University*, the *Pavol Jozef Šafárik University in Košice*, the *Trnava University in Trnava* and the *Slovak University of Agriculture in Nitra* have participated in the Danube Knowledge Cluster, and the *Technical University of Košice* has participated except the Košice IT Valley in the Cluster AT+R, too. The *Slovak Academy of Science* has participated in the clusters Automotive Cluster Slovakia, Cluster MONOCRYSTAL and EMOCITY – Cluster for E-mobility and SmartCity.

Except the official cooperation between the business sector and educational institutions, there exist other cooperation on an informal base, respectively mutual cooperation with cluster firms of not yet officially established cluster organizations.

In case of formation and further development of tourism clusters, authorities of local and regional government with the Slovak Tourist Board have had an irreplaceable

position (cities, higher territorial units etc.). As well, in case of these clusters, cross-border activities often plays the important role in their formation and further development.

Besides the listed business cluster initiatives there exists also the *Union of Slovak Clusters* in Slovakia. It is an interest association of legal persons founded in 2010, which officially represents the interest of member clusters. It participates in the preparation and implementation processes of national strategic documents, which are aimed to support clusters, their members, and social-economic development and competitiveness of all Slovak regions through appropriate clustering tools. The Union is an important player not only at national but also at international level in the field of cluster policy. At the present, the Union is a partner in the projects CluStrat (Central Europe Programme), ClusterPoliSEE (South-East Europe Programme), NoGap (7<sup>th</sup> Framework Programme), V4Clusters (International Visegrad Fund).

As regards the cluster policy in Slovakia (on the national level), there have not been defined explicit (formal) cluster policy. If any programmes aimed at the development of clusters exist<sup>2</sup>, they are considered in close relation with a support of regional competitiveness and regional development, with a support of competitiveness of SMEs and with the innovation and technology policies that are aimed to support activities within R&D – innovation activities of enterprises generally (Valášková, 2014).

The primary policy documents, which explicitly address the concept of business clusters in Slovakia we may considered the Innovation Strategy of the Slovak Republic for 2007-2013 (within the priority No. 1, measure No. 1: Support of Innovative Industrial Cluster Organization), Operation Programme Competitiveness and Economic Growth (a part of the National Strategic Reference Framework 2007-2013) and Research and Innovation Strategy for Smart Specialisation of the Slovak Republic 2014-2020. However, until now it has not been explicitly identified any institution or organization, which would be exclusively responsible for the cluster policy and for coordination of all activities within it. On the other hand, there can be found organizations, which can help in the process of creation of new clusters in Slovakia, namely already mention Union of Slovak Clusters, Slovak Innovation and Energy Agency, Slovak Investment and Trade Development Agency, Slovak Tourist Board, and Slovak Business Agency.

In the conception of mentioned documents, the concept of business clusters is considered as a factor for future growth of firms. Moreover, the documents emphasize benefit from mutual cooperation of cluster firms due to economy of agglomeration, positives on labour market and hosting regions. Within these documents, the Slovak government has committed itself among other things to support innovative industrial cluster organisation, indirectly stimulate the establishment of new cluster organisations, mainly cluster organisation in high-tech industry, less developed regions of Slovakia, and internationally recognized cluster organisation.

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<sup>2</sup> Note: The public assistance to clusters in Slovakia, based on survey conducted by Innobarometer 2006, was the lowest within the countries of the European Union.

Despite these facts, the role of the concept of business clusters in Slovakia is still underestimated. Other problem is the financing of the cluster initiatives and activities of their members. Usually, the cluster initiatives are financed by private sources, sources from the structural funds of the European Union and by sources from the programmes of the cross-border cooperation. In the last year, the Ministry of Economy presented a special document aimed directly at cluster organizations – the Scheme to Promote Industrial Cluster Organization (the minimis aid scheme). Its main aim is to support innovative business cluster initiatives (legally existing) in Slovakia in the form of grants from the Slovak state budget (Ministerstvo hospodárstva, 2013). For this year (2014) has been approved a new Scheme (Ministerstvo hospodárstva, 2014). Within it following projects, implemented by cluster initiatives operating in Slovakia, have been approved to be financed. The amount of the grant represents 70% of project's budget (Ministerstvo hospodárstva, 2014):

- the Advanced management of corporate performance – support of competitiveness of engineering firms (1<sup>st</sup> Slovak Engineering Cluster),
- the Support of increasing innovation activities of members of the Cluster AT+R in high tech industries through joint action plans in innovation and training activities (Cluster AT+R),
- the Electrotechnical cluster – upgrade 14 (Electrotechnical Cluster – West Slovakia),
- the Education of the business community for the creation of innovative environmental and energy investments in the industry (National Energetic Cluster),
- the Enhancing of the innovation capacity of the cluster Z@ict through presentation, search and development of human sources of the cluster (Z@ict),
- the Enhancing of the competitiveness of members of the Slovak Plastic Cluster through common strategy and education “PLASNET” (Slovak Plastic Cluster),
- the Restructuring strategy of the Automotive Cluster Slovakia (Automotive Cluster Slovakia).

The regional policy in Slovakia is carried at the level of higher territorial units, cities and municipalities. It is mainly oriented to support the standard of living of inhabitants, development of local companies and infrastructure development. Regarding the cluster policy, it is not explicitly defined neither at the regional level, despite undisputed positive externalities of business clusters on the social-economic development of hosting region. If the concept of clustering is mentioned, it is considered in close relation with the regional innovation strategies, activities of the Regional Innovation Centres and attracting other except already existing FDI in the hosting region.

## Conclusion

The concept of business clusters, as a specific form of economic organization, has been in the middle of the interest of experts from various scientific disciplines, practitioners, or policy makers due its undisputed ability to support competitiveness and development of concerned subjects (in general meaning) at the micro, as well as at the macro level. The well-designed cluster firstly supports the competitiveness, innovation development and economic growth of involved firms, but not less important is its role in increasing the competitiveness and social-economic development of hosting regions, subsequently whole country. According to many authors and practice, too, the clusters play an important role in several areas of national economy – they are considered as a toll how to solve problems with unbalanced economic development and growth, regional development disparities, unemployment and low level of attractiveness from the perspective of FDI. They are also able to help in adaption processes as possible response to the economic crisis and social transformation.

In this paper, the concept of the business clusters was mainly presented in the connection with regional development, cluster initiatives and cluster policies, which were briefly discussed in the view of current situation in Slovakia, too. Based on the brief analysis of current cluster policy in Slovakia, we can conclude that despite the significant potential of the concept of business clusters, elements of the cluster policy has been presented in Slovakia just recently. It was also emphasized that the explicit cluster policy (formal cluster policy) and agency or institution exclusively oriented on clusters did not exist in Slovakia. Fortunately, a partial positive shift in the perception of business clusters by policy makers and the Slovak government has occurred – the importance of clusters within the field of innovation and R&D has been explicitly mentioned (clusters have been addressed as a tool for facilitating innovation through better access to R&D) in the national policy documents the Innovation Strategy of the Slovak Republic for 2007-2013 (within the priority No. 1, measure No. 1: Support of innovative industrial cluster organization) and Operation Programme Competitiveness and Economic Growth, or in the Innovation Strategy for Smart Specialisation of the Slovak Republic 2014-2020. In the last year and for present budgetary period, the Ministry of Economy presented a special document aimed directly at cluster organizations – the Scheme to promote industrial cluster organization, which could help with the financing of activities of business cluster initiatives in Slovakia.

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