

# Cluster Entrepreneurship Development in Lithuania Best Practice

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## Abstract

*Clusters becoming important field in Lithuania. Clusters aim to join forces to gain mutual benefits, accelerate the process of developing new products, services or technologies, and bring them to market, foster innovation, and collaborate on science and business. Clusters in Lithuania have benefit: stimulates innovation and growth, promotes the transfer of knowledge and helps develop new ideas and business, promotes export development, contributes to the internationalization of enterprises, helps to reach foreign markets and find new business partners, helps attract new technologies, skilled labor, investment in research and development and innovation, strengthens the human, technical, scientific, capital, innovation, partnership and other capabilities of individual cluster members, provides access to unique, specialized resources and enhances the competitive advantage of cluster members, helps to reduce the costs of small and medium-sized enterprises, prepare SMEs for growth, helps reduce risk and increases the likelihood of success in selecting new R&D trends.*

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## 1. Introduction

Clusters in Lithuania as a form of cooperation or business model, is a new area. This area is lacking competence, knowledge of the benefits of the cluster, its management and the culture of cooperation, the creation of a value chain. Successful companies are trying to keep each other carefully; they keep potential partners as competitors seeking to gain market share. According to the concept of Lithuanian cluster development, the number of clusters in the service sector is much higher than in industrial sectors. There are many clusters in the fields of information technology, health and creative industries. Most of the clusters were created in the food and beverage industries, the least - in the textiles, wood and furniture industries, machinery and equipment manufacturing, chemicals and plastics, electronics, etc. There are very few regional clusters. There are several clusters whose main activity is tourism services. The purpose of this article is to analyze cluster entrepreneurship development in Lithuania best practice.

## 2. Clusters Concept

Clusters are becoming increasingly popular in Lithuania and the world. According to the Lithuanian Cluster Association, “clusters are associations or other forms of organizations, where representatives of both the private and the public sector are pursuing specific, mostly commercial goals: carrying out various research and research activities, developing innovations and new products, developing marketing and sales”. Clusters intertwine companies from different sectors that focus on specific value chains. Table 1 present different clusters definitions. Skaržauskienė, A., Gudelytė, L., Lančinskienė, A. (2014) define that clusters attracts new technologies, skilled workers and investment in research. Gilienė, R. (2014) state that create preconditions for increasing productivity - one of the main sources of enterprise competitiveness clusters, while Tamošiūnaitė, E. (2015) define clusters as different size. Porter, M. (2012) define clusters as a way to increase the economy and competitiveness. Lietuvos Respublikos ūkio ministerija (2014) define that clusters are combination of enterprises that operate on the principle of partnership that members, working in a number of interrelated areas of economic activity. Navickas, V. Malakauskaitė, A. (2008) state that clusters are interactions between companies and institutions, which, carry out joint activities geographical area. Having analyzed the definitions of clusters, it can be said that a cluster is a voluntary association of enterprises that works on the principle of partnership and creates new products and services with added value.

**Table 1. Cluster definition**

Author	Highlight
Skaržauskienė, A., Gudelytė, L., Lančinskienė, A. (2014)	Clusters stimulates the country's economic growth and employment, also, while withdrawing human capital from its normal activities, attracts new technologies, skilled workers and investment in research.
Gilienė, R. (2014)	Clusters are formed because they create preconditions for increasing productivity - one of the main sources of enterprise competitiveness.
Tamošiūnaitė, E. (2015)	Clusters consist of different size private companies, including manufacturers, suppliers, customers, and more as well as labor, government, professional associations and research institutes. Distinguished six types of clusters: micro-clusters or horizontal networks, value chains, supply chains, sector clusters, geographic clusters, macro clusters (national).
Porter, M. (2012)	Clusters are one of the drivers of the economy and competitiveness ways to increase.
Lietuvos Respublikos ūkio ministerija (2014)	A cluster is a combination of enterprises and / or science and study institutions and other entities that operate on the principle of partnership that members, working in a number of interrelated areas of economic activity and initiative, strive to increase economic efficiency.
Akademinė vadybos ir administravimo asociacija (AVADA), UAB A Justice (2017)	A cluster can also be understood as a field of expression of relevant interests, which reflects not only the knowledge of the cluster actors. Well-

	established businesses organizations and organizations (trust, working methods, common values or norms) are considered valuable because they are difficult to copy and move to another country's context.
Navickas, V. Malakauskaitė, A. (2008)	Clusters are interactions between companies and institutions, which, in addition to each other, carry out joint activities geographical area.
VšĮ Pokyčių tyrimų institutas (2017)	“The cluster is a voluntary association between enterprises and / or science and study institutions and other interrelated entities, operating on the principle of partnership, whose members, acting together, have achieved a sufficient scale for the development of specialized knowledge, services, resources, suppliers and skills and for increasing the added value created (by European Commission, 2016; and European Commission, 2008).”

### 3. Clusters Situation in Lithuania

According Lithuanian Cluster Association, it is active more than 30 Lithuanian clusters. Most of cluster working in manufacturing and service field. According to Lithuanian Clustering Study 2017 regional conditions for entrepreneurship, cooperation and internationalization, knowledge and skills and demand conditions are medium, lack of access. The improvement of entrepreneurship conditions would be mostly influenced by Lithuanian transport infrastructure (e.g. development of the rail transport system), participants in the ecosystem promoting creativity and generating new ideas, trust and cooperation culture to funding. Table 2 present distribution of cluster by sector. Most clusters are in Information and Communication Technologies and Manufacturing & Engineering sectors.

**Table 2. Distribution of Clusters by Sector (VšĮ Pokyčių tyrimų institutas, 2017)**

Sector	Number	Percent
Energy and construction	3	9.4
Agricultural and food technologies	2	6.3
Information and Communication Technologies	4	12.5
Manufacturing & Engineering	5	15.6
Creative industries	1	3.1
Transport	1	3.1
Health	2	6.3
Tourism	2	6.3
Plastics and new materials	1	3.1
Information and communication technology; Creative industries	2	6.3
Manufacturing & Engineering & Woodworking	1	3.1
Information and communication technology; Creative industries; Teaching Technologies	1	3.1
Energy and construction; Information and Communication Technologies; Manufacturing & Engineering	2	6.3

Energy and construction; Agricultural and food technology; Manufacturing and Engineering; Transportation	1	3.1
Manufacturing and Engineering; Creative industries	2	6.3
Health; Tourism	1	3.1
Energy and construction; transport	1	3.1
Total:	32	100

According to the information from the European Cluster Cooperation Platform (See table 3), today it has registered 16 clusters operating in Lithuania. Compared to other countries, this is not a small number of registered clusters, there are clusters in Lithuania with up to 50 members, while in other countries there is a minority of such clusters or only one third of all internationally registered clusters. This can be explained by the fact that in Lithuania clustering has been developing only for a decade, clusters have been operating for 3-5 years and only a few of them have a longer period.

**Table 3. The Number of Clusters and Their Members Registered on the European Cluster Cooperation Platform in Different Countries (Vši Pokyčių Tyrimų Institutas, 2017)**

No.	Country	Number of clusters	Number of cluster members		
			From 1 till 50	From 51 till 100	From 101
1.	Lithuania	16	16	0	0
2.	Austria	16	0	1	15
3.	Denmark	15	0	1	14
4.	Sweden	19	4	6	9
5.	Germany	55	4	18	33
6.	Poland	44	11	25	8
7.	Estonia	6	4	2	0
8.	Latvia	7	6	0	1
9.	Norway	7	1	4	2
10.	Spain	100	33	36	31

As Vši Pokyčių tyrimų institutas (2017) define in order to engage Lithuanian clusters in international networks and international value creation chains, the priority directions set by the European Commission should be taken into account (smart manufacturing, basic advanced technologies, biological products, clean vehicles and transport, sustainable construction and raw materials, smart grids and digital infrastructures). Also it would be useful to promote international co-operation and develop advanced and innovative technologies in the development of their long-term strategy and development guidelines, thus attracting research infrastructures and science institutions to cluster activities and clusters in other sectors.

#### **4. Cluster Entrepreneurship Best Practice in Lithuania**

##### **E – Business Cluster**

This cluster unites IT companies and research institutions to develop advanced multifunctional electronic service systems. The objective of the cluster is to create an open standard e-service delivery system that allows for the integration of payment, discount, gift, e-signature cards, employee cards into one card, certificate, buy and save on the card transport and event tickets,

quickly pay for small purchases (canteen, copying, vending machines, parking), pay online for music, games, ads, voting. One of the first projects implemented by the cluster is Kaunas City Tourist Card for public transport, visiting museums, giving discounts to restaurants, hotels, entertainment venues.

### **Natural Mineral Water Cluster**

In order to ensure long-term international competitiveness and economic growth of Lithuanian natural mineral water and its products industry, a Natural Mineral Water Cluster was established in Lithuania. Eight Lithuanian and foreign organizations have gathered in a cluster to popularize innovative products made in Lithuania that contain natural minerals.

### **Laser and Engineering Technology Cluster**

Cluster activity - development and production of new laser devices. Companies have joined forces to unite researchers, suppliers, manufacturers and sellers and to enhance the international competitiveness of the laser and related engineering industries. This cluster also invests in a common cluster training and research center infrastructure related to laser equipment design and production. The launch of the laser and engineering technology cluster LITEK can be seen several decades ago, when laser system manufacturers, in collaboration with science institutions, began to create unique products. Today, the LITEK cluster is a structure coordinated by the Science and Technology Park of the Institute of Physics, uniting companies and organizations operating in the field of laser and related engineering technologies and carrying out joint projects. Taking advantage of the 2007 - 2013 The European Union Structural Funds funding has created a cluster training and research center infrastructure for high quality cluster activities.

### **Thermo-Insulating Materials Cluster**

The cluster of thermo-insulating materials that has been formed, uniting the companies in the construction sector cooperating with VGTU (Vilnius Gediminas Technical university) Thermal Insulation Research Institute, will strive to increase the competitiveness of the construction sector by creating new, greener thermal insulation materials and cheaper insulation processes. The thermal insulation materials cluster has set the following tasks: to create new thermal insulation materials suitable for renovation and modernization of residential and non-residential buildings, using secondary raw material, creating more efficient thermal insulation solutions; simplifying and shortening the construction and installation process, creating and implementing innovative engineering structures; improving the quality of buildings and buildings.

### **Vilnius Film Cluster**

Vilnius Film Cluster offers high quality cinema and TV production, equipment rental, decorations, post-production and other audiovisual services. The Vilnius Film Cluster consists of 22 members who work for the common goal of creating and providing a complete package of audiovisual production services in Lithuania for any project of any size at any stage.

### **Lithuanian Medical Tourism Cluster**

Lithuanian Medical Tourism Cluster (LITCARE) main task is to create added value for the medical tourist by providing medical diagnostic, surgical and therapeutic treatment, rehabilitation, dentistry, sanatorium-spa treatment, spa and accommodation and other services related to wellness, health promotion and travel organization. The main target markets of the cluster are Lithuania's neighbors: Latvia, Russia, Belarus, Scandinavian countries: Norway and Sweden, Great Britain: England and Norway. LITCARE develops partnerships and invites



guests to Lithuania from the US, Israel, Germany, Azerbaijan, Ukraine, Kazakhstan and other countries. Cluster members include medical diagnostics, treatment and rehabilitation centers, dental clinics, sanatoriums, spa centers and hotels. The Cluster partners are the organizers of additional services for medical tourists: tour operators, planners of entertainment, local tourism, culture and other activities. There are range of services offered by the cluster covers a wide range of ranges from telemedicine consultation, travel and treatment planning, accommodation to therapeutic and surgical treatment, medical rehabilitation programs, aesthetic and curative dentistry, beauty, sports and many other medical fields.

### **Banking Cluster**

The cluster is focused on the development and integration of financial services products - the integration of mutual IT solutions. The infrastructure of the cluster Banking cluster LT has been developed for the development and dissemination of knowledge and technology. With the help of the acquired equipment, the research center will be carrying out R&D research, bringing together researchers of scientific institutions, IT users of financial services channels, IT product developers, specialized SOA technologies, cloud computing, IT solutions for financial services for the development of innovative IT solutions.

### **Smart - Green City Cluster**

Cluster activity - development, promotion and implementation of smart city solutions. The goal is to develop and market intelligent urban solutions technologies. Cluster product - intelligent green city information management system covering 6 areas: energy, public safety, transport, education, public services, health care. It is a solution for urban management that enables more efficient, smoother and more integrated management of various areas of urban life.

### **Lithuanian Plastic Cluster**

Lithuanian Plastic Cluster vision - become credible and recognized as a partner of the partner plastics industry association, creating and manufacturing innovative, competitive technological products with high added value. Lithuanian Plastic Cluster mission – to unite Lithuanian companies working in the plastics industry and to increase the competitiveness of the Lithuanian plastics industry and to disseminate information about potential.

### **Modern home development cluster MONAK**

The aim of the cluster is to create and build a competitive, healthy, sustainable energy, durable, eco-friendly, environmentally friendly modern house, using the best specialists, partners, the latest scientific discoveries. The cluster introduces modern solutions and develops products to adapt the home to the needs of human comfort. A lot of attention is paid not only to energy conservation but also to facilitating the life of elderly or disabled people.

## **5. Conclusion**

Clusters are becoming popular in Lithuania - some form of cooperation between companies. Clusters are associations or other forms of organization that bring together both private and public actors to meet specific, mostly commercial goals: conducting various research and research activities, developing innovations and new products, developing marketing and sales. Clusters intertwine companies from different sectors that focus on specific value chains. In Lithuania clusters stimulate economic growth and employment. Clusters attract new technologies, skilled workers and investment in research. Entrepreneurship collaboration is becoming an increasingly important prerequisite for competitiveness, which allows to reduce costs by acquiring knowledge or technology, creates more learning opportunities, allows risk

sharing and R&D spending, encourages flexibility, as well as helps to reduce the time to market new products or processes.

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