

Overview the Automotive Clusters, the Clustering Processes and Cluster Policy of Cee's Countries

Akos Dominek

Széchenyi István University Regional Doctoral School

Accepted 27th May, 2014

Abstract

The objective of this research is to explore the actual status of cluster policies in Central and Eastern Europe and to compare clustering processes, funding systems and achievements of countries in the region. European automotive clusters represent a category showing clear-cut specialization. Embracing the assembly of passenger cars, buses and trucks as well as the manufacturing of engines and other parts, they represent a field where Europe is among the strongest regions of the world. As far as the initiative character, content, structure and financing resources of clustering is concerned, CEE countries show considerable differences, however, their objectives are the same, namely, they intend to create networked co-operation with partners from economy, research and administration to combine and further develop the existing strengths of the region.

Keywords: Clustering process,, Central-East-European automotive clusters, Cluster policy

1.0 Introduction

Due to the mass-production of vehicles, increasing demand, the gradual liberalisation of trade and the flow of foreign direct investment, the industry has been characterised by constant economic growth for long decades. By the end of the 20th century, vehicle and parts manufacturing has become leading economic industry in almost all developed and developing countries. Automotive industry trade was very dynamic in EU-25 countries between 1995 and 2007 whereas the annual nominal value of export and import growth was around 9%. (*Blázquez, L. - Díaz-Mora, C. - Gandoy, R. (2010)*)

In theory, terror attacks of 11th September, 2001 ended to this dynamic growth, but the real practical reason was the recession occurring at the end of the nineties. As a result of that, major actors of automotive industry were forced to decrease their manufacturing capacity at the beginning of the new century. Operating in a clustered environment

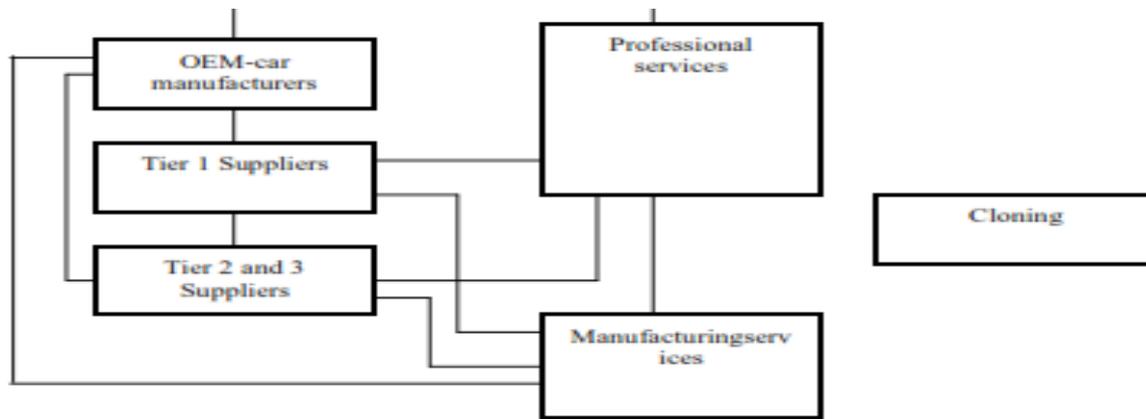
means an opportunity for the participants of the sector to recover from economic recession.

As far as automotive industry is concerned, Europe is one of the strongest regions of the world. According to data of a survey prepared for the European Commission in 2007, this success can be attributed to 39 regional clusters (including 259 regions) providing for more than 50% of total employment of the continent within the sector. These regional clusters are inter-connected and work in harmony with international strategies of manufacturers and transporters (European Commission – Enterprise and Industry, 2007). In 2008, 13 major international car manufacturers were present on the European market with an annual investment volume of several billion Euros. Employment in the industry affects the life of 12 million families (ACEA 2007-2008).

Central Eastern Europe (further referred to as CEE) also experienced considerable investment activities in the field of automotive industry after the political changes. As a result of that, automotive industry has become one of the most important – if not the most important – sectors in these countries. In this respect, the CEE region is rapidly catching up with Western countries.

But, integration into local economic environment is low due to the fact that it was primarily manufacturing plus direct suppliers that arrived at these countries. Enterprises active in the field of industry try to remedy this deficiency by establishing and operating clusters.

As far as the character, the structure and financing resources of CEE countries are concerned, they show large differences, however, their objectives are the same, namely, they intend to create networked co-operation with partners from economy, research and administration to combine and further develop the existing strengths of the region. Automotive industry provides the primary centre of gravity for clustering initiatives.



Source: Jaklic – Cotic – Zagorsek (2005).

FIGURE 1:Types of companies and activities in the automotive industry

Figure 1 shows enterprises and activity types within automotive industry.

Due to product development and the complexity of manufacturing processes, automotive industry is one of the most knowledge-intensive industries. The supplier chain consists of suppliers of several levels plus the final car manufacturers, the so called OEMs (Original Equipment Manufacturers). As seen in Figure 1, suppliers have more or less three levels. Levels indicate their distance from manufacturers. Suppliers of different levels play an important role because car manufacturers produce only some basic parts on their own, whereas they buy all other product elements – even complete modules – from external Tier 1 level suppliers, who themselves also may have suppliers. Certain building blocks or other parts of major components are produced by external companies (Tier 2).

Tier 1 suppliers provide integrated services as part of their high level R&D and product development activities. Tier 2 suppliers provide complementary services in addition to the manufacturing of modules and parts. Tier 3 suppliers offer primary commodities like mechanical tools, metal casts, rubber, plastic etc.

Suppliers have to meet strict quality and technical requirements of the OEMs. Competition among them is quite intense, characterised by high level technical quality and flexible manufacturing, in addition to the price. Competition is rather tense: a reliable and proven supplier may continuously expect orders provided that it meets the requirements, resulting in success and functionality (*Gyukics R. et. al.* 2011).

The objective of this research is to explore the actual status of cluster policies in of Central and Eastern Europe and to compare clustering processes, funding systems and achievements of countries in the region. Austrian and German cluster policy has been a model for CEE countries since they traditionally have strong links to these German speaking countries (e.g. influx of working capital, models of development policy). Therefore, I will first outline the cluster policy in these two countries as well as the structure, activity, services and the importance of existing automotive industry clusters. Then, I will focus on Czech, Slovakian, Slovene and Polish processes. After that, I give a brief description of the cluster policy Croatia, Bulgaria, Serbia and

Romania, focussing on the characteristics of these countries in this respect, the companies in the region as well as on the competitiveness of the region. I do not discuss the Hungarian example as it is the topic of an individual study.

2.0. Characteristics of the automotive clusters in CEE countries

Cluster initiatives and co-operation may be present in all fields or industries, however, it is an important factor which economic sector acts as centre of gravity in the given region. In my opinion, cluster examples of Germany and Austria served as model for certain CEE clusters, with special regard to those of the Czech Republic. As I have already mentioned, objectives are always the same, i.e. to increase competitiveness by teaming up. Clusters with an organised management is mostly characteristic for Austria. Irrespective of the sector, clusters also have contacts to companies in other sectors, as well as to clusters and educational institutions in other regions. Additionally, they also help their members. Conditions of membership are different in case of the different clusters: there are clusters where members have to pay a membership fee. In my opinion, this fact entails that cluster management is perceived as service provider, applying management consciousness and efficient PR and management strategies for the benefit of the members.

In case of the majority of examples from Western Europe, clusters were able to become independent after receiving support in the start-up phase. As far as Upper Austria and the Stuttgart Region are concerned, we find cluster initiatives with individual management and membership. Countries rule the funding of clusters from public resources in different ways. In addition to membership fee paid by cluster members, we find amounts donated by sponsors as well as regional, national or European funds as resources of financing.

In the Czech Republic, there were tenders for establishing and building up clusters. There were at least 15 companies, research and development institutions and regional development organisations applying as a team. Action plans had to be elaborated until June, 2008. The position of cluster manager had to be taken up, and a joint office had to be established by the same deadline. The Czech model required

the commitment of participating companies and especially the initiative power on behalf of the enterprises. Costs of cluster management have been financed from public funds to 75% in the first year, to 65% in the second and to 55% in the third." (Centrope 2008, 4).

The feature that financing is meant for a certain period of time is similar to the practice applied in case of clusters of Lower Austria.

In the CEE region, we find various tools and initiatives directly or indirectly serving the purpose of cluster development. Slovenia is an excellent example as we find networks of ministries and companies established. In the

TABLE 1 Automotive clusters in CEE countries

Country	Number of Clusters	Number of employees (1000/person)	Number of Members	Initiated	Year of foundation
Czech Republic	2 (AIA, MAK)	130	330		1989, 1990
Slovakia	1 (NYSZAK)				2008
Slovenia	2 (ACS,TCS)	17.6	59	Top-down and bottom-up	20011998
Poland	1(WAC)	74	280	By TCAS	2007
Croatia	1 (CAC)	6	50		2006
Romania	1 (AVA)			Public and Private sector	2007
Bulgaria					
Serbia	1 (ACS)	12	43	Top-down	2005

Source: Own edition

One of the excellent examples of successfulness of automotive cluster initiatives in CEE countries is the Czech Republic where OEMs have a long history, they are regionally concentrated and located in the region of the capital. Automotive clusters started to pop-up at the end of the 80s and beginning of the 90s, initiated by SMEs. According to management data available to members, they achieved a productivity increase of 16.6% compared to the previous year – even though that was in 2010, i.e. right in the economic crisis. In 2010, AIA companies contributed to 18.06% of total Czech industrial production, representing an increase of 1.06% compared to the previous year. In 2009, enterprises in automotive clusters of the Czech Republic had the highest number of full time employees whereas the Croatian cluster had the lowest. According to data of Clusterobservatory (2011), the cluster with the highest number of companies embraced was the automotive cluster of Poland.

The objectives set when establishing CEE automotive clusters were the same: to connect enterprises and related institutions operating in the automotive sector. Again, the tasks are also the same: to establish co-operation with major global companies as well as to encourage the SME sector to take up contacts to each other, find synergies in the operation and to gain competitive edge by concentrating on those synergies.

In the examples examined, clusters have clear borders and an own institutional system – they cannot be separated from a given development and planning-statistical region. Although cluster development is not organisation based, it requires an organisational framework and support at least in the initial phase.

3.0. Conclusion

In developed economies, clusters are created mostly as the result of evolution and the co-operation of different organisations (e.g. enterprises, R&D institutions, scientific centres, authorities). On the other hand, CEE countries do not have this long cluster tradition. Several studies have been made about cluster-like organisations and national projects have been implemented with the objective of creating aggregations. Although automotive clusters also have a relatively short past, their pulling power is much higher since there is an automotive centre in this region. In all the countries, clustering process serves the purpose of boosting-up of the SME sector and through that, the revival of local economies and industry by involving local educational, research and development institutions (technology transfer).

Main objectives of creating clusters is to receive grants from the state and EU through co-operation as well as to establish co-operation forms based on real association. One of the biggest advantage of the operation of automotive clusters in CEE countries is that it is not limited to geographic regions so clusters can have contacts to each other and co-operate. A cluster is more successful if it has both major companies and institutions of knowledge transfer among its members.

Whereas automotive clusters of Western Europe are well-developed clusters, clusters in CEE countries are still in the developing stage. German and Austrian clusters are network oriented tools of regional development and enterprise promotion with great past especially in car industry. They have grown from provincial initiatives to independently operating bodies with cluster management. From the point

of view of the operation of CEE clusters, the biggest problems are the lack of capital, the introduction of various quality assurance systems and the obtaining of different certificates since these require considerable investments from micro-, small and medium sized enterprises. At the same time, cluster manager training and the regulation of clusters is in infancy. Clusters proved to be excellent tools of economic recovery and improved competitiveness.

However, their disadvantage is that they may increase regional differences within a country, for instance in Slovakia where the automotive cluster is strengthening only Western Slovakia and the region of Bratislava.

Compared to countries of Western Europe, the membership in CEE clusters is lower. This can be attributed to the fact that the former countries have longer traditions in terms of clustering. The Slovene automotive cluster is in a special situation since it is present on a national level and it is the only automotive cluster. In 2007, the number of enterprises active in industry was 117, and 59 of them (i.e. more than 50 percent) were members of a cluster. This high participation is mainly due to the quality performance of the cluster and the relatively small size of the automotive industry.

It is a basic requirement in case of all cluster organisations that there should be a pool of available professional staff and consultants working on a full time basis. Almost all clusters employ co-ordinators and own staff to perform daily tasks. In case of Western clusters, the average number of employees for basic management tasks is 2–3 (e.g. AC RheinMainNeckar, ACS Slovenia) whereas clusters with more complex tasks and activities often employ up to 10 people as basic staff (e.g. Upper Austria AC).

Most salient differences can be spotted in the governance of the clusters: who is making management initiatives, who is paying for the budget, which partners have the highest influence etc. Western clusters can be characterised by the co-operation of the public and the private sector. In certain CEE countries, over-financing from state can be observed in the development stage of clusters. As far as ACS Slovakia is concerned, there was an attempt in 2007 to create an independent organisation, free from governance and financing from the state. Main resources of the public financing of clusters are regional, national and EU level funding.

The German and Austrian example had a great influence of the clustering process and the support for initiatives of automotive clusters in CEE countries. Both Germany and Austria can be characterised by a territorial cluster policy. The economic development policies of the given territories are similar but the development of clusters is happening according to local circumstances. This type of orientation to local conditions as well as an appropriate evaluation of real circumstances are missing from Hungary. This represents an urgent task to be solved in the near future.

In Hungary, cluster oriented policies and the application of tools supporting clustering processes are of great importance since they represent a modernisation mechanism. Clusters already operating can become stronger only if a cluster based economic policy is developed including the decentralisation of decision-making because only the given regions know

about their specific needs – the central government can contribute to cluster development only by improving competitiveness. However, conscious cluster policy is still missing from central economic development policy of Hungary. By exploring their own capacities, regions try to fill this gap but they do not have the necessary power for that (e.g. financial decentralisation).

According to Grosz (2005), there is a low chance for the implementation of innovation clusters and genuine cluster oriented development policy in Hungary – except for some sectors and regions – since the overall level of economic-social development is poor, regional/sectoral policies are not clearly separated, inclination to co-operation is low, mistrust is high and there are large differences between regions in the Eastern and the Western part of the country.

In order to be able to improve and develop the clusterisation in CEE's, according to my knowledge the CEE's countries should have been more open and conscious to use and apply the cluster initiative, which already used and applied in Western Europe, as a guideline.

SME's should have been more cooperative with each other and do not have to be afraid from the "worktogether" and do not have to be afraid from data service. It will not cause any competitive disadvantage.

SME's in CEE's still have to be learned to think more globally and not operate a "lonely warrior"

SME's have to see and use the advantage of clusters, which makes the companies themselves more competitive in this turbulent world. (E.g.: bundling procurement services – reduce the cost)

References

1. Automotive Industry in the Czech Republic (2005) CzechInvest, Praha.
2. Austrian Automotive Association (The AAA): www.aaa.or.at (Download: 2011. augusztus 05.)
3. Automotive Cluster of Slovenia (ACS): www.acs-giz.si (Download: 2011. július 29.)
4. Automotive Cluster Vienna Region (ACVR): www.acvr.at (Download: 2010. november 19.)
5. Automotive Cluster - West Slovakia (ACWS): <http://www.autoclusters.eu/index.php/partner/127-automotive-cluster-west-slovakia> (Download: 2011. március 12.)
6. Automotive Industry Association of the Czech Republic (AIACR): www.autosap.cz (Download: 2011. május 19.)
7. Bayern Innovativ (BAIKA): <http://bayern-innovativ.de/0694b997-753e-7613-df27-4dcbfaa2f662?Edition=en> (Introduction) (Download: 2011. július 27.)
8. Benchmarking Study of European Automotive Clusters (2005) AutoAnalysis, London.
9. Blázquez, L. - Díaz-Mora, C. - Gandoy, R. (2010) European Automotive Networks: A parts and components trade perspective. University of Castilla-La Mancha, Spain

10. Centrope gazdasági térség (2007) Centrope.news. Newsletter 06. Centrope Coordination Office, Wien
11. European Automobile Manufacturer's Association (ACEA): www.acea.be (Download: 2011. augusztus 12.)
12. Grosz A. (2005) Klaszteresedés és klaszterorientált politika Magyarországon - potenciális autóiipari klaszterek az észak-dunántúli térségben. Doktori értekezés. Győr-Pécs.
13. Gyukics R. et. al. (2011) A magyar kis és középvállalatok beszállítói szerepének erősítéséről szóló stratégia kiigazítása a gép- és gépjárműipari ágazatban: a jelenlegi helyzet tanulságai és a lehetőségek kihasználásának eszközei. Kopin Konjunktúra Kutatási Alapítvány, Commerzbank, Noerr és Társai Iroda: http://www.kopinalapitvany.hu/kutatas/Commerz_beszall/amagyarckv_beszallitoi.pdf (Download: 2011. november 17.)
14. Innovation Clusters in Europe: A statistical analysis and overview of current policy support (2007) European Commission, Enterprise and Industry Directorate-General, Brussel.
15. Jaklic, M. - Cotic, S. A. - Zagorsek, H. (2005) Specific Responses to Universal Pressures in the Industry - Comparing European Automotive Clusters. University of Ljubljana. EGOS. Ljubljana.
16. Ketels, Ch. (2004) European Clusters. Structural Change in Europe 3 - Innovative City and Business Regions. Harvard Business School, Boston MA, USA.
17. Legendijk, A. (1999) Good practices in SME Cluster initiatives. Lessons from the 'core' regions and beyond. Centre for Urban and Regional Development Studies, University of Newcastle Upon Tyne, UK.
18. Local Economic and Employment Development. Business Clusters: Promoting Enterprise in Central and Eastern Europe. OECD (2005) Paris.
19. World-class clusters at your fingertips: <http://www.clusterobservatory.eu/index.html> (Download: 2011. augusztus 16.)