

# INCREASING COOPERATION THROUGH JOINT PROJECTS IN AUTOMOTIVE INDUSTRY

Zdenka GYURÁK BABEL'OVÁ

*Author: Ing. Zdenka Gyurák Babel'ová, Ph.D.*  
*Workplace: Institute of Industrial Engineering, Management and Quality, Faculty of Materials Science and Technology in Trnava, Slovak University of Technology Bratislava*  
*Address: Paulínska 16, 917 24 Trnava, Slovak Republic*  
*Phone: +421 918646051*  
*Email: zdenka.babelova@stuba.sk*

## Abstract

*The article is focused on the importance of enhancing the cooperation of different subjects in automotive industry. The beginning of the article briefly describes production in automotive industry in Europe and in Slovakia as well as the increasing requirements for producers and suppliers in automotive industry. The next part describes the project of AUTOCLUSTERS, its expected outputs and partial outcomes. The project brings together universities, the institutions of research and development, small and medium sized enterprises and other supportive facilities from the European countries, and new member states to prepare and create the first automotive network in the South-East Europe.*

## Key words

*Automotive industry, suppliers, innovations, cooperation*

## Introduction

Automotive industry in Slovakia is very important for the Slovak economy. Furthermore, this industry became a part of the European economy after the Slovak economy was opened for foreign investors in automotive production. Automotive industry has a big potential for future growth not only in the area of production, manufacturing and assembly, but also in the field of research, development and innovations. This industry belongs to the most quickly developing sectors. By its nature, this industry has also a significant impact on other industries.

## Automotive industry in Europe

Automotive industry is a key industrial sector of the European economy. Its development has a growing tendency mainly in the research and development activities, growing numbers of innovations and strong focus on education. Research and development are becoming the high competitive advantage not only for industrial companies, but for the public and governmental sector, too. Research and development are the major characteristic features of

advanced and modern economy, country, innovative orientation and human resources development. Automotive industry in Europe [10]:

- is the most important employer in comparison with other industrial sectors,
- has high automotive research and development expenditure per year,
- is the most important export sector,
- comprises almost 300 automotive production and assembly plants in Europe.

Production of manufacturing and assembly automotive plants in 2010 in Europe rose in comparison with 2009. Table 1 shows the European motor vehicle production by countries.

EUROPEAN MOTOR VEHICLE PRODUCTION BY COUNTRIES [8]

Table 1

ALL VEHICLES	2009	2010	% change
EUROPE	<b>17.055.842</b>	<b>19.822.626</b>	<b>+16.2%</b>
<b>EUROPEAN UNION 27 countries</b>	<b>15.289.992</b>	<b>17.102.459</b>	<b>+11.9%</b>
<b>EUROPEAN UNION 15 countries</b>	<b>12.242.621</b>	<b>13.826.044</b>	<b>+12.9%</b>
AUSTRIA	72.334	104.997	+45.2%
BELGIUM	537.354	555.302	+3.3%
FINLAND	10.971	6.665	-39.2%
FRANCE	2.047.693	2.229.421	+8.9%
GERMANY <sup>1</sup> (1)	5.209.857	5.905.985	+13.4%
ITALY	843.239	838.400	-0.6%
NETHERLANDS	76.751	94.106	+22.6%
PORTUGAL	126.015	158.723	+26.0%
SPAIN	2.170.078	2.387.900	+10.0%
SWEDEN <sup>2</sup> (2)	156.436	217.084	+38.8%
UNITED KINGDOM	1.090.139	1.393.463	+27.8%
<b>EUROPEAN UNION New Members</b>	<b>3.047.371</b>	<b>3.276.415</b>	<b>+7.5%</b>
CZECH REPUBLIC	983.243	1.076.385	+9.5%
HUNGARY	214.543	211.461	-1.4%
POLAND	878.998	869.376	-1.1%
ROMANIA	296.498	350.912	+18.4%
SLOVAKIA	461.340	556.941	+20.7%
SLOVENIA	212.749	211.340	-0.7%
<b>OTHER EUROPE</b>	<b>896.245</b>	<b>1.625.610</b>	<b>+81.4%</b>
SERBIA	16.738	18.033	+7.7%
RUSSIA	725.012	1.403.244	+93.5%
BELARUS	11.520	16.650	+44.5%
UKRAINE	69.295	83.133	+20.0%
UZBEKISTAN <sup>3</sup>	117.900	156.880	+33.1%
<b>TURKEY</b>	<b>869.605</b>	<b>1.094.557</b>	<b>+25.9%</b>

<sup>1</sup> Official figures include Belgian GM assembly

<sup>2</sup> Official figures take account of Swedish manufacturers world production; in this report, we only use the vehicles produced in Sweden, and the vehicles for which Volvo Trucks does not specify the country of production.

<sup>3</sup> Estimate

Nowadays, automotive industry must face the situations and consequences of crises, which significantly affect its functioning. Therefore, because of complicated economic situation, automotive industry is continuously becoming one of the key factors of sustainable development for the future, mainly due to its ability to innovate and increase the innovation capacities.

### **Automotive industry in Slovakia**

The modern evolution of automotive industry and the related supply sector in Slovakia are connected with the establishment of the Volkswagen production plant in Slovakia in 1991. After the Slovak government introduced regulations in the area of income tax from 1998, a stream of new investment started to pour into the automotive industry in Slovakia. Besides the main component suppliers for automotive industry, there were also suppliers of spare parts that decided to invest in Slovakia. Automotive industry, which also plays an important role for other industries, has become a key industry in the development of the Slovak economy. Production of cars in Slovakia increased considerably after the implementation of production lines.

Proportion of automotive industry within the whole industry in Slovakia can be seen in Table 2.

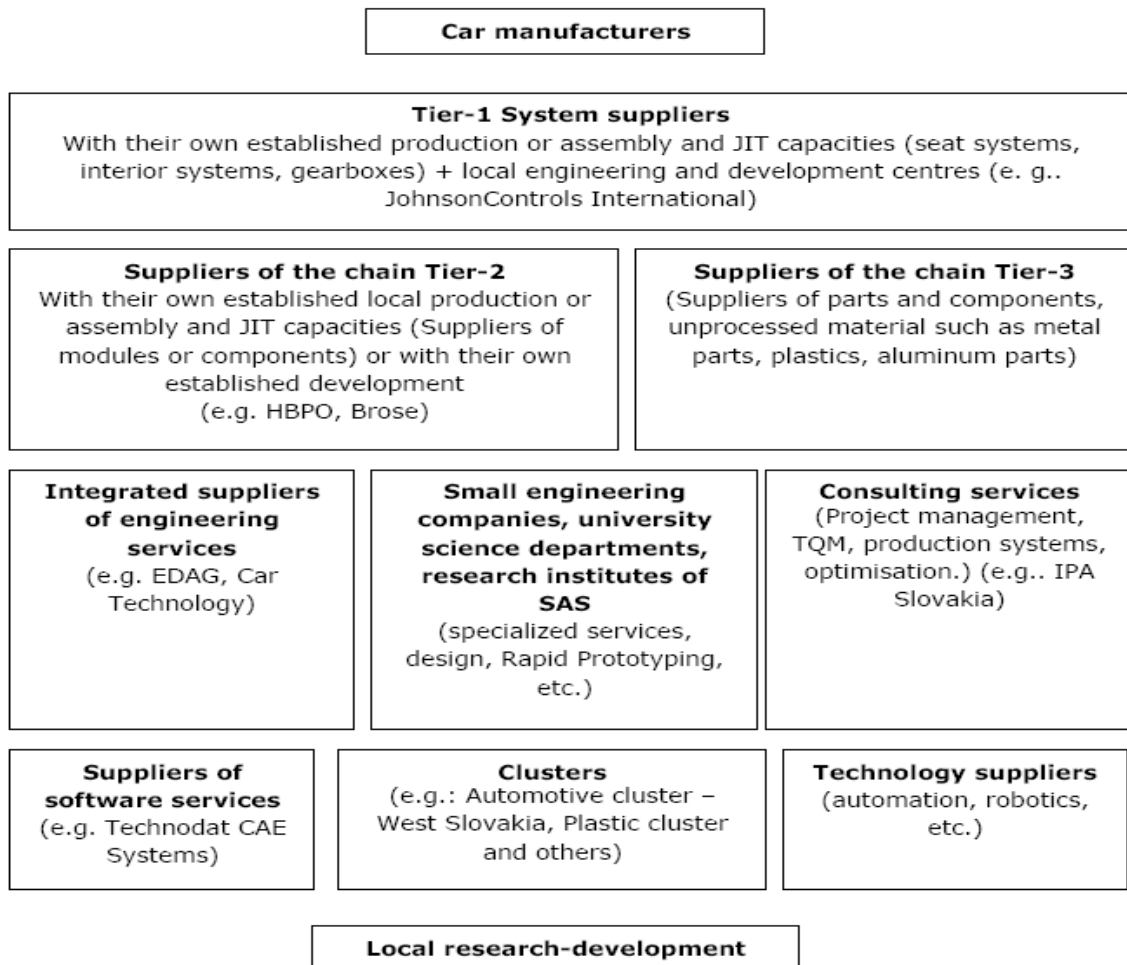
PROPORTION OF AUTOMOTIVE INDUSTRY  
[12]

Table 2

<b>Year</b>	<b>Proportion of automotive industry in Slovakia</b>
2008	34.3 %
2009	37.8 %
2010	37.0 %
2011	half year 41 %
2011	expected min. 40%

Similarly to the growth of automotive production in Slovakia, the supply chain for automotive industry successfully developed. This supply chain consists mainly from suppliers of components for automotive industry.

Structure of the supply chain in Slovakia can be seen in Figure 1.



*Fig. 1 Structure of the supply network in Slovakia [9]*

Suppliers of automotive components represent an important part of the automotive industry in Slovakia. They participate not only in the cars production, but also in research and development activities.

### **Increasing requirements in automotive industry**

Increasing requirements in automotive industry are characterized by their interdisciplinary nature. These demands stem from the area of technologies, performance, safety, environment and many others.

The current focus in the automotive industry is on the area of environmental technologies, their development, application and adaptation to the current system. Highlight is green innovation and new environmental standards in production, in order to develop cleaner, more economical and attractive cars. Supplier must respond flexibly to the development in automobile factories, which tends strongly to the green car, while increasing the rate of electronic and software components, requirements for greater security in vehicles, integrated traffic management, navigation systems, networking and linking intelligent vehicles and reducing vehicle weight. [11]

Permanent impulses from consumers and competitors call for new technologies, new functions and further implementation of innovations. These demands concern not only the automobile producers themselves, but their suppliers as well, since the automobile factories benefit from suppliers in two ways: for the delivery of requested components, and also for

development of these components. Automobile producers can thus depend also on the development workrooms of their suppliers. However, such development must meet many requirements, which need to be dealt with in a complex way. That is the reason why interested participants should create networks, which may help them meet these requirements.

Therefore, the importance of the projects, which facilitate the establishment of such networks and clusters focused on knowledge transfer to particular subjects in automotive industry, is growing.

### **AUTOCLUSTERS project– cross-border cooperation of nine countries**

Project “The international cooperative network of educational and research institution with subcontractors and other bodies active in automotive industry” started in 2009 and will continue until 2012. The lead partner of the project is the Automotive Cluster - West Slovakia, with 11 participating partners from nine countries of the South-East Europe. The project should ensure transfer of knowledge and innovation between the partner regions. The purpose of the project is to carry out the second level clustering activities with the partial objective to increase innovation capacities and effectiveness of technology transfer, i.e. to improve the innovation circle in automotive industry, as well as to achieve the global objectives, such as facilitating the innovations, knowledge economy and information society. The contribution to the attractiveness of the region is taken into account as well.

#### **Project outputs focused on enhancing the cooperation in automotive industry**

The project’s aim is to develop the network of existing small and medium sized enterprises together with the research and development centres or universities in automotive industry. The project aims are to:

- Create the first sustainable network in automotive industry in the South-East Europe region with specific focus on innovation activities.
- Create partnerships of institutions from the New Member States, non-EU members as well as well experienced institutions from EU-15.
- Invite not only clusters and other small and medium sized enterprises, but also research and development institutions and universities to the network.
- Improve innovative capability by carrying out the studies of innovation capacities, exhibitions in universities and dissemination of outputs of our activities, exchange studies and networking activities.
- Prove the project concept by carrying out small pilot projects and by generating proposals for FP7 programme.

Project tasks implementation is divided into eight work packages, while each package consists of several activities and scheduled outputs.

As a project output, the first permanent network was established in the automotive sector in the South-East Europe region. The sustainability of the network should be ensured by private or public sources, which will be more deeply analyzed during the project.

Another output was a permanent exchange program established as a part of the activities of the cooperative network.

Small pilot projects financed by the main project were carried out to prove the concept of FP 7 proposals. Proposals for FP 7 programme are prepared by the project partners.

The results should be adopted in different industries as well as regions

Other results and outputs with highly positive impact on the innovation and cooperation were mobility and exhibitions at universities and educational seminars in each region involved in the project.

## Conclusion

Innovation activities in the automotive industry should be generally considered as having positive impact on environmental sustainability. Through its activities, AUTOCLUSTERS project progressively meets its objectives in the field of promoting the cooperation between automotive producers, their suppliers as well as other existing small and medium sized enterprises together with research and development centres or universities in automotive industry. By implementing these activities, AUTOCLUSTERS project proves its importance and the need for similar projects aimed at enhancing cooperation in automotive industry.

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### **Reviewers:**

Dagmar Cagaňová, Assoc. Professor, Ph.D. – Institute of Industrial Engineering, Management and Quality, Faculty of Materials Science and Technology SUT in Trnava

Iveta Kremeňová, Assoc. Professor, Ph.D. – Faculty of Operation and Economics of Transport and Communications, University of Žilina