Cross-border Study on Machine-building and Automotive Industries
-
West Region Romania and Banat Region Serbia

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1. Introduction

a) The purpose of the research

The present research aims to provide an analysis of the particular features and threats of the automotive industry in the West Region, Romania and Banat Region, Serbia, in order to identify the support and development perspectives based on the needs of this industry and the existing (economic, social, and institutional) resources.

The research focuses on the following main aspects:

- Identifying the economic features of the automotive industry in Romania and Serbia, but also in the West Region and Banat Region;
- Analysing the factors **influencing the medium-term development of the automotive industry:** the labour cost, the business environment, the existence of complementary industries, capital safety, quality of education, research and development potential, human resource skills;
- The ways in which companies manufacturing automotive parts can adapt to the global economic and financial evolution;
- Identifying the support structures and services for enterprises / platforms (business platforms, cluster, supplier networks) in operation at this moment, along with analysing the need for the creation of new sector-level structures.

b) Defining the automotive industry

In the current research, we will include in the automotive industry those companies operating in the field of land vehicle production for both person and freight transport. We will also include the vehicle part manufacturers, whether they are Romanian or Serbian companies or companies with foreign capital operating in Romania and Serbia.

As far as the automotive industry in its whole is concerned, it displays a series of common features and characteristics [1] regardless of the area where it is situated statistically.

Thus, the automotive industry is characterized by **globalization**. In the discussions regarding the automotive industry, we most often come across terms such as direct foreign investment, global production or international trade. The global character is not only visible at OEM level. Part and subassembly providers have followed the manufacturers and have become "global suppliers".

The automotive industry is also characterized by a **firm, concentrated structure**, in that there are relatively few companies dominating the global market. Generally, when we talk about the automotive industry, we are referring to two types of companies: carmakers and part makers. These two groups of companies have imposed a set of standards that other companies find it difficult to reach. Alliances and/or mergers between companies most often take place within the industry.

[1] Timothy J. Sturgeon, Olga Memedovic,Johannes Van Biesebroeck, *Globalisation of the automotive industry: main features and trends*, *Int. J. Technological Learning, Innovation and Development, Vol. X, No. Y, XXXX, 2004*

At the same time, the automotive industry is a **relational industry**, characterized by a tight relation among different companies, in the form of a chain. The part maker often follows the carmaker to the latter's newly opened location.

The automotive industry is **continually changing**. These days, the car is no longer a simple means of transport. The final product, the car, is meant to contain the best materials. Also, with each new model, a carmaker strives to bring not just a better looking product, but mostly a safer one, with lower fuel consumption, friendlier to the environment, and capable of being recycled at the end of the life span.

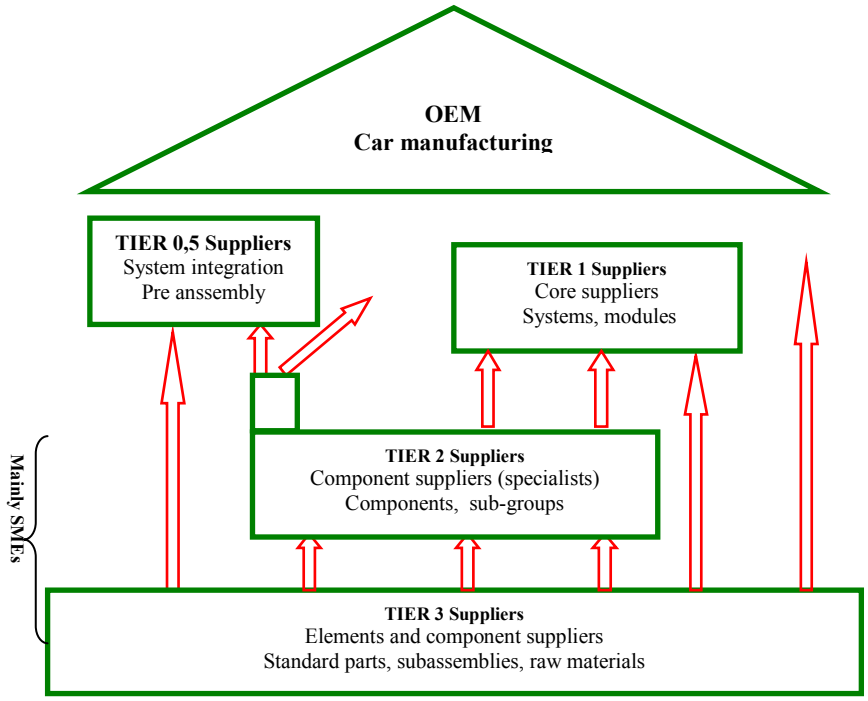
To conclude, we can say that the automotive industry is characterized by globalization, a concentrated structure, novelty and change, networked activity, and consolidation on all segments, from production through the supplier chain and transport up to the beneficiary.

c) The constituents of the automotive sector

We can find several categories of companies in the automotive sector:

- The great players in the automotive industry are the **original equipment manufacturers (OEM's).** The following companies can be included in this category: General Motors Corp., Ford Motor Co., Daimler Chrysler AG, Toyota Motor Corp., Volkswagen AG, Honda Motor Co., Renault-Nissan, PSA, etc. These companies have a significant presence on the European, American, and Japanese markets, accounting for 80% of the world vehicle production;
- The **modular system manufacturers (TIER 1)** are very important for carmakers. The companies in this category sell their product direct to the carmaker based on firm contracts. This category will include those companies building systems such as the full seating system or the dashboard with its electronic system. Of the companies that can be included in this category, let us mention: Continental AG, Robert Bosch GMBH, Delphi Corporation, Johnson Controls, Michelin Group, Lisa Draxlmaier, Valeo, BOS Automotive, Valvetek, Johnson Controls, Sumitomo Electric Industries Ltd, TRW Automotive, Leoni, etc. Moreover, this category includes those companies that are in a position to reject certain terms in the contracts proposed by the OEM's.
- Next to OEM's and TIER 1, an important position in the automotive industry is occupied by the **individual part manufacturers (TIER 2)**. This category includes companies such as Coficab and Contitech.
- Another very important category is that of the **element and small subassembly suppliers (TIER 3).** The companies in this category are small companies, usually with domestic capital, oriented exclusively towards the production of goods for a particular sector, with part of their turnover being accounted for by their activity in the automotive industry. These companies most often make parts that are included in the final product sold by TIER 1 to OEM's. This category includes manufacturers of various textile, metallic, plastic, or electric elements that are part of the final composition of a car. Of the companies that can be included in this category, let us mention: Spumotim, Nefer Prod, Interpart, etc.

Figure 1 below shows the network of suppliers in the automotive sector[2].



Automotive suppliers system

[2] i.con.innovation GmbH, *Support to Supply Chain Development in the Automotive Sector West Romania* Working paper – Draft, 2006

2. European-level trends of the automotive sector

a) European policies in the automotive industry

The industrial policy, in general, is viewed by the European Commission as a fundamental pillar of the Revised Lisbon Strategy.

The European Commission's initiatives in the field of the automotive industry mainly focus on consolidating competitiveness of this European industry by implementing an efficient regulation framework for the internal market and by the international harmonization of the specific technical requirements. The global technical harmonization is seen as a decisive factor determining the international competitiveness of the European automotive industry.

At the European level, the CARS 21 initiative has been created. It represents the initiative of the European Commission to create a competitive regulation framework regarding automobiles. The result of this initiative is a set of recommendations aiming to improve the global competitiveness of the European automotive industry and the creation of jobs, while protecting the environment and road safety. The coverage area of this initiative spans eight relevant domains: legislative simplification and harmonization, environment protection, road safety, trade, research and development, taxes and fiscal incentives, intellectual property, and competition.

b) The features of the sector in Europe

The European automotive industry, employing over 2 million people, is very important for the competitiveness of the European Union in its effort to meet the major objective of the Lisbon strategy: that of making the European Union the most competitive economy at global level.

The European Union makes one third of the world's cars. If carmaking indicators still show an upward trend at the level of the EU, this is only due to the growth in the 12 new states accepted after 2004. In the other 15 states, the production has stayed at the 2003 level for a few years, while the new EU members have recorded a 23% increase.

Table 1. Motor vehicle production by state and state groups, 2006-2007

State/State group	2006	2007	% Change
All 27 EU member states	18.697.868	19.717.643	5,50%
The 15 old EU member states	16.276.103	16.691.204	2,60%
Austria	274.907	228.066	-17,00%
Belgium	918.056	834.403	-9,10%
Finland	32.746	24.303	-25,80%
France	3.169.219	3.015.854	-4,80%
Germany	5.819.614	6.213.460	6,80%
Italy	1.211.594	1.284.312	6%
The Netherlands	159.454	138.568	-13,10%
Portugal	227.325	176.242	-22,50%
Spain	2.777.435	2.889.703	4,00%
Sweden	333.072	366.020	9,90%
Great Britain	1.649.792	1.750.253	6,15
The new EU member states	2.41.765	3.026.439	25%
The Czech Republic	854.817	938.527	9,80%

Hungary	190.233	292.027	53,50%
Poland	714.600	784.700	9,80%
Romania	213.597	241.712	13,20%
Slovakia	295.391	571.071	93,30%
Slovenia	153.127	198.402	29,60%

Source: OICA, Production Statistics

In spite of the importance given to the automotive industry at EU level, this sector is still facing a series of problems related to the following factors:

- EU productivity is lower than that of the US and Japan;
- the labour cost is a major problem: while labour costs 12.9$/h in South Korea, 29$/h in Japan, and 33.8$/h in the US, the EU has an average of 32.7$/h, with Germany standing out at 36.8$/h;
- the search of new locations and setting up production facilities in Central and Eastern Europe disturbs the balance in the traditional areas.

c) The migration towards Central and Eastern Europe

Lately, especially after joining the EU, Central and Eastern Europe has become one of the favourite destinations for the major carmakers and automotive part manufacturers, whether European, Asian, or American.

Before 1989, Hungary did not have any automotive factory on its territory. Poland had two, in Warsaw and Bielsko-Biala, Czechoslovakia made Skodas in the factory in Mlada-Boleslav, and Yugoslavia had three production units: Novo Mestro, on the territory of present-day Slovenia, Sarajevo, in Bosnia-Herzegovina, and Zastava, close to Belgrade.

If we have a look at these states today, we will see that the Czech Republic, Hungary, Poland, Slovakia, and Slovenia have managed to attract some major carmakers. Factories were built from scratch in countries such as Slovakia and Hungary, while the existing factories in Poland and the Czech Republic were privatized. Hungary now hosts prestigious makes such as Audi, Opel, and Suzuki. Poland has privatized the existing factories with Fiat and Daewoo, but has also benefited from massive investments. Volkswagen has two production facilities in this country, while Isuzu, Opel, and Toyota each have one. New production units of the PSA group were built in Slovakia near Trnava, while Volkswagen settled in Bratislava. The new Renault Clio is now being made in Slovenia. The Sarajevo factory belongs to Volkswagen, and Zastava, the factory in Serbia, was refitted to assemble the Fiat Punto. We should not overlook the production facilities in Turkey, where the following carmakers have their factories: Renault, Toyota, PSA, Hyundai, Honda, Ford, Fiat, Iveco, Mercedes.

The table below provides an overview of the production facilities in the countries in Central and Eastern Europe.

Table 2. Automotive production in Central and Eastern Europe

Country	2003	2004	2005	2006	2007
The Czech Republic	436.279	443.065	599.472	848.922	925.778
Poland	306.847	523.000	540.000	632.300	695.000
Romania	75.706	98.997	174.538	201.663	234.103
Serbia	12.996	13.266	12.574	9.832	8.236
Slovakia	281.150	223.542	218.349	295.391	571.071

Slovenia	110.597	116.609	138.393	115.000	174.209
Hungary	122.338	118.590	148.533	187.633	287.982
Turkey	294.116	447.152	453.663	545.682	634.883

Source: OICA, Production Statistics

We shall now do a comparative analysis of the countries in Central and Eastern Europe from the point of view of their opportunities and threats.

Table 3. *The sector's opportunities and threats in the countries in Central and Eastern Europe – a comparative study* [3]

OPPORTUNITIES	STATE	THREATS
Low salary The presence of some part manufacturers The proximity of Turkey (a country with many carmakers: Kia, Ford, Honda, Hyundai, Peugeot, Renault, Toyota) High number of skilled people Facilities granted to companies coming to the country	**BULGARIA**	☹ No localized carmaker ☹ Weak transport infrastructure ☹ No transparency
The presence of some OEM's such as Fiat, Opel, Volkswagen Large market (Poland is the 6th largest EU state) The presence of many part makers Rising domestic demand for cars Fiscal incentives	**POLAND**	☹ Slow transport infrastructure development ☹ High unemployment rate ☹ Difficulties in recruiting specialized staff
The presence of some OEM's such as Skoda, PSA, Hyundai Tradition in the automotive industry The presence of many part makers The development of a strong network of subcontractors A stable economic and political environment Proximity to Germany	**THE CZECH REPUBLIC**	☹ The low unemployment level leads to staff scarcity and has led to a salary increase ☹ Dependence on the sector at industry level ☹ A rise in the heavy transport on highways as a result of the development of the logistic sector
The presence of some OEM's such as Dacia, Renault, Ford The presence of some part manufacturers Large outlet Favourable geographic position Low salary Increasing confidence for investing in Romania Steady economic growth	**ROMANIA**	☹ Volatile exchange rate ☹ Excessive bureaucracy in terms of processes and certifications ☹ Weak transport infrastructure ☹ Difficulty in recruiting skilled staff in the developed economic areas
The presence of some OEM's such as Kia, Peugeot, Volkswagen The presence of some part manufacturers Special attention given to the sector at national level	**SLOVAKIA**	☹ The sector is concentrated on just two areas: Bratislava and Trnava ☹ Difficulties in recruiting skilled staff for the part manufacturers that have followed the OEM's
The presence of some OEM's such as Renault The presence of some part manufacturers	**SLOVENIA**	☹ Slow privatization of the large state companies ☹ Lack of incentives and facilities

[3] Adapted from Ernst&Young, *The Central and Eastern European Automotive Market. Industy Overview*, November, 2007 and KPMG, *The Automotive Industry in Central and Eastern Europe*, 2008;

Developed transport infrastructure Skilled staff		
The presence of some OEM's such as Audi, Suzuki, Mercedes The presence of some part manufacturers Mature economy Legal system in harmony with the European one Developed transport system (over 1,000 km)	**HUNGARY**	☹ Volatile exchange rate ☹ Poor cooperation between the part manufacturers and the local suppliers

d) European cluster networks: Belcar, TCAS

The countries in Europe differ from the rest of the countries in the world by being very varied. The networks created among various SME's reflect this feature very well and provide a dynamic environment for the automotive sector.

The BELCAR network[4] **(Be**nch **L**earning in **C**luster management for the **A**utomotive sector in European **R**egions)

The Belcar network is concentrated on the analysis and growth of the role played by innovation in the automotive industry clusters that are part of this network. For that purpose, BELCAR aims to build an interregional network of the automotive industry clusters for common activities, and the lessons learned from this experience should be transferred to other European regions. Another aim is to promote the innovation transfer to other sectors, clusters, and regions.

The TCAS network[5] **(T**ransnational **C**lustering in the **A**utomotive **S**ector)

The goal of the TCAS activities is to facilitate the exchange of experience and best practices among the European **automotive industry** clusters, so that these can improve their performance, to create a platform for transnational cooperation, and to open new business perspectives for the companies in the clusters.

e) The response of the world's manufacturers to the global economic and financial development[6]

The economic slowdown generated by the credit crisis has seriously affected carmakers, leading to a drop in sales, which has forced big automotive companies to restructure and resort to government aid in order to avoid bankruptcy.

European carmakers
As a result of the serious global economic problems, the crisis in the automotive sector quickly spread across Europe. As a reaction to the negative effects of the crisis, **Renault,**

[4] More on the network at: www.europe-innova.org/BeLCAR
[5] More on the network at: www.europe-innova.org/TCAS

[6] Adapted after Moneyline.ro, *Piața auto a resimțit din plin efectele crizei financiare mondiale (World Financial Crisis Takes Toll on Car Market)*, 28.12.2008

Daimler, Fiat, Volkswagen, BMW, etc., have temporarily ceased production and/or have announced layoffs.

Central Europe increasingly feels the effects of the economic crisis, with the carmakers in the region (Skoda, Dacia, Audi, etc.) being more and more affected, despite the workforce which is skilled and cheap at the same time. Thus, carmakers in the region are forced to cut down production and adapt it to the decreasing demand.

American carmakers

The ones that have suffered the most as a result of the financial crisis have been the American companies **General Motors, Chrysler, and Ford Motor Co.** Car sales have been seriously affected by the credit crunch and the economic slowdown. Overall, car sales in the US have dropped significantly compared with the same periods in 2007.

Asian carmakers

In Japan, the main automotive companies, **Toyota, Honda, and Nissan**, have reduced production, as the difficult credit terms and rising investor uncertainty have affected car sales.

3. The Romanian automotive industry

a) Romania – Country profile

In the context of an economy in full upward trend, the automotive industry in Romania is thriving, on the one hand due to the infusion of foreign capital attracted by the cheap and skilled workforce, the low costs, the experience in the relations with foreign partners, Romanians' wish and will to cooperate and develop and, on the other hand, by the Romanian manufacturers of automotive parts. The latter are currently restructuring their activity, undergoing certification processes according to the requirements of the current European legislation, continuously prospecting the market for new contacts and new agreements with foreign partners.

At a population of 22 million people, 4.5 million vehicles are registered in Romania, and the percentage of person vehicles among the total number of vehicles registered was 78.7% at the end of 2007[7]. 231,056 person vehicles were made in Romania in 2008, as can be seen in the table below.

Table 4. Vehicle production and assembly in Romania 2006-2008

Production and assembly	2006	2007	2008
Person vehicles	201.663	234.103	231.056
Commercial vehicles	11926	7.599	14.241
Buses	8	10	11
Total	213.597	241.712	245.308

Source: Adaptation from APIA, Statistical Bulletin

At the same time, for a most accurate picture of this field, we have also looked at vehicle imports and exports. Thus, the table below and **Chart 2** show that, no matter which type of vehicle we analyse, Romania imports more than it manages to export.

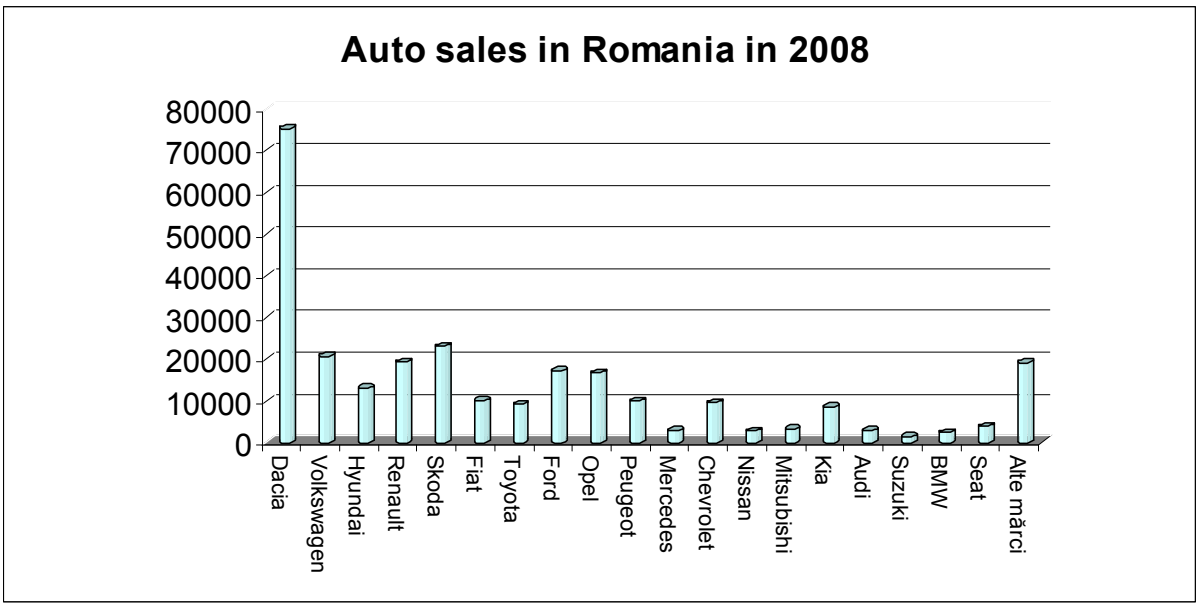
Table 5. Vehicle exports and imports in Romania, 2006-2008

		2006	2007	2008
Person vehicles	Export	80.032	121.866	153.595
	Import	137.252	204.719	189.050
Commercial vehicles	Export	446	685	2.503
	Import	26.369	40.963	39.352
Buses	Export	0	0	0
	Import	2.721	3.227	4.153
Total	Export	80.478	122.551	156.098
	Import	166.342	248.909	232.555

Source: Adaptation from APIA, Statistical Bulletin

Domestic carmaker Dacia is by far the market leader in Romania, with 27.8% of the market thanks to the Logan model. After Dacia, the best selling makes in Romania are Skoda (8.5%), Volkswagen (7.6%), Renault (7.1%), Ford, and Opel, the last two with approximately 6% of the market. See **Chart 1** below as well.

[7] INS, New Road Vehicle Registrations, 2008



Source: APIA, Top Vehicle Sales, 2009

As concerns consumers' preferences in Romania regarding this market, compact, family cars are most people's choice (60%), followed by cars in the small categories. Regardless of make, size, cubic capacity or fuel, the automotive market in Romania is steadily growing.

Based on the statistics provided by ACAROM, it is estimated that the automotive industry had so far attracted investments of 1.5 bn euros, compared to 2.5 bn euros in Slovakia and Hungary or over 6 bn. in the Czech Republic and Poland.

The current state of the automotive industry in Romania shows that there is a growing interest for the potential of the Romanian part manufacturers, foreign companies expressing their interest to develop business in the automotive industry in our country, either by direct investment or by forming joint ventures with Romanian companies.

b) The national policy in the automotive industry

Automobile part manufacturing displays the highest growth in the Romanian automotive industry, this growth being stimulated by the dynamics of the road transport means industry. The main profile of these companies is the production of metal, plastic, and rubber parts, as well as electric and electronic components.

The **new vehicle** market has had an unprecedentedly high rate of development in Romania. The number of new cars made has exceeded 256,000, of which over 215,000 were person vehicles.

As a result, the national automotive market has become the second in the region after Poland, exceeding the size of the Hungarian one. We should also remember that the population of Poland is almost double that of Romania. New car sales have also reached a psychological threshold: **one new car was sold for every 100 inhabitants**, which places us closer to the levels in other countries in the region (in Hungary, it was one new car for every 54 inhabitants, in the Czech Republic it was one for every 78, and in Poland it was one for every 153).

c) The structure of the Romanian sector by CAEN code

From the point of view of the CAEN code (CAEN - the national statistical classification of economic activity), the companies carrying out activities in the automotive industry can be ascribed to the processing industry category.

The processing activity is the mechanical, physical or chemical transformation of materials, substances or components to obtain new products. The materials, substances or components seen as raw materials here are actually products of other economic activities.

The entities in the section regarding the processing industry are often described as companies that use electric machines and equipment for material handling.
As a rule, the processing of components and specialized parts, accessories, and extras for machines and equipment is ascribed to the same class as the manufacturing of the machines and equipment those parts and accessories are meant for. The manufacturing of components and non-specialized parts of machines and equipment, such as engines, pistons, electric motors, electric assemblies, valves, sprocket wheels, bearings, is ascribed to the corresponding processing category, regardless of the machines and equipment where these items may be included.

Traditionally, this study only focuses on the **industry of road transportation means.** As part of the processing industry, this sector has the following related **activities and encodings**:

CAEN 34 - The industry of road transportation means:
CAEN 341 - Vehicle manufacturing:
CAEN 3410 - Vehicle manufacturing;
CAEN 342 - Car body, trailer, and semitrailer manufacturing:
CAEN 3420 - Car body, trailer, and semitrailer manufacturing;
CAEN 343 - Part and accessory manufacturing for vehicles and vehicle engines;
CAEN 3430 - Part and accessory manufacturing for vehicles and vehicle engines.

The field of carmakers cannot be analysed independently and exclusively at the level of CAEN 34. Thus, other CAEN codes that will be included in our discussion belong to activities of the processing industry that are connected to the industry of vehicle part manufacturers. These CAEN codes are presented below, classified into the following types of categories:

Table 6. CAEN codes[8] for auxiliary industries to the automotive sector

CAEN	CAEN code definition	CAEN	CAEN code definition
1740	textile items	2932	industrial ventilation and cooling equipment
2511	tyres and air tubes	2941	portable, electrically driven machine tools
2513	the manufacturing of other rubber products	2942	machine tools for metal processing
2521	plates, foils, tubes, and plastic parts	2943	the manufacturing of other machine tools
2522	plastic wrappings	2951	machines for metallurgy
2524	plastic wrappings	2956	other machines with specific uses

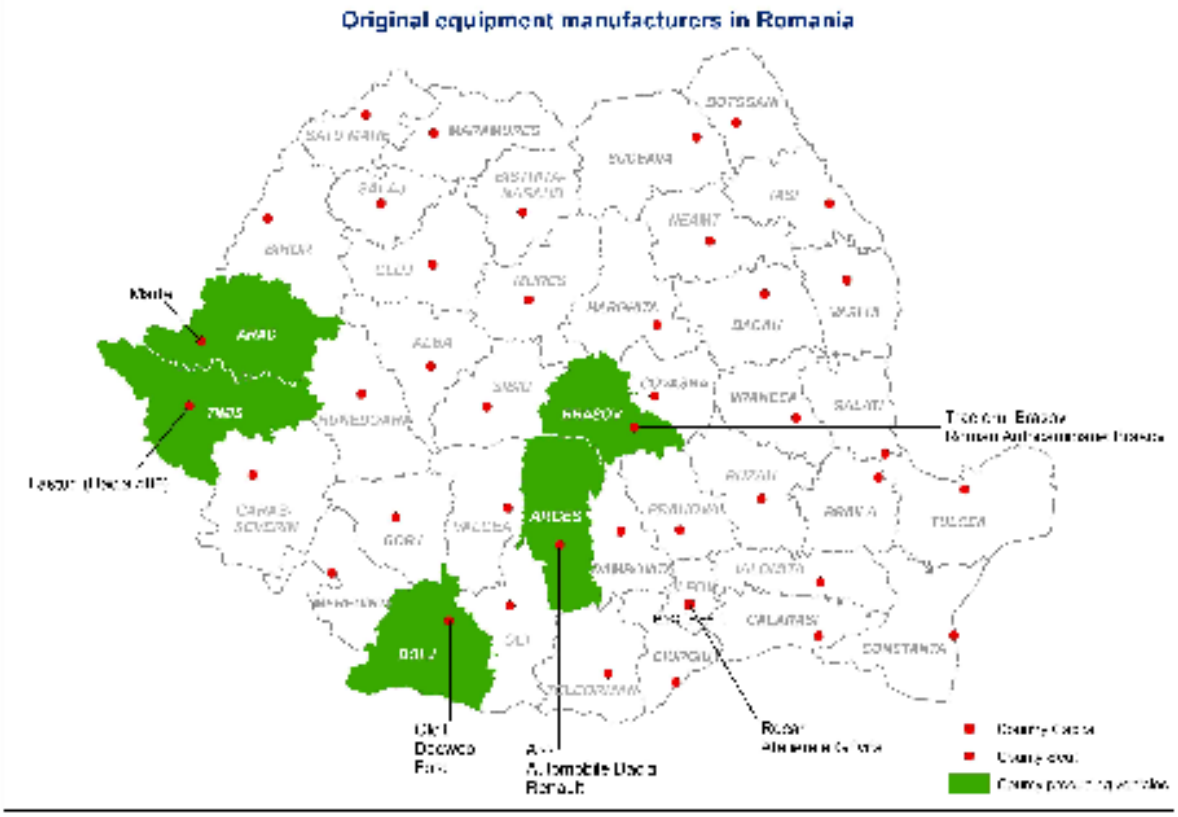
[8] According to INS, CAEN Revised 2 Classification of the activities in the national economy, 2nd edition, Bucharest, 2008

2733	metallurgic steel products	3130	wires and insulated cables
2742	metallurgy - aluminium	3150	electric lamps
2754	cast parts made of other nonferrous metals	3161	electric equipment for engines and vehicles
2811	metallic constructions and related parts	3210	electronic tubes and other electronic parts
2812	metal structures and frames	3663	other manufactured products
2840	metallic products with plastic deformation; powder metallurgy	4521	metallic hall building
2851	metal treatment and plating	4531	electric installation work
2852	general mechanics operations	4534	other installation and auxiliary construction work
2863	ironwork manufacturing	4550	construction machinery rental services
2873	metallic wire items	5154	ironworks equipment
2875	other metallic items	5188	machine, accessory, and agricultural tool sale
2911	internal combustion engines	7221	software product editing services
2912	pumps, compressors, and their parts	7420	industrial automation architecture

d) Romania – domestic companies and products

Romania has a long carmaking tradition. In 1989, our country was manufacturing a range of vehicles, from the Lăstun to the heavy trucks, especially, but not exclusively, for the domestic market. There were vehicle factories in Mioveni, Craiova, Câmpulung-Muscel, Timişoara, and Braşov. Only two of those are still in operation today – Craiova and Mioveni. Both have survived because they have been acquired by big international manufacturers. Other factories were less fortunate: Câmpulung, which is bankrupt, Roman Braşov, where production is only resumed when state subsidies allow it, and Timişoara, which has permanently closed down.

Map 1 below shows each of these production units present in Romania.

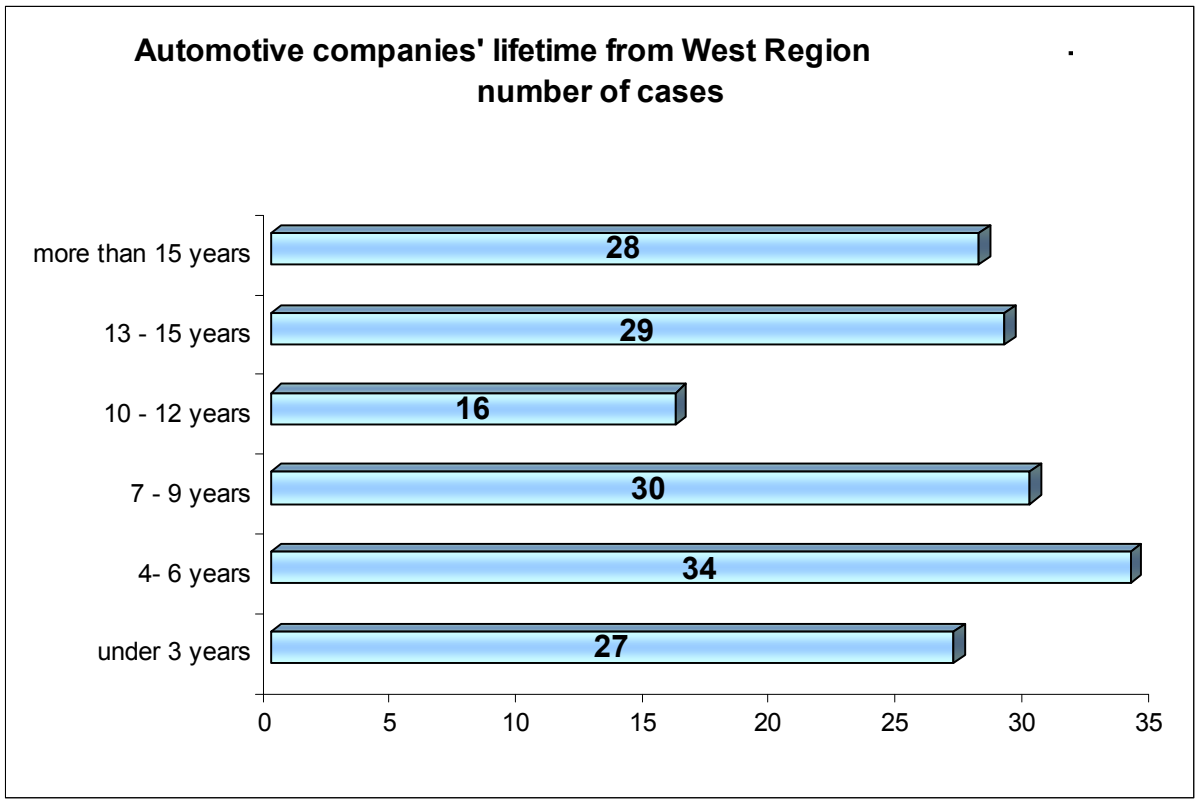


After 1989, a number of carmakers, such as Mercedes, Audi, Hyundai, Volvo, Toyota, and Peugeot, have expressed their desire to manufacture cars in Romania or to purchase one of the domestic companies. In most cases, the talks were abandoned due to the lack of tax incentives from the governments of those times, the weak infrastructure, and other misunderstandings.

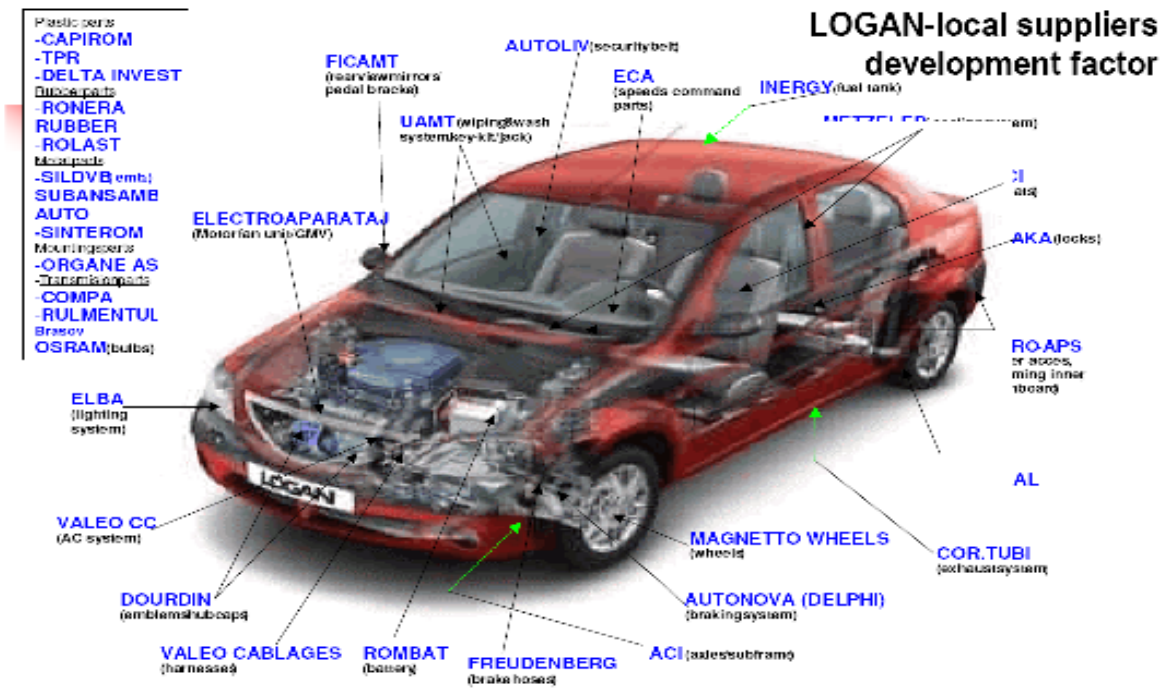
e) Localization of foreign automotive companies

It took a while after the opening of the Romanian economy before major automotive part manufacturers decided to come to our country, as they first preferred surrounding countries. Nevertheless, the automotive industry is nowadays one of the favourite targets for foreign investors in Romania. Whether it has to do with steering wheels, engines, gearboxes, electronic circuits, tyres or rims, airbags, seat upholstery, lamps, and even automotive software, we can find all of them in renowned companies bearing the "Made in Romania" label.

The major surge of the automotive companies towards Romania has been visible since 2000. Over 10 years passed after 1989 before we could talk about Romanian towns or cities "conquered" by the big companies supplying the automotive industry worldwide. In 2007, 38 foreign automotive part manufacturers had factories in Romania and six others were building production facilities. See **Chart 2** below as well.



The presence of Renault in Piteşti has also attracted the company's traditional suppliers, which have settled around the new factory, investing in units that produce not only for Dacia-Renault, but also for clients abroad: Auto Chassis International (automotive chassis), Valeo (circuitry), Johnson Controls (seats), Cortubi (exhaust system), Euro APS (plastic and thermoformed parts), Valeo Climate (air conditioning). **Figure 2** below shows the suppliers of different parts for Dacia Logan.



Nevertheless, we should mention that the automotive part factories in Romania are not exclusive Dacia suppliers. These companies have contracts with, or act as subcontractors for, system and module manufacturers belonging to the major carmakers or for international spare part networks. We would like to mention the investments made in Romania by some foreign companies with branches all over the world: Continental, SNR, Dura Automotive, Delphi, Lisa Draexlmaier, INA Schaeffler, Timken, Koyo, Sumitomo, Yazaki, Leoni, Lear, Takata Petri, Faurecia, and others, clients of major carmakers Ford, BMW, Daimler Chrysler, Peugeot, Citroen, Fiat, Mercedes Benz, Volvo, General Motors, Toyota, Subaru.

Based on the information provided by the Romanian Foreign Investment Agency (ARIS), the table below shows the main automotive part manufacturers in Romania with foreign capital:

Table 7. The main automotive part manufacturers in Romania with foreign capital

Company name	**Country of origin**	**Product**	**Localization**	**Investment type**
Autoliv Inc.	Sweden	seat belts	Braşov Piteşti	greenfield
Auto Chassis International ACI	France	chassis	Piteşti	greenfield
Alcoa Fujikura Inc.	USA	automotive cables	Chişineu-Criş (AR) Caransebeş	greenfield
ACE	Spain	automotive cables	Cluj Napoca	greenfield
Baumeister&Oustler	Germany	plastic and aluminium parts	Arad	greenfield
Coficab	Tunisia	electric cables	Arad	greenfield

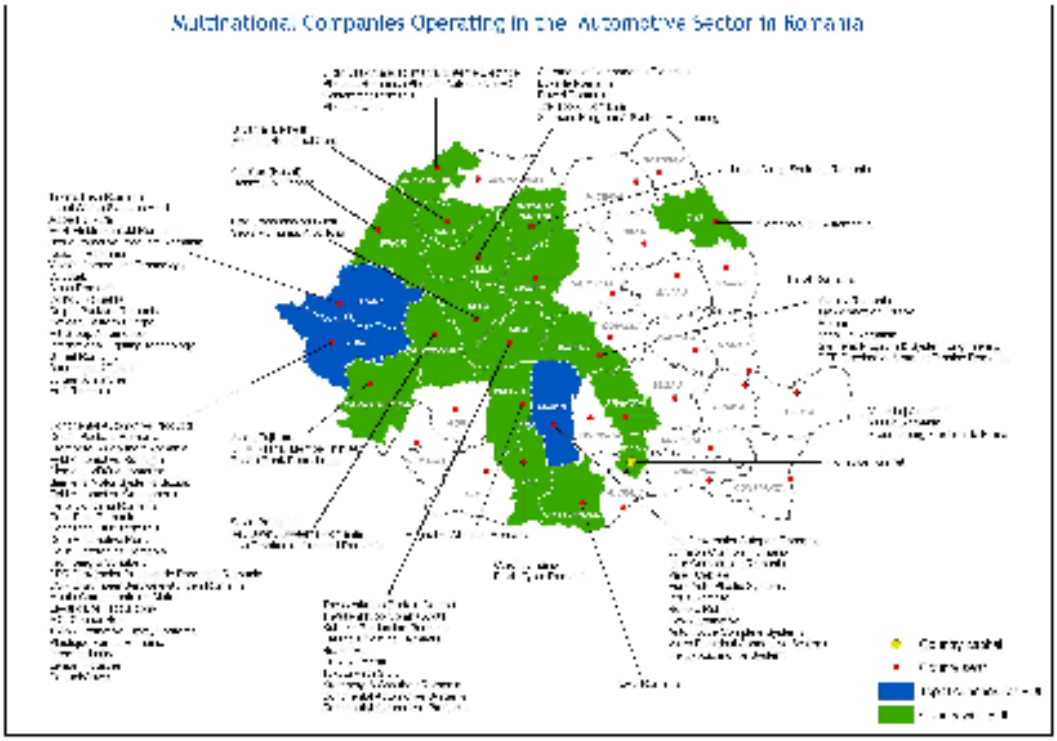
Continental Automotive Products	Germany	tyres	Timişoara	brownfield
Continental Automotive Systems	Germany	electronic systems	Sibiu	greenfield
ContiTech	Germany	transmission belts and rubber hoses	Timişoara	greenfield
DaimlerChrysler	Germany/USA	gearboxes and metal components	Cugir (AB)	joint venture
Coindu	Portugal	seat upholstery	Curtici-Arad	greenfield
Eybl International AG	Austria	steering wheels and seat upholstery	Timişoara Deta (TM)	greenfield
Dura Automotive	USA	control systems	Timişoara	greenfield
Delphi Packard	USA	automotive cables	Sânnicolaul Mare (TM)	greenfield
Faurecia	France	seat upholstery	Tălmaciu (SB)	greenfield
INA Scheaffer	Germany	automotive bearings	Braşov	greenfield
Johnson Controls	USA	seats and seat upholstery	Ploieşti Piteşti	greenfield
Hella	Germany	car lamps	Timişoara	greenfield
Kromberg&Schubert	Germany	automotive cables	Timişoara	greenfield
Honeywell Garett	USA	parts and turbo blowers	Bucharest	brownfield
Lisa Draxlmaier	Germany	cabling and electric system	Piteşti	brownfield
			Satu-Mare Timişoara Hunedoara Braşov	greenfield
Koyo Seiko	Japan	bearings	Alexandria	brownfield
Lear Corporation	USA	automotive cables	Piteşti	greenfield
Michelin	France	tyres	Floreşti (PH) Zalău	brownfield
Leoni Wiring Systems	Germany	automotive cables	Arad Bistrița	greenfield
Magneto Group	Italy	rims	Dragășani-Olt	brownfield
Momo - Key Safety	Italy	steering	Ribița (HD)	greenfield

Systems Ro		wheels		
Pirelli	Italy	tyres	Slatina	greenfield
Pirelli / Continental AG	Italy/Germany	metallic cord	Slatina	joint venture
Phoenix AG	Germany	Rubber parts	Satu-Mare	greenfield
Renault-Nissan	France	gearboxes	Piteşti	greenfield
SNR Roulemets	France	bearings	Sibiu	greenfield
Solvay-Inergy	Belgium	automotive part	Piteşti	brownfield
Siemens Automotive VDO	Germany	software for the automotive industry	Timişoara	greenfield
Sumitomo Electric Wiring Systems	Japan	automotive cables	Orăştie Deva Alba-Iulia	greenfield
Schlemmer	Germany	automotive cabling protection system	Satu-Mare	greenfield
Takata Corporation	Japan	airbags and steering wheels	Arad Sibiu	greenfield
ThyssenKrupp	Germany	springs and automotive pistons	Sibiu	joint venture
TRW	USA	steering wheels	Timişoara	greenfield
Valeo	France	automotive cables	Piteşti Mioveni Timişoara	greenfield
Valvetek	Italy	automotive valves	Curtici-Arad	greenfield
Yazaki Corporation	Japan	cabling and electric system	Ploieşti Arad	greenfield

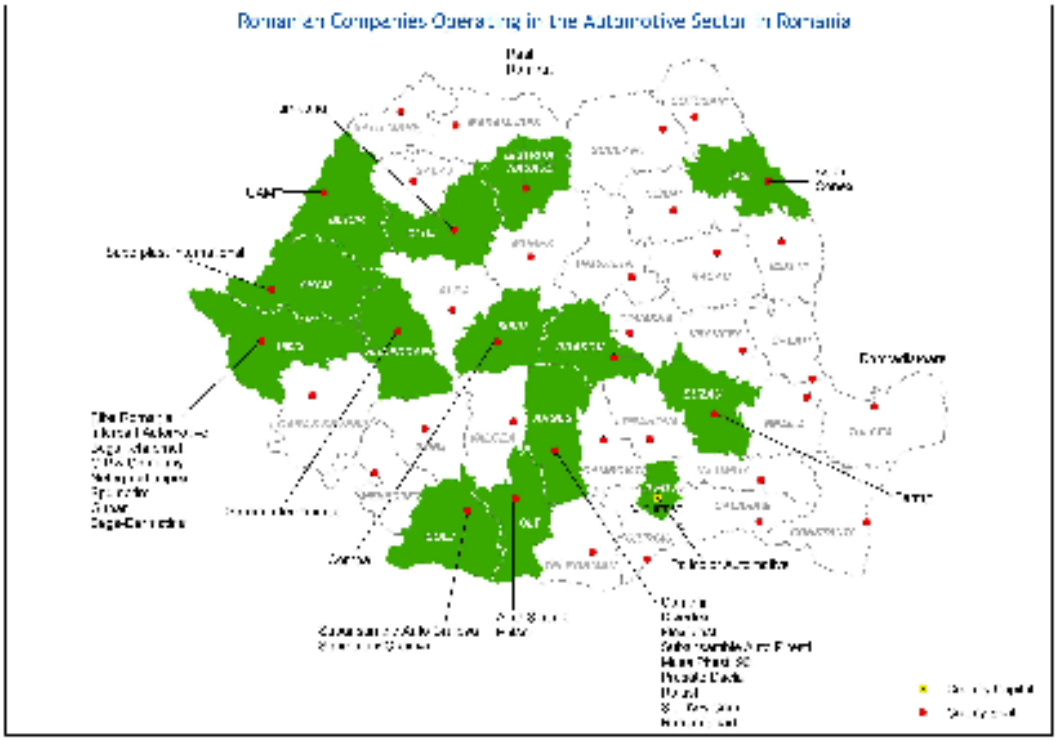
Source: ARIS

Despite the growing number of car part manufacturers setting up shop in Romania, this group remains a concentrated one. The concentration we are talking about is a geographic one. Just 3 counties account for half of the sector's turnover: Timiş, Arad, and Argeş. Their territorial distribution is shown in **map 2** below[9].

[9] The map was made starting from the information in ***Automotive Parts Manufacturing in Romania*, written by** Central Europe Trust Company, 2007.



Besides these foreign companies, there are a number of Romanian companies operating in this sector as well. See **map 3** below as well[10].



[10] The map was made starting from the information in ***Automotive Parts Manufacturing in Romania*, written by** Central Europe Trust Company, 2007.

f) Institutional structures

The Romanian Carmakers' Association[11] (ACAROM)

ACAROM is a professional and patronal association made up of companies operating in the automotive industry, associated with the purpose of representing the interest of the automotive sector. ACAROM unites 106 companies making automobiles, automotive parts and materials and was founded in 1996, in compliance with law 21/1924.

The Romanian Carmakers and Automotive Importers' Association[12] (APIA)

APIA was founded in 1994 and *it now unites the leading companies* in the automotive field: national carmakers, automobile importers, as well as other renowned companies making automotive parts and accessories or lubricants. APIA is a *member of the International Carmakers' Organization* – OICA.

[11] More on www.acrom.ro
[12] More information on www.apia.ro

4. The Serbian automotive industry

a) Serbia – Country profile

The **automotive industry** in Serbia has the following characteristic elements:

- 70 years of tradition based on the cooperation with Western OEMs;
- 6 motor vehicle Manufacturers, 70 automotive component suppliers, 32,000 workers;
- More than €1 billion of FDI since the year 2000;
- Highly educated workforce, 11 technical faculties, 71 technical schools;
- Part of logistic chain between Europe and Middle East

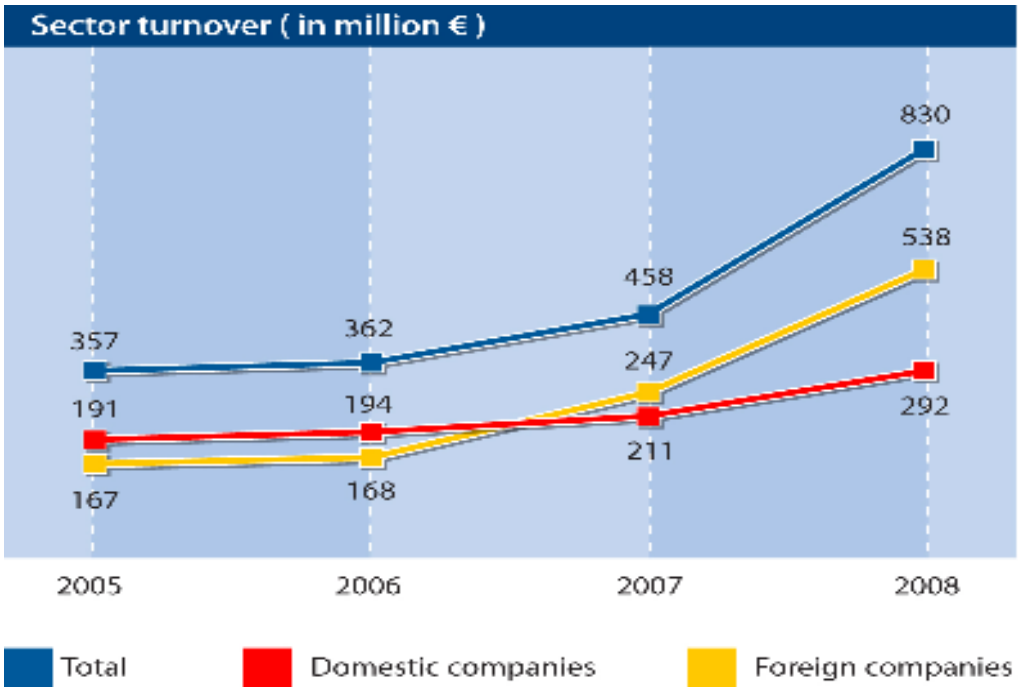
Long Tradition The automotive industry in Serbia dates back to 1939 when the first trucks came out of the assembly lines in the city of Kragujevac. After the Second World War this factory was renamed Zastava and the production of motor vehicles started again under licence to FIAT. Traditionally one of the cornerstones of countries economy, Serbian automotive industry experienced stagnation during 90's and then re-emergence during 00's. This re-emergence is based largely on the entry of foreign capital and companies like FIAT, Michelin, Dräxlmaier, and Delphi.

Great Experience Apart from passenger cars production in FIAT-Zastava plant there are five other motor vehicle manufacturers in Serbia concentrating on commercial cars, trucks and buses. This large industry is supported by more than 70 automotive components suppliers and variety of suppliers of all materials and semi finished goods. Many renowned automotive suppliers established their production in Serbia because of qualified and cost effective labor and excellent export conditions to supply OEMs in European Union or Russia.

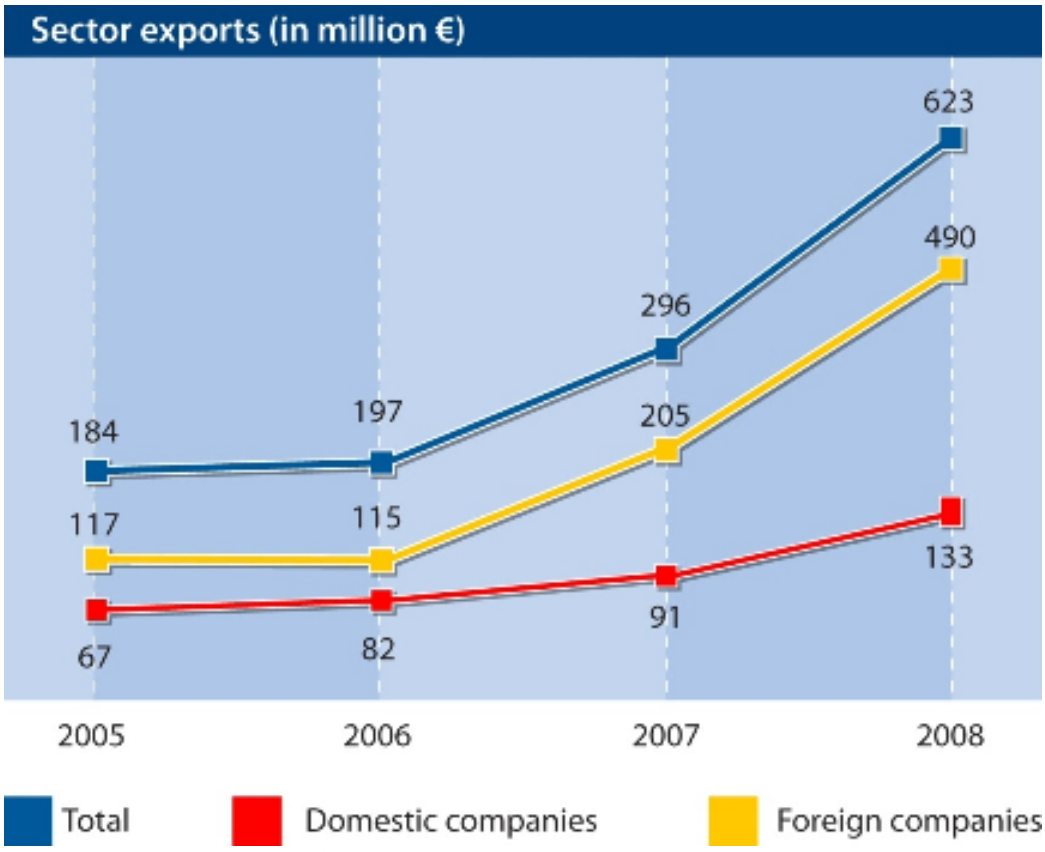
Qualified Workforce Every year, around 13,000 students graduate from universities in Serbia, one-third of whom come from technical universities. Highly-educated people, fast learners, receptive to new technologies, IT-literate, and well-versed in foreign languages, constitute Serbia's true capital.

Client List The client references includes companies such as PSA Peugeot Citroën, General Motors, Mercedes, BMW, or eastern like Autovaz, UAZ, Kamaz, Deawoo. The development of components industry in Serbia is best described by increase in turnover from €357 million in 2005 to €830 million in 2008.

In **chart 3 and 4** from below are present some macro economical indicators related with the automotive sector: turnover and exports express in million euro. From 2005 till 2008 we have an important increasing at the level of turnover value (more than double) and export value (more than triple).

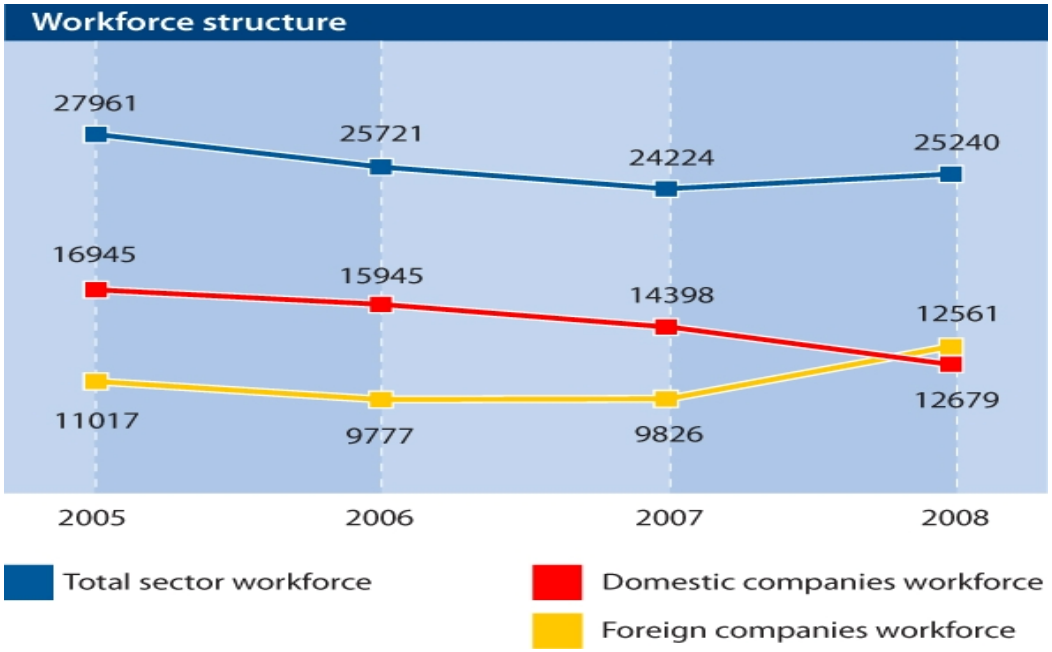


Source: SIEPA survey June 2008



Source: SIEPA survey June 2008

Number of employees declining in domestic companies (due to privatization) but we see a sharp increase in foreign owned companies (new investors coming, growing of existing operations, etc). See also **chart 5** from below



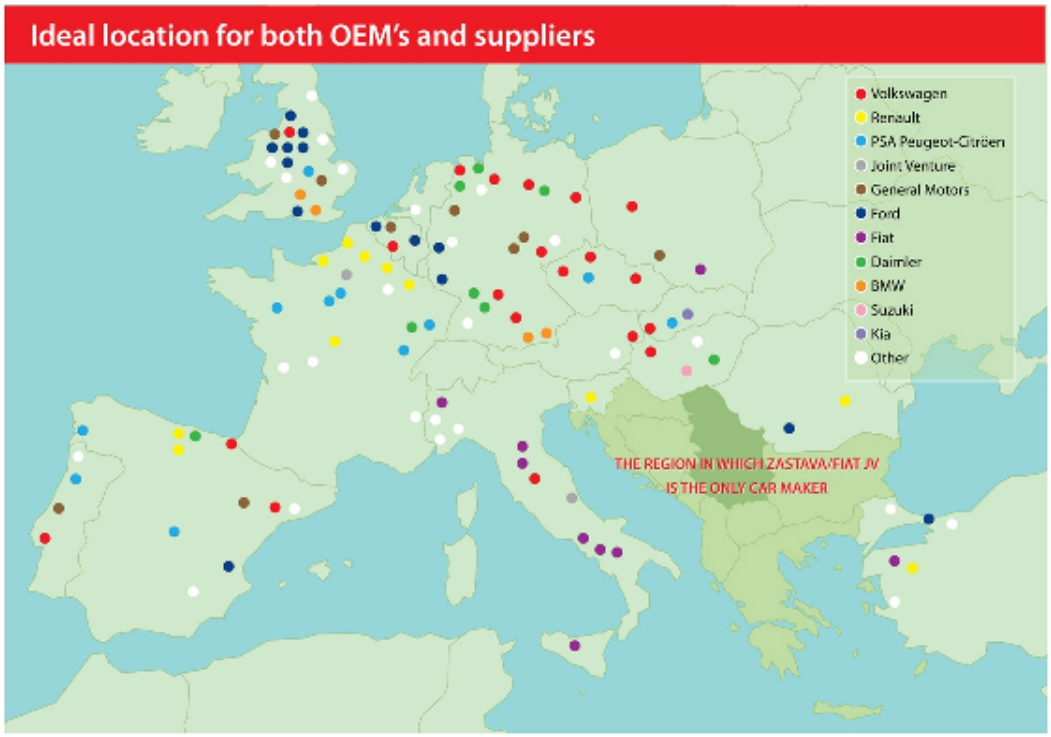
Source: SIEPA survey June 2008

b) Serbia – companies and products

Serbia has a long tradition in automotive industry and the first passenger vehicles for mass market were produced in the early 50's by Zastava from Kragujevac. Once the production was established in Kragujevac, the city became Serbia's Detroit and a regional center for automotive production. At the peak of production, Zastava Vehicles produced more than 250,000 vehicles annually, which was the projected maximum for the company. Such a production naturally put high requirements to the component suppliers in terms of quantity and capacity. Serbia's closest partners in automotive industry were companies from Germany and Italy.

Strong partnerships, many production licenses and several joint ventures were highlights of the Serbian automotive industry. Under the license of the Italian FIAT, Zastava used to produce several different car models and lately, cooperation with GM resulted in development of one of the top foundries aimed at supplying OPEL. Parts and components from Serbian companies ended up in production facilities of many western OEM's including MERCEDES, FORD and many other companies. Serbia's automotive industry has been established as one of the cornerstones of the economy. With the loss of foreign markets in the 90's, production of cars in Zastava fell to diminutive 12,000 vehicles per year.

In **map 4** we can see the major location of OEM in Europe.



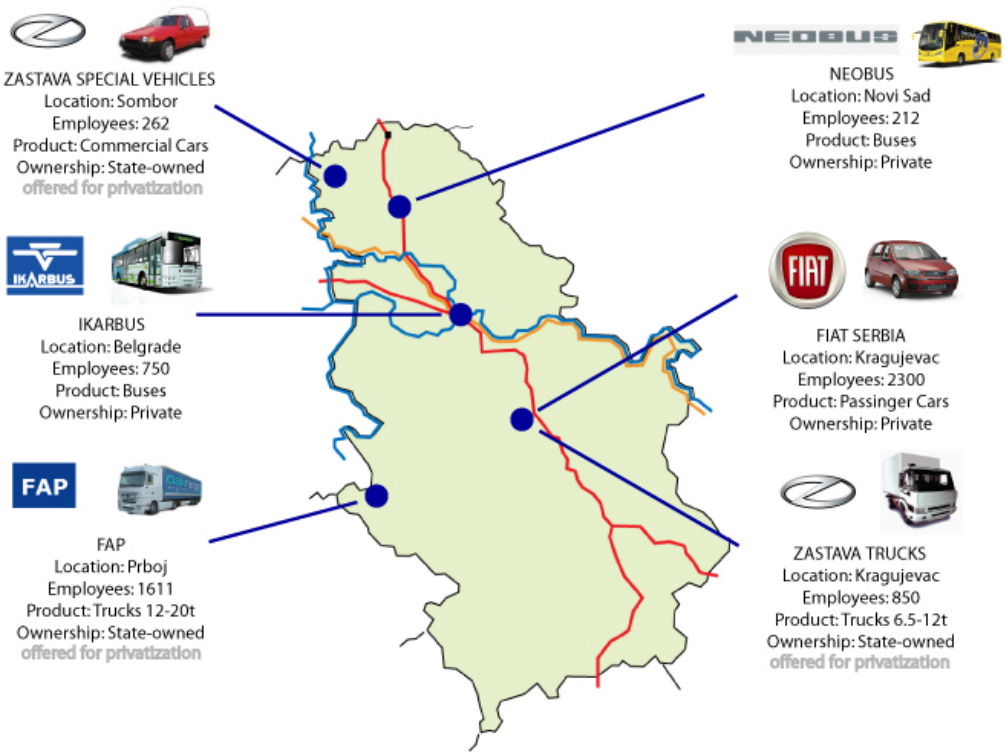
Source: SIEPA survey June 2008

As we can see the Serbian space is dominated by FIAT. This Italian investment was the following characteristics:

- The plan is for FIAT to invest EUR 700mn for production of 300,000 units/year;
- Additional EUR 500mn expected through supplier network development;
- Perhaps, global crisis will affect the project in terms of the time schedule and production level;
- The production level for 2009 15,000 vehicles.

In the **map 5** are present also other vehicle manufactures located in Serbia.

Locating Vehicle Manufacturers in Serbia



Source: SIEPA survey June 2008

Also, approximately 70 automotive parts and systems companies was identified that are capable of supplying automotive OEMs, as tier 1 or 2 or spare parts market.

Regarding the products, we can identify the following:

- Engine components mostly not assemblies -flywheels, valves, camshafts (significant inflow of FDI)
- Plastic and rubber parts – various exterior and interior parts (mostly produced by domestic companies)
- Electrical and electronic – mostly wire harness but also batteries and starter motors (significant inflow of FDI)

A comprehensive list of products is present in the following table:

Table 8. Major Product Groups in Serbia

Major Product Groups	
Engine & engine components	16.20%
Vehicle plastic & ruber parts	14.80%
Electrical, electronics & power supply	9.40%
Braking parts	9.40%
Body parts	8.10%
Chassis system	6.70%
Automotive hidraulics & pneumatics	5.40%
vehicle interior systems & parts	5.40%
Filters & gasket	5.40%
Heating, ventilation & AC	4.00%
Drivetrain	2.70%
Other	12.50%

Source: SIEPA survey June 2008

c) Localization of foreign automotive companies

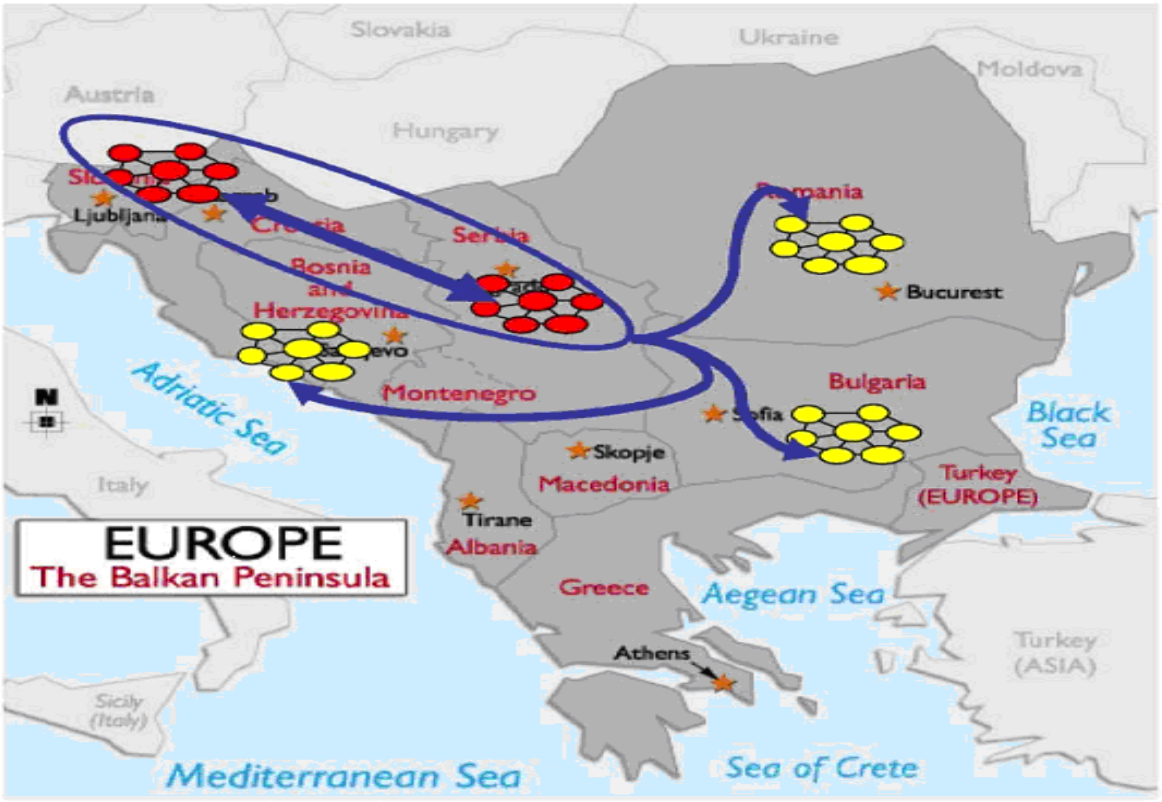
The total FDI stock over the period 2000-2005 has reached in Serbia EUR 4,194.82 billion. Some of this FDI are in automotive sector.

Table 9. Greenfield investments in the automotive sector

Greenfield investments in the automotive sector				
Year	Company	Investor	Country	Workers
2005	Agena Tehnology	Albon PLC	UK	75
	Grah Automotive	Schefenacker Grah	Slovenia	216
	Streit Jucit	Streit Groupe	France	150
2006	TPV Sumadija	TPV Group	Slovenia	97
2007	Gruner	Gruner	Germany	30
	IGB Automotive	Brauerhin GmbH	Germany	179
	DAD	Dräxmaier	Germany	1,300
	FAM Secanj	CIMOS	Slovenia	340
	Grammer	Grammer GmbH	Germany	296
	Lohr	Lohr Indusries	France	200
2008	Boxmark	Boxmark World Leather	Austria	400
	Reum Svilajnac	Reum GmbH	Germany	266

Source: SIEPA survey June 2008

Also, the establishment of automotive network in South East Europe are present in the **map 6.**



d) Cluster formation in the automotive industry in Serbia

Automotive Cluster (AC) Serbia was established in November 2005. It has 39 members (34 companies with 8.900 employees, EUR 150 Mill. turnover and 5 R&D institutions) and represents a network of Serbian companies and institutions which produce automotive parts and components. Main goals of the AC is to revive and extend active connections between the Serbian and European automotive industry, support strengthening and competitiveness of its members, achieving a profitable positioning within the supply chain of international car producers and enhancement of the economic situation within the whole automotive supplier sector in Serbia.

Basic activities of the cluster are in the following fields:

- Qualification: Education, seminars, trainings for technical, quality, organizational and management skills
- Information und Communication: Information exchange between network management and members, partner networks, customers and state organizations
- Marketing: Advertising and image building at trade fairs, conferences, meetings and through presentation to potential customers
- Cooperation: Defining and seeking cooperation projects within the network or with national and international companies, project management of cooperation projects, cooperation with other networks

Cluster is supported by:

- Serbian Ministry of Economy,
- Serbian Chamber of Commerce,
- Serbia Investment & Export Promotion Agency - SIEPA,

- GTZ - German Organization for Technical Cooperation,
- UNIDO - United Nations Industrial Development Organization
- USAID

Forthcoming activities:

- Growth of cluster through integration of new member in the cluster;
- Inclusion in national and international development projects;
- Preparation and introduction different types of standardization in the production processes;
- Implementation TS 16949;
- Continue with UNIDO project;
- Strengthening cooperation with the clusters in the region and Europe;
- Participation in trade fairs, conferences and symposiums in the country and the world.

Some of the members of the AC Serbia:

- FADIP HKC, Bečej;
- 21. Oktobar, Kragujevac;
- Tigar – tehnička guma, Pirot;
- Zastava Mehanička obrada, Kragujevac;
- Sinter, Užice;
- FKL, Temerin;
- FAD, Gornji Milanovac;
- RS Partners PES, Surdulica;
- Trayal, Kruševac;
- Zastava Kovačnica, Kragujevac;
- Livar, Topola;
- Irva Promotor, Kragujevac;
- Top Spider, Inđija;
- Livnica Kikinda Ai, Kikinda;
- Turbo Servis, Užice;
- IPM, Beograd;
- Knott Autoflex, Bečej;
- BinMetal, Čačak;
- Cobest, Mladenovac;
- Fritech, Prokuplje;
- Surtec, Čačak;
- TPV Šumadija, Kragujevac;
- Potisje precizni liv, Ada;
- Novatronic, Novi Sad;
- Cure, Blace.

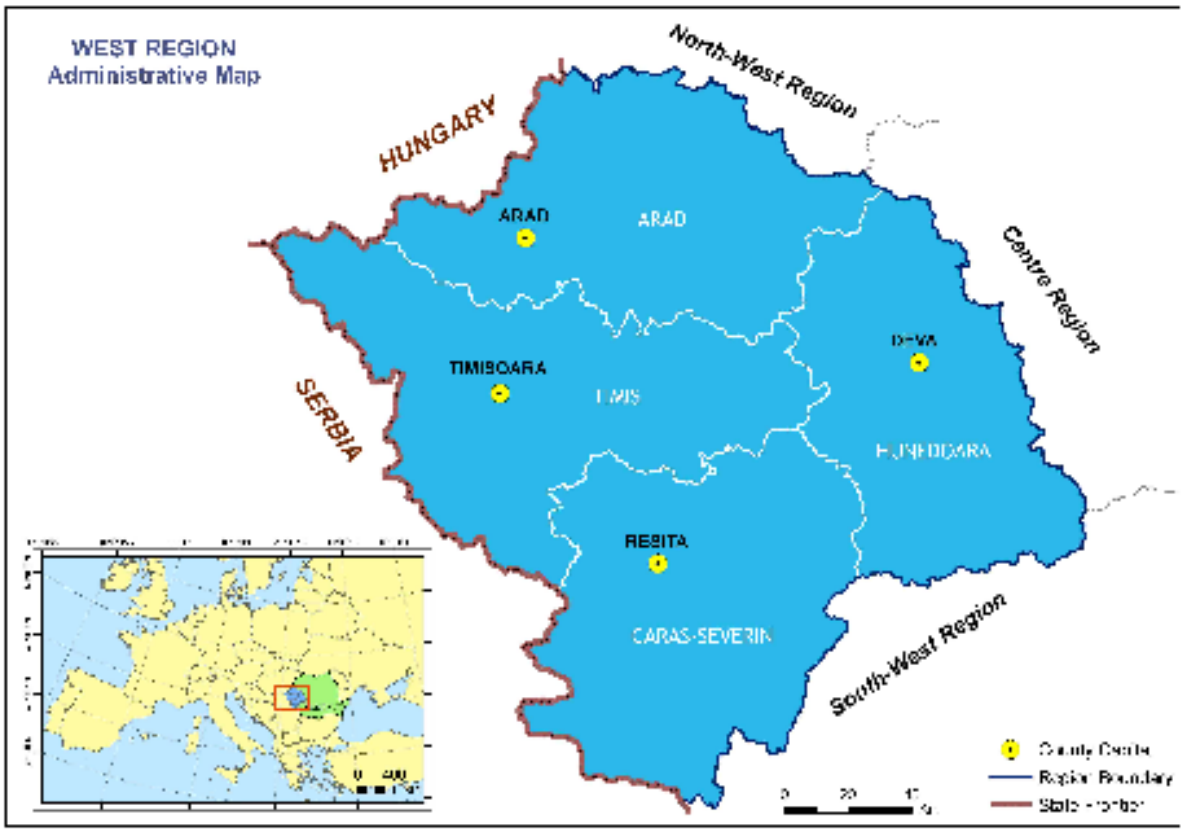
Institutions:

- Zastava institut, Kragujevac;
- FTN, Novi Sad;
- Institut Vinča;
- ELFAK Niš.

5. The West Region and the automotive industry

a) The West Region – general features

The West Region lies in the west of Romania, at the border between Hungary and Serbia, consisting of **four counties** from an administrative-territorial point of view: Arad, Caraş-Severin, Hunedoara, and Timiş, as can be seen in **map 7** below. The West Region has an area of 32,034 km^2, accounting for 13.4% of the country's area.



On July 1, 2007, the *West Region had a population of **1,924,442 people***, accounting for 8.93% of Romania's population. The West Region has the smallest population of all the country's region, while also being the only region with less than 2 million inhabitants.

On July 1, 2007, the population of the county seats in the region was: 167,238 inhabitants in Arad, 84,678 inhabitants in Reşiţa, 67,508 inhabitants in Deva, and 307,347 inhabitants in Timişoara.

From an administrative-territorial point of view, there are **322 administrative-territorial units** in the West Region, distributed as follows: **42 cities and towns and 280 communes**.

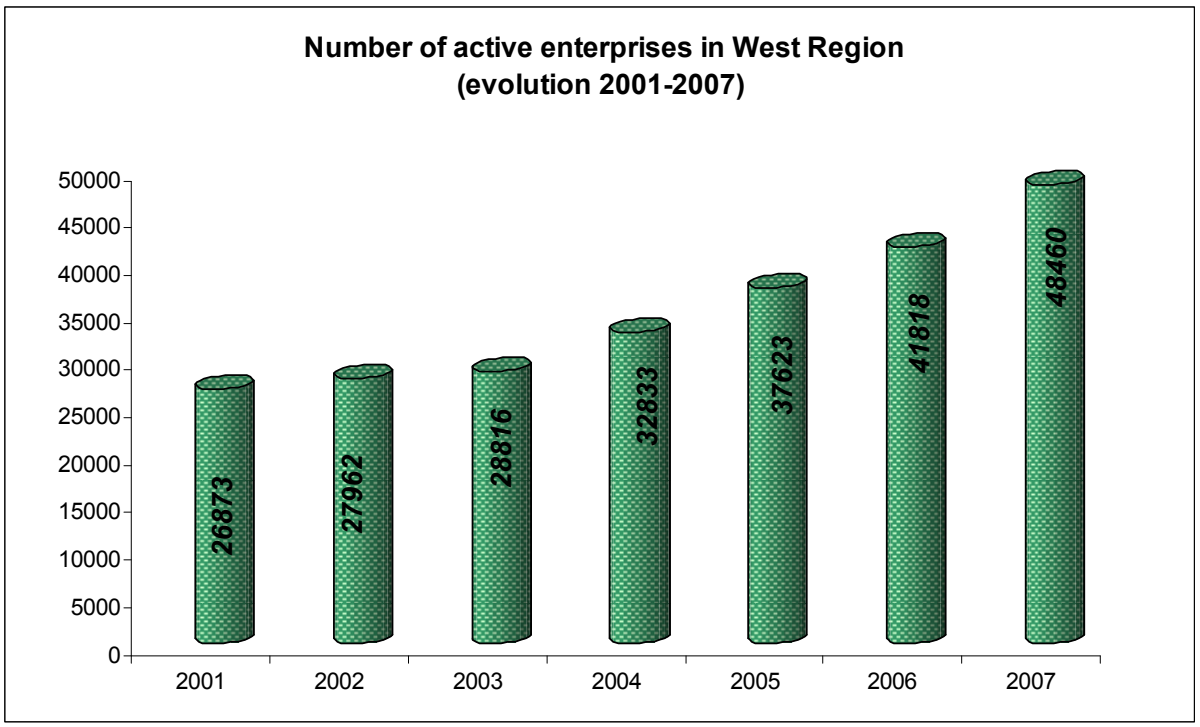
The economic indicators have had a significant evolution in the West Region: both the total GDP and the per capita GDP have risen every year, in agreement with the national tendency, but at a faster rate.

Table 10. The per capita GDP 2001-2006 in lei (RON), current prices

Year/ Region	2001	2002	2003	2004	2005	2006
Romania	5.210,94	6.950,06	9.090,30	11.372,00	13.326,8	**15967,6**
West	5.521,16	7.527,41	10.265,19	13.042,91	14.960,4	**18570,1**

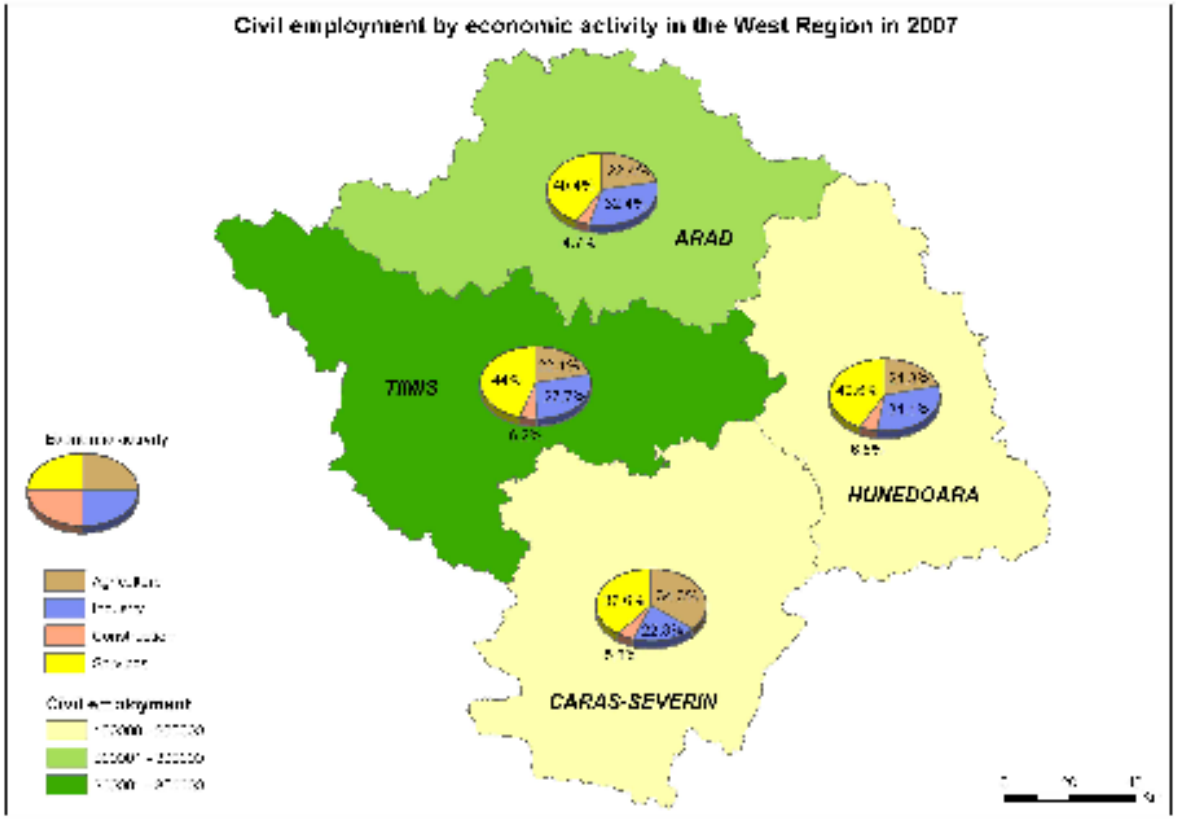
Source: National Regional Accounts 2001-2005, INS, 2008, and the Romanian Yearly Statistics, 2008, INS, 2009

In 2007, there were **48,460** companies operating in the West Region in fields such as industry, constructions, and services, accounting for 9,5% of the total number of enterprises in Romania, continuing the upward trend from the previous period, as can be seen in **chart 6** below.



The transition to the market economy has left its print on the features of the labour market, determining significant changes in the volume and structure of the main workforce indicators (activity rate, employment rate, unemployment rate, etc.). According to the statistics, the **active population** in the West Region in 2007 consisted of 885,000 people. **The employed population** was 835,000 people that year, and the **unemployed population** was 50,000 people, according to the **International Labour Office**. The employed population has maintained a downward trend in the West Region. The average number of employed people in the West Region has risen by 56,000 between 2001-2007, reaching 522,000 people, although there have been fluctuations along this period.

The employment rate of the population at the level of the main sectors of economic activity in the West Region is shown in **map 8** below.



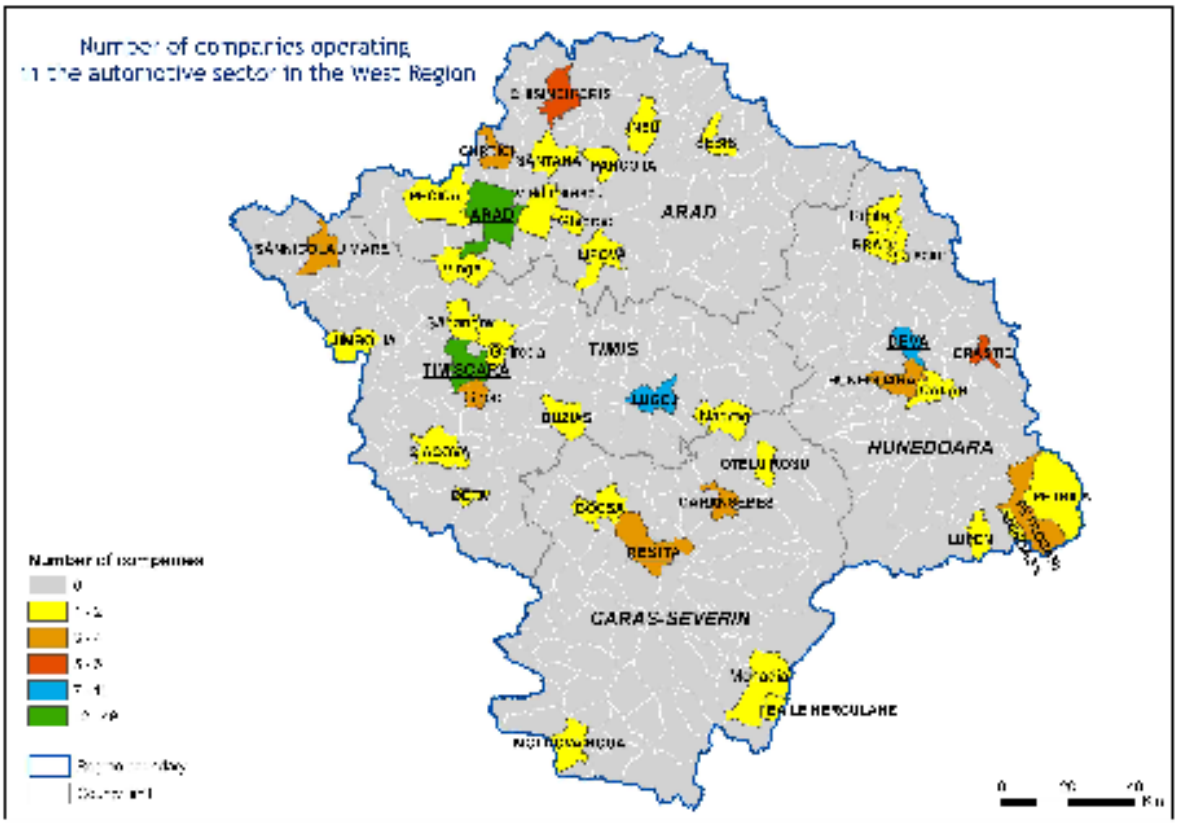
Due to the multi-ethnicity of the population in the region, one of the features of education in the West Region is the existence of many primary and lower secondary schools, and even higher secondary schools where students are taught in a minority language or an international language. The network of education institutions comprises 503 primary and lower secondary schools, 160 higher secondary schools, 5 professional schools, 4 post-secondary schools, and 14 universities.

b) The automotive companies in the West Region

The development of the automotive part sector in the West Region has been achieved both through the specialization of some domestic companies and by attracting foreign investors.

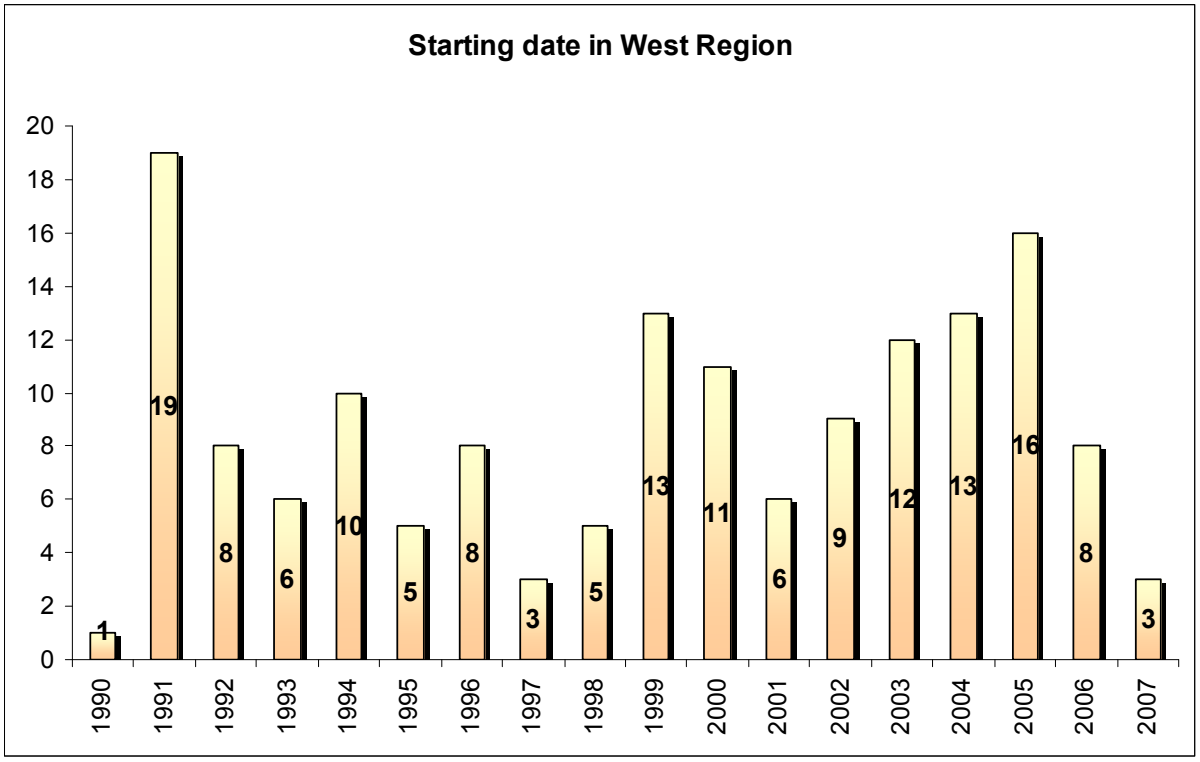
From the point of view of the products made in the West Region, we can speak of 156 companies whose production falls completely or partly in this sector.

Map 9 below gives an overview of the local distribution of these companies in the West Region. As can be seen, Arad and Timişoara are real poles of attraction for the companies in this field, housing most of the companies whose capital is entirely or partly foreign. The industrial tradition, the existence of a solid base for staff recruitment, the existence of a technical university and a suitable infrastructure have been distinguishing features of the two cities in the region's landscape. We should mention that the proximity to the large urban centres of the region has also contributed to the development of other places, preferred by the new companies.

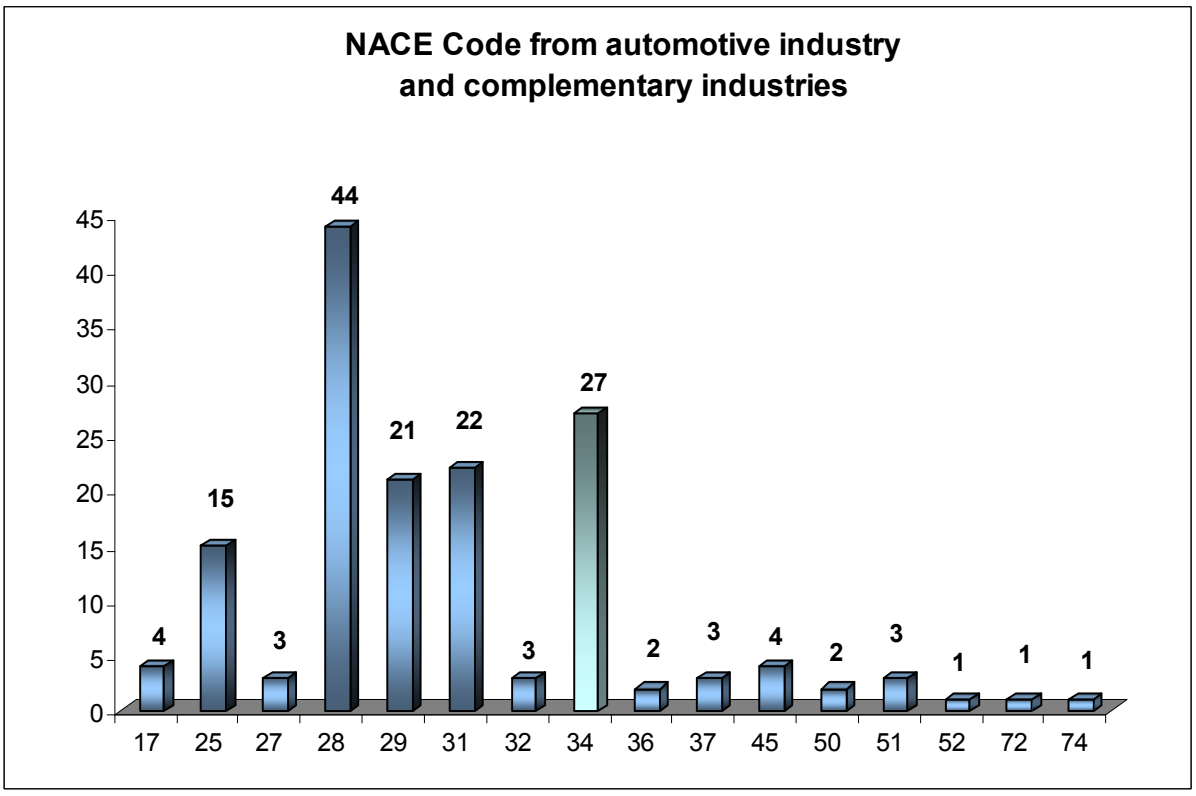


The automotive part suppliers' sector has developed in Romania in the 60's and the 70's, starting with the opening of the Dacia Factory, the avowed purpose being that of manufacturing all the automotive parts needed for the production of the company's models. The 156 companies in this field in the West Region have developed either as a result of the restructuring process or through the privatization of the state-owned Romanian companies and their acquisition by foreign companies, either by a relocation of the production facilities or through greenfield investments.

Chart 7 below represents the moment when these companies started their activity in the West Region. As can be seen, most activities were started in 1991 and 2004. While the 1991 information is based on the restructuring of the former state-owned Romanian companies, 2004 was a year when significant foreign investments in this field were drawn to the West Region.



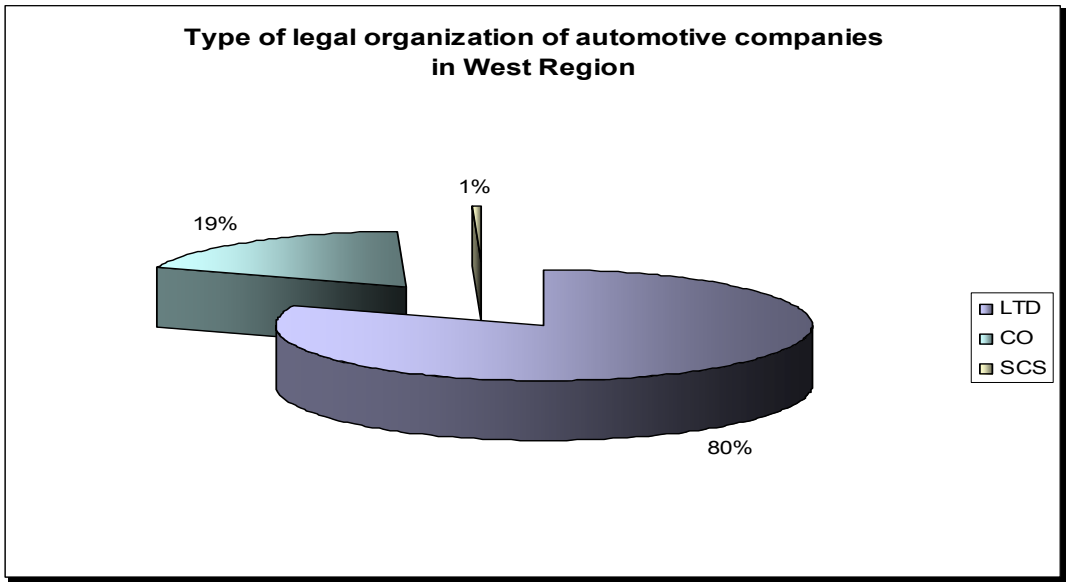
The schematic classification of the activities in the national economy is done using the CAEN encoding. Bedsides code CAEN 34, which corresponds to activities in the industry of road transportation means, other companies have been taken into account, with quite diverse CAEN codes, as can be seen in **chart 8** below.



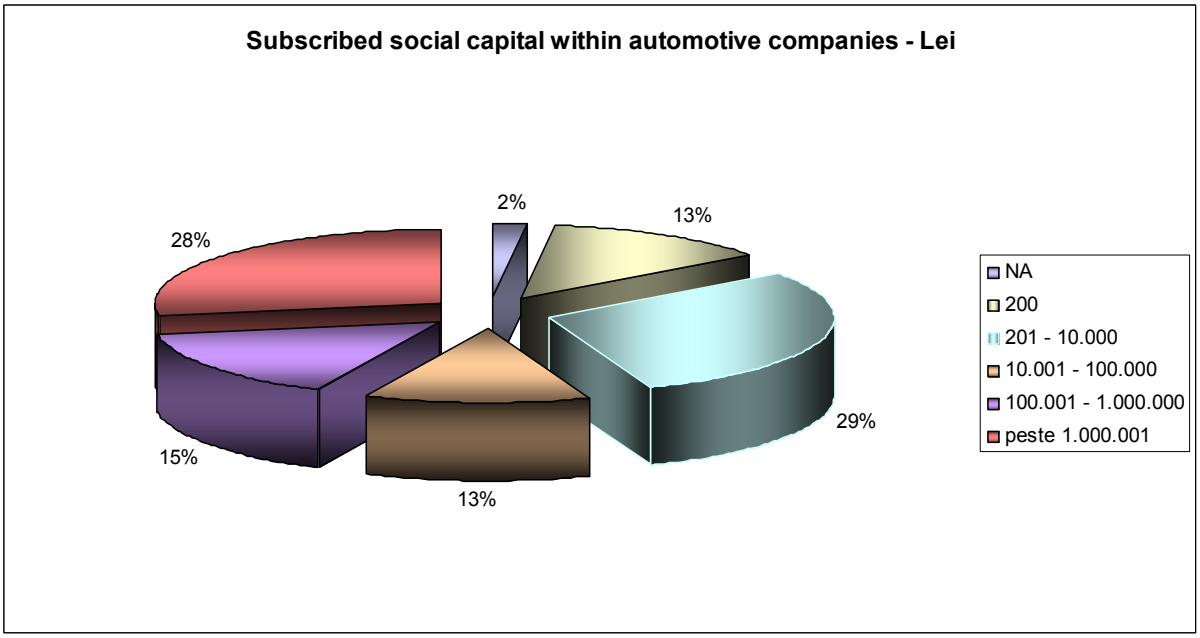
We will now look at the 156 companies based on the information available at the Trade

Register concerning the form of association, the subscribed share capital, turnover, net profit, and number of employees.

As shown in **chart 9** below, most companies in our analysis are limited liability companies. The former state-owned enterprises chose to become joint-stock companies after they were restructured. A few foreign companies have preferred to set up dealerships in Romania.

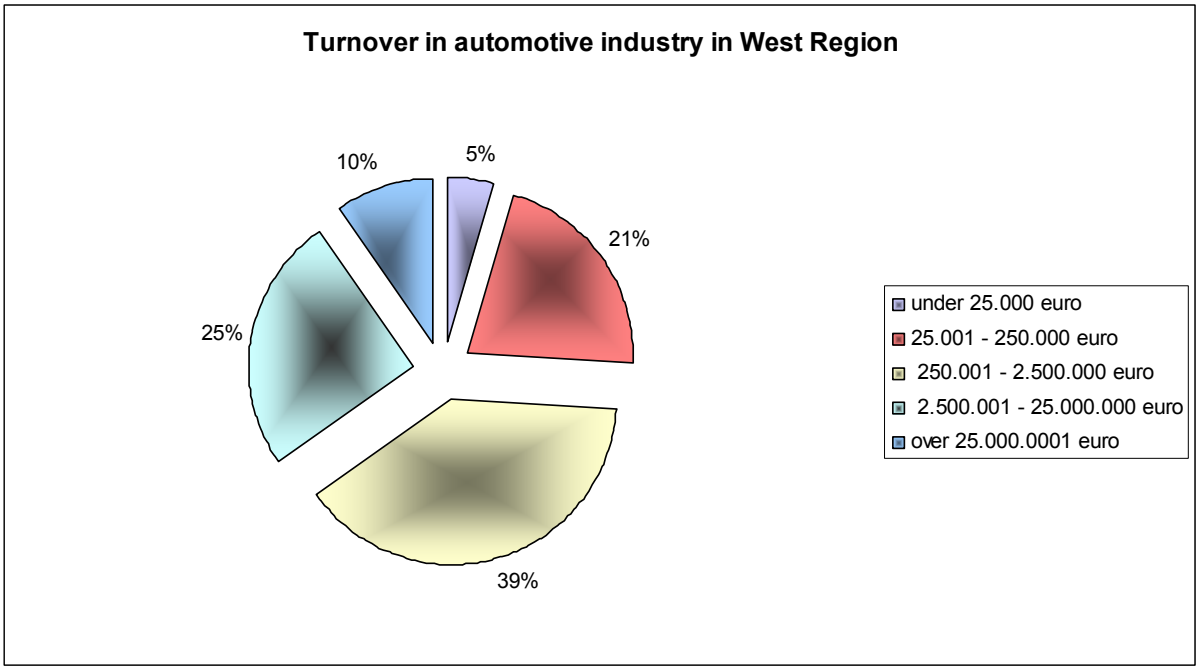


As concerns the **share capital**, this is defined as a sum of all contributions brought by the associates for the setting up and operation of a commercial enterprise. As shown in **chart 10** below, 13% of the companies analysed were set up with the minimum subscribed share capital of RON 200. From the analysis of the subscribed capital, we can see that most companies are in the RON 201-10,000 range (29%) and over RON 1 million (28%).



The **turnover** is the sum total of the revenues generated by the company's trade operations, namely the sale of merchandise and products over a given period of time.

Judging by this indicator, **chart 11** below shows that most companies had a turnover of under 2.5 million euros in the financial year 2007[13], with 65% of the companies belonging to this category.



The table below shows a summary of the sample turnover analysis, with information taken from the financial year 2007.

Table 11. Turnover of the companies in this sector established in the West Region

Turnover – Lei	
Minimum	9.248
Maximum	902.668.550
Total value	6.609.017.807
Average	42.638.825
Total companies	155
NA	1

Source: Own calculations, based on the information received from the Trade Register.

Profit is, in the narrowest sense, the revenue obtained by companies as a product of capital usage. In its broadest sense, profit is the company's earnings above the production cost. For joint-stock companies, after the payment of the legal taxes, the net profit is distributed to the shareholders in the form of annual dividends, in proportion with their contribution to the share capital.

The table below shows a summary of the sample net profit analysis, with information taken from the financial year 2006.

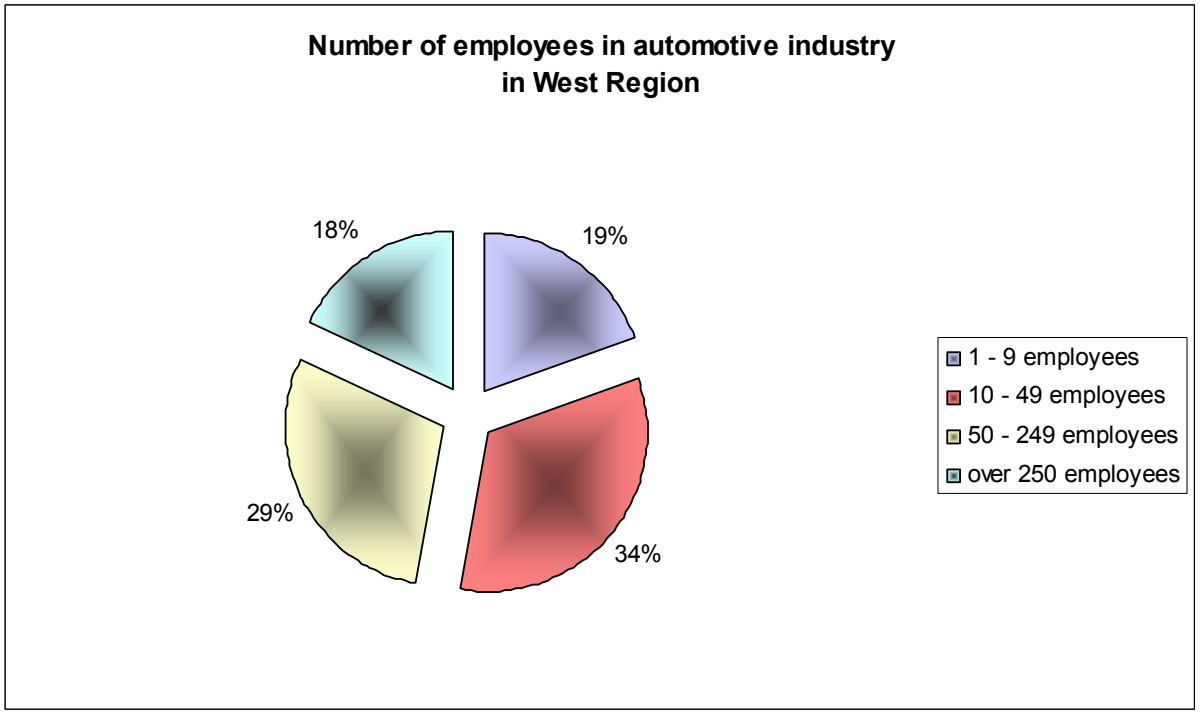
[13] We used an exchange rate of 4.0 lei for 1 euro in this study.

Table 12. The profit of the companies in this sector established in the West Region

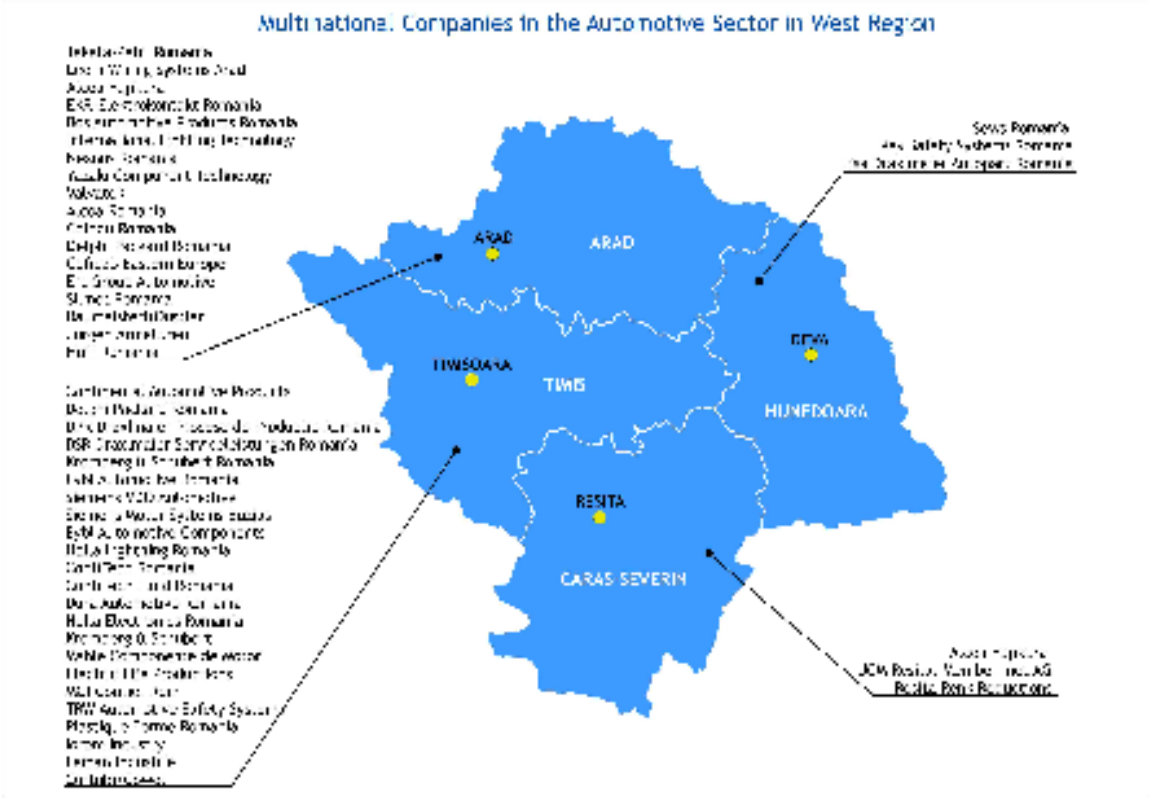
Profit – LEI	
Minimum	2.526
Maximum	42.123.975
Total value	258.998.356
Average	2.642.840,4
Total companies	98
NA	1

Source: Own calculations, based on the information received from the Trade Register.

Based on the information gathered from the 156 companies, grouped in the 4 categories mentioned in law 346 from July 2004 (updated and amended) regarding the incentives for the setup and development of small and medium-sized companies, we can see that most companies employ between 10 and 49 people. **Chart 12** below shows that most companies (35%) belong to the category with 10-49 employees.



Map 10 below gives an overview of the multinational companies established in the West Region.



The automotive industry in the West Region is not "just" the few dozens of companies operating here, but also the hundreds of thousands, maybe even millions, of **automotive parts manufactured**. The main products made by the companies in the West Region are:

- **automotive cables and electric systems** (Alcoa Fujikura Inc., Coficab, Delphi Packard, Kromberg&Schubert, Lisa Draxlmaier, Leoni Wiring Systems, Valeo Lighting Injection, Yazaki Component Tehnology, Ekr Elektrokontakt, Nexans Romania, SEWS (Sumitomo Electric Wiring System), Ersi, Jurgenhake Romania, Kablesysteme Hatzfeld, Vogt Electronic Romania, Dura Automotive, Eltrex, Electric Life Romania, Electric Life Production, Hella Electronics Romania, Elements Romania, Ec Electronics Manufacturing);
- **automotive lamps** (Hella Lighting Romania, Luxten Lighting Company, Elba, Valeo Lighting Assembly);
- **tyres** (Continental Automotive Products, Velsatis, vicus Niccia);
- **transmission belts and rubber hoses** (ContiTech Romania);
- **car seat upholstery** (Coindu, Eybl International AG, Ert Group Automotive);
- **steering wheels** (Eybl International AG, Takata Petri Romania, TRW Automotive Safety Systems, Key Safety Systems Ro);
- **control systems** (Dura Automotive);
- **integrated steering systems** (TRW Automotive Safety Systems),
- **airbags** (Takata Petri Romania, TRW Automotive Safety Systems);
- **seat belts** (Autoliv Romania, TRW Automotive Safety Systems);
- **transmission belts** (Contitech Romania);
- **pneumatic suspension systems** (Contitech Romania, TRW Automotive Safety Systems);
- **vibration control** (Contitech Romania);

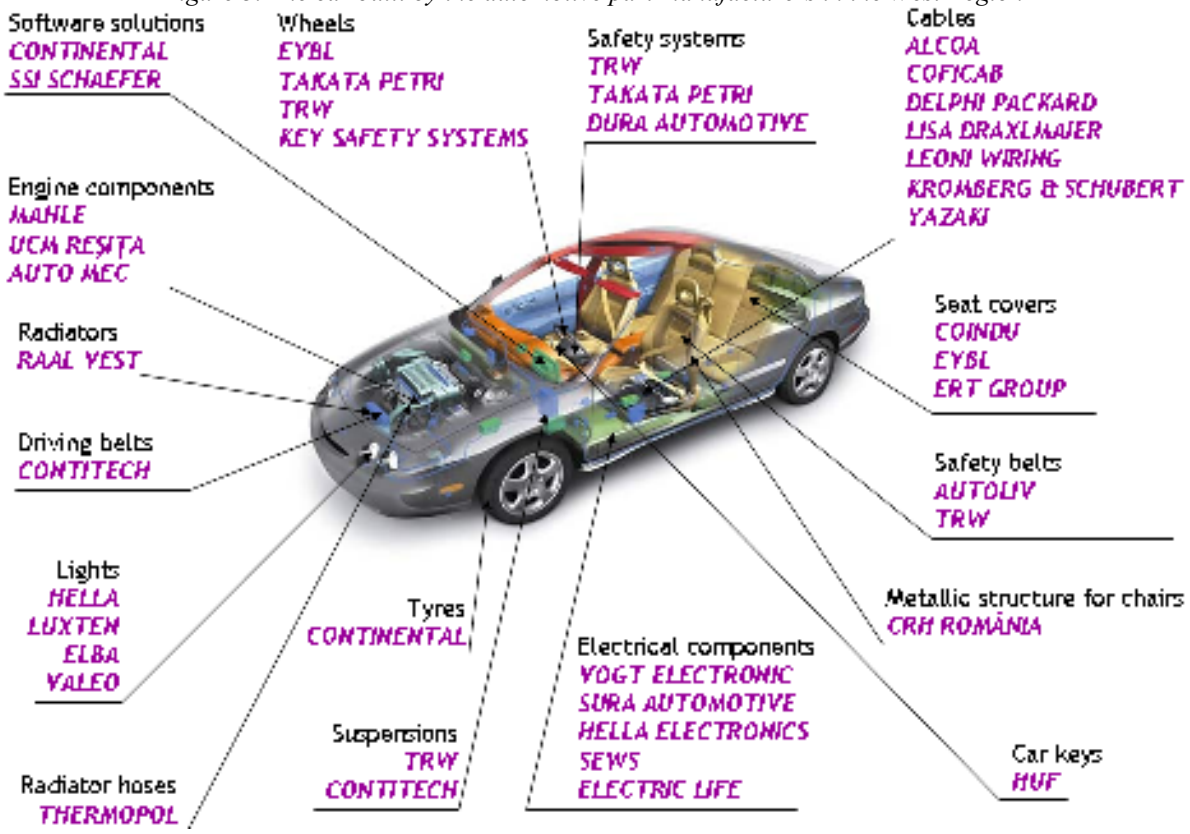
- **automotive valves (Valvetek);**
- **keys and locking systems (Huf Romania);**
- **software solutions** (SSI Schaefer, Continental VDO);
- **sun visors and textile parts for car interiors** (BOS Automotive Products);
- **metallic framework for car seats** (CRH Romania);
- **bus and minibus seats** (BV Productions Ro);
- **lathed parts and devices** (**Vogt Maschinenbau, Prodmec);**
- **engine parts** (Mahle Componente de motor, Sire, Euromont, Auto Mec);
- **silicon cooling hoses** (Thermopol);
- **buses, trolley buses, minibuses** (Astra Bus);
- **engines** (UCM Reşița);
- **automotive radiators** (Raal Vest);
- **electrostatic spray painting lines (Tim-Electrocolor);**
- ***metallic products obtained by plastic deformation*** (PA ID Automation, Newmet, Edorom Metal).

Besides these products themselves, various parts for these products are manufactured by companies operating in the West Region. Their activity in the automotive industry can be discussed based on the products resulting from the production process:

- ***rubber and plastic products*** (Dia Sigi, Delfingen Ro Transilvania, Superplast, International, Chimplast, Filplast, Tehnoprofil, IPCBH, Savrom Mulaj, Schmidt Protex, Huro Supermold, Plastique Forme Romania, Interpart Production, Euroflex, Chimica, MGI Coutier Rom, Leman Industrie, Technic Plastic Roumanie, Gala Niro Com);
- **electric installations** (Idra Star, Imsat Vest, Bielectro)
- **machine tools** (Alco Kraft, Scule Arad, Intertec, Promec, Slatex Maşini F&J, Aris, M.K. Kubitza, Gerom International, Timco, Metronom-B)
- **automation** (Prored end Engineering)
- **metallic wires** (SEWS, Janine Style, Prefal Rom, Nidzon Polistructuri)
- **metallic structures** (Adarco Invest, Caromet, BTC Carpenterie E Trade, Kox Industries, M.M.O. Servicii, Leader Tech, Dancke Ro, J & H Confecții metalice, *Armetal, Feroneria, Dagis S.T., Verofer, Binalia,* Gefo Exim, Arsat-K.N., Isotecno, Gulyas & Co, Trimetal, Modell Krech, Jacquemet Invest, GB-13, Van Emmerik Industries, Recom Sid, The Mechanical Works of Orăştie, Metal Mecanica Mir, Nefer Prod Impex, Metalconforme, Viancons, Royal Industrial, Festimani Comprest, Valmet Production, Gantois Romania, Band Metal, Echitron, Akis Grup, Urmo, Liman, Sircuc, Mas-Cenmais, Promes, Prometal, Midiamet, KPM Technik GMBH&Co KG, Silcom, Lugomet, Montanwerke Walter, Verni & Fida Romania, Gelco Prod, Megaprofil);
- **textile products** (Bega Tehnomet, RA-OL, G.P.&Company).

Based on this product portfolio, we have allowed ourselves to imagine a scenario in **figure 3** below. In this attempt, we started from the idea of building a car by bringing together all the companies in this sector operating in the West Region.

Figure 3. The car built by the automotive part manufacturers in the West Region



c) Acquisitions at the level of automotive part manufacturers. Impact on the West Region

Carmakers are going through a restructuring phase marked by cost cuts and most players' relocation to emerging markets, where the costs are still low. Cost-cutting is achieved mainly by increasing the innovation level, but also by outsourcing more and more insistently.

Whether carmakers or automotive part manufacturers, mergers in the automotive industry must be seen as an important tool for industry restructuring and for tapping into new markets. From the mergers among the automotive part manufacturers with production facilities in the West Region, we can mention the following examples: Continental has acquired Siemens VDO[14]; ContiTech AG has acquired the British company Thermopol International Ltd[15]; Schaeffler has taken over Continental[16].

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[14] Adapted after: Alexandru Anghel, Roxana Pricop, *Continental cumpără divizia auto a Siemens (Continental Buys Siemens Automotive Division)*, Ziarul Financiar, 27.07.2007

[15] Adapted after: *ContiTech AG a achiziționat compania britanică Thermopol International Ltd (ContiTech AG has acquired British Company Thermopol International Ltd)*, www.wall-street.ro, 2.02.2007

[16] Adapted after: Daria Macovei, *Schaeffler a preluat Continental pentru 12 mld. Euro (Continental Taken Over by Schaeffler for 12 bn euros)*, Ziarul Financiar, 22.08.2008

[17] Laurențiu Cotu, *Efectele crizei: angajații Takata-Petri, obligați să-şi ia concediu fără plată o zi pe săptămână (Crisis Effects: One Day a Week Forced Holiday for Takata-Petri Employees)* , Ziarul Financiar, 22.10.2008

[18] Cristian Gubandru, ***Declinul industriei auto afectează SEWS România, care recurge la disponibilizări (Automotive Industry Decline Affects SEWS Romania, which Resorts to Layoffs)*, www.wall-street.ro, 21 ianuarie 2009**

[19] Alexandu Anghel, *Delphi ajustează programul de lucru (Delphi Adjusts Working Hours)*, Ziarul Financiar, 18.11.2008

[20] *Leoni a închis o fabrică cu 228 de angajați de pe platforma Dacia (Leoni Closes Down a 228-Employee Dacia Platform Factory)*, Ziarul Financiar, 13.01.2009

d) The response of the regional manufacturers to the global economic and financial development

Automotive part manufacturers are also affected by the financial crisis, as they are influenced by the interruptions in the production activity of their beneficiaries. A number of subassembly suppliers in Romania have interrupted production or laid off part of their staff as a result of the sudden drop in the demand, caused by the crash of the local and international automotive market. The decision has affected both Tier 1 suppliers and Tiers 2 and 3 (which do not supply carmakers directly, but instead provide products to other automotive part manufacturers) manufacturing gauges both for domestic carmaker Dacia and for export.

Up to now, manufacturers in the field of automotive parts and systems, as well as tyre manufacturers, have announced a series of measures.

Automotive part and safety system manufacturer **Takata-Petri**[17], ranking third among the automotive part manufacturers on the Romanian market, with business worth 245 million euros last year, has shortened the working hours of the employees in its three factories, as a result of the financial crisis that has already left its print on the automotive industry worldwide.

Sumitomo Electric Wiring System (**SEWS**)[18] Romania, employing approximately 4,500 people in its three factories in Deva, Orăştie, and Alba-Iulia, makes electric wiring for various carmakers. The drop in the number of orders from carmakers has led to temporary reductions in the production activity and keeping employees redundant for 75% of the salary.

Automotive part manufacturer **Delphi**[19]**,** which owns two factories in Romania (Sânnicolau Mare and Ineu), has shortened the working hours and laid off some of its 7,400 employees as a result of fewer orders from the main clients.

Automotive cable manufacturer **Leoni Wiring Systems**[20] has closed one of its two factories in the Argeş county and laid off or relocated 228 employees who were working at that facility. Another company shortened the working week to just 4 days.

French company Valeo[21] , another Dacia supplier, has announced around 5,000 layoffs at its factories worldwide. The measure could also affect the approximately 500 employees in Mioveni. Valeo is the Dacia supplier of wiring and air conditioning.

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[21] Marius Şerban, *Retrospectiva concedierilor şi închiderilor de fabrici de subansamble auto la sfârşitul lui 2008 (A Review of Layoffs and Shutdowns in Automotive Subassembly Factories at the end of 2008)*, standard.ro, 30.12.2008

[22] Idem

[23] Marius Şerban, *Eybl Automotive Romania renunta la aproape 1.000 de salariati (Eybl Automotive Romania Lays Off almost 1,000 Employees)*, standard.ro, 26.01.2009

[24] Marius Şerban, Continental reduce costurile pentru a putea pastra personalul (Continental Cuts Costs to Keep Staff), standard.ro, 04.03.2009

[25] Marius Şerban, *Retrospectiva concedierilor şi închiderilor de fabrici de subansamble auto la sfârşitul lui 2008 (A Review of Layoffs and Shutdowns in Automotive Subassembly Factories at the end of 2008)*, standard.ro, 30.12.2008

Lisa Draexmaier[22]**,** electric and interior automotive system manufacturer, estimates 200 layoffs at its Hunedoara factory in 2009. The company will also make redundant, for 3-5 weeks, the 17,500 employees in its 5 factories in Romania.

Regarding the two factories in the town of Deta, Timiş county, belonging to **Eybl Automotive Romania**[23], one specializing in the production of upholstery, and the other one in leather steering wheels and leather-dressed gear levers, AJOFM Timiş has been notified concerning approximately 700 layoffs in the first months of 2009.

In order to avoid layoffs, Continental[24], one of the tyre makers in Romania, has lowered production costs by cutting down overtime or temporarily shutting down a few local factories. The staff in the leasing division has been affected by layoffs.

It is not just multinationals that are affected by the crisis. Confronted with a series of problems, lamp manufacturer **Elba Timişoara**[25] will be laying off over 400 employees.

e) Cooperation between the academic world and the companies in the sector

Partnerships between the academic environment and the automotive industry private sector

The localization in the West Region of numerous companies operating in the automotive production sector has lead to the development of several partnerships with the local actors, namely those from the academic and research environment. In order to have a better view on these collaborations, the technical universities from the region were asked to provide a range of information, which was then compiled.

Politehnica University of Timişoara has signed two collaboration agreements with several companies, two of them from the automotive industry: **Continental** and **Siemens Automotive VDO**, both from Germany. The agreement between Continental and Politehnica University regards financing internships for the students enrolled for master studies in tire technology, training for the companies' staff, and undertaking joint projects with European financing. As to the collaboration with **Siemens Automotive** (Germany) and **Siemens Automotive SRL** (Timişoara), the agreement consists in financing research projects and student internships within Siemens factories. The University has also introduced a two-year master course in **Automotive Embedded Software,** which is held in English.

The **HTEC Training Centre** is operational within the Politehnica University and runs an intensive programme in the field of CNC machines. The courses are designed for the employees of the companies within the West Region and not only that use the CNC technology during their production processes. Upon graduation trainees, they are able to perform setups of moderate complexity in CNC machining and turning centers such as milling centers. CNC graduates may find beginning to intermediate - level work in the machining trade as a CNC machinist. Also, the HTEC Training Centre offered for students advanced CNC Machining in order to attain greater proficiency in CNC machining.

Politehnica University has implemented a dozen of projects independently or in association with local institutions or the private sector, of which we can mention just a few: *We Steer – Support actions for the emergence of an automotive cluster based on research in the West Region*; *New technologies for electric actuators for automobiles; Programming of CNC machines – Training.*

Aurel Vlaicu University of Arad is centered on five fields of study and nine specializations, four of them being directly connected to the automotive sector. The automotive companies from Arad County recruit their manpower from the graduates of the university. The university collaborates with the private sector in qualifying and continuously training its staff. The Aurel Vlaicu University has run the Phare 2006 project *Training for continuous improvement through Six Sigma systems,* whose direct beneficiary was SC Leoni Wiring Systems SRL Arad.

Noteworthy for the collaboration between the academia and the private sector are also the activities undertaken by the **National Institute for Research-Development in Welding and Materials Testing.** The Institute has had several partnerships with different economic agents in the following areas: equipments/ specialized welding outfits; studies on welding techniques; inspections; welding technologies; technical and technological consultancy; training sessions.

f) Cluster formation and support projects in the automotive industry in the West Region

The "AutomotiVEST" Association – a cluster-type initiative in the automotive industry

Created in June 2007 as an NGO, the AutomotiVEST Association aims to create an economic environment supporting cluster-type initiatives in the automotive industry by developing a central service platform for the companies (suppliers/buyers) operating in this field in the West Region.
Services proposed:
·Information and communication;
· Support for cooperation projects within the network and with external partners;
·Support for technological transfer and research activities;
·Public relations and marketing;
· Benchmarking analyses on groups of companies;
·Market analyses and the development of the supplier chain, both domestically and internationally

WeSteer – Support actions for the development of a knowledge-based automotive cluster in the West Region

The WeSteer Project (Framework Programme VII, FP7-REGIONS-2007-2) is an initiative of the West Regional Development Agency (ADR Vest) together with the Politehnica University in Timişoara (UPT), the company Interpart Production SA and the Tehimpuls Association. The project is going to be implemented between March 2008 – March 2010 and aims to facilitate the formation of a cluster in the automotive sector through a series of institutional consolidation actions and by encouraging the cooperation between the university environment and the business one. The project budget, amounting to 169,924 euros, is 100% provided by the EU contribution.

6. The Banat Region and the automotive industry

a. The Banat Region – general features

HISTORY AND GEOGRAPHIC POSITION

- *BANAT –territory recognized throughout history*

Since the earliest days, Banat was a crossroad of many peoples and historical events. The Celtic warrior tribes arrived here from western Europe bringing their culture, good quality weapons and tools, various jewellery and pottery made on pottery mills in III century. Romans started spreading literacy, developed cities, built roads, intensified agriculture, developed trade and vocations and they even had a fleet on the Danube river, which was very important for maintaining power and new conquests. Significant changes in socio-economic relations occurred at the end of IX century when Hungarians came from the east and inhabited major part of today's Vojvodina where they detected remains of Avarian culture, Slavic and French inhabitants.

After the wars with Ottomans, this area was desolated and a lot of fertile land was destroyed. State government and Spahias started to locate population from the west – Germans from Germany and north Hungarian provinces. Most of the new settlers were Germans who were very skilled in rational agriculture and they knew many vocations. In order to infiltrate them in economy, government freed them from paying taxes and gave them many other privileges. When the World War One ended, the region became part of the Kingdom of Serbs, Croats and Slovenes. Since 1945, the Serbian Banat has been part of the Serbian Autonomous Province of Vojvodina. Nowadays, 100 years after the subdivision of Banat, region is EU gate for SEE countries. See **map 11.**

Source: Internet

- *Serbian part of BANAT occupies 9 830 km², which is almost half of the total territory of AP Vojvodina and about 12% of the territory of Serbia*

Banat in general, as geographically and historically recognized territory, is nowadays shared by three countries: Romania, Hungary and Serbia. In the Republic of Serbia, this territory is a part of AP Vojvodina, together with Srem and Bačka. Total number of inhabitants amounts to 688 274, which is about 9.57% of the total number of the inhabitants of Serbia and 35.31% of the total number of the inhabitants of AP Vojvodina. See **map 12**.

Banat in Serbia

Source: RDA Banat

The territory of Serbian part of Banat consists of three administrative districts: North Banat, Central Banat and South Banat, and there are in total 17 municipalities and two cities, Pančevo and Zrenjanin. Out of that, North Banat has 6 municipalities, Central Banat has 5 and South Banat has 8. Three of the North Banat municipalities geographically belong to Bačka, but are still an administrative part of North Banat District. The population density is 73 inhabitants per km^2. See **map 13**.

Administrative map of Banat

Source: Internet

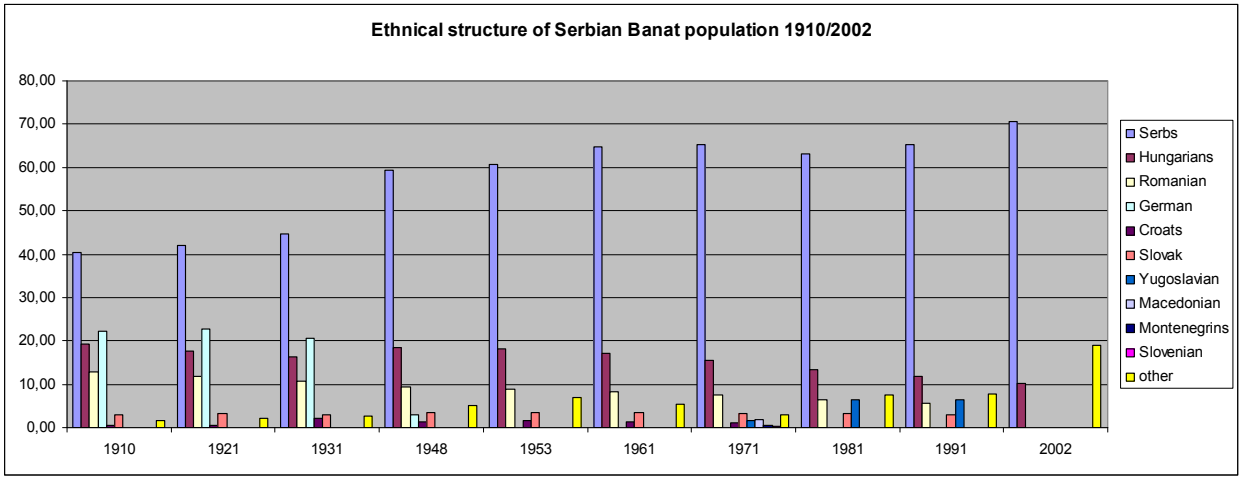
INHABITANTS AND DEMOGRAPHICS

- *BANAT is ethnically the most diversified area in Europe and it is also a multicultural region*

Regarding ethnicity and religion, Vojvodina (Serbian part of Banat included) is one of the most heterogeneous regions. Vojvodina is inhabited by the Serbs, Hungarians, Romanians,

Germans, Croats, Slovaks, Montenegrins, Rosins, Macedonians, Bunjevci, Checks, Bulgarians, Slovenians, Šokci, Roma, Greeks, Albanians, the Polish, Russians, Ukrainians, and the religious groups of these nations are: Orthodox, Catholic, and Protestant Christians, Judaist, Muslim and others. Over decades, structure and evolution of the population's ethnicity was subject to the politics wars and migrations.

Tabel 13. Ethnical structure of Serbian Banat



- *In the period from 1991 to 2002 the number of the inhabitants in BANAT decreased by 22 000, and it was estimated that in June 2007 it would decrease for another 28 000*

The age structure of the population shows the decrease in the contingent of young people, and the increase in the contingent of elderly people. It is estimated that the rate of growth of the population of over 65 years of age will increase 4-5% every 5 years, and the rate of growth of population of under 15 years of age will decrease for about 2.4% every 5 years. The effects of demographic ageing will especially be evident in HR area, considering the fact that the working age population will decrease for about 2.5% every 5 years. The decrease in the working age population is doubled in Banat because of very high unemployment rate and it could become a serios problem, even in the short term perspective.

The situation is alarming in all districts because of the trend of decrease of the population and the trend of negative birth rate which cumulate negative effects. Moreover, there are migrations, i.e. drain of young people caused by attending schools/universities or working in other towns, or by leaving the place of birth in search of better quality of life.

The share of the working population in Serbian Banat is somewhat higher than the national level, while share of the population of 65+ years of age is somewhat bellow the national level. The reason for this is a positive trend in Southern Banat which has a higher birth rate than the other two districts, and therefore the lower share of the population of 65+ years of age – 15.72%.

- *Employment rate in BANAT has been decreasing constantly since 2004*

Total average number of employed population in 2007 in Banat amounted to 151 566 and it decreased slightly compared to 2006 when it amounted to 151 636. Out of three Banat districts, South Banat was most successful in keeping the pace with the development on

national level because its rate of growth of employment was 0.83%, while the share of Central and North Banat in the total number of employed population somewhat decreased.

In comparison to 2006, the average number of employed population according to Banat districts increased in South Banat by 599 (or 0.83%). In other 2 districts, the decrease in the average number of employed population was recorded as follows: Central Banat by 521 (or 1.21%), North Banat by 148 (or 0.41%). The share of the employed population in Banat in 2007 compared to the national level was 7.57%. The share of women in the total number of employed population in Banat in 2007 was 41.8%, which is below the national level which amounts to 43.4%.

- *The importance of processing industry decreased in BANAT, which cannot be compensated by tertiary sector*

In the period 2002-06, sector data for Banat show that total employment fell by 11,581, some 8.9% of all jobs in 2002. This was against the trend for Serbia as a whole which experienced a 0.9% increase over the same period.

The overall trend masks considerable variations by sector. The largest losses of employment were in agriculture, manufacturing and financial services, whereas wholesaling and public sector experienced significant growth.

Agricultural remains an important source of employment in Banat notwithstanding the contraction which took place between 2002 and 2006. Indeed, the 10.5% of total employment shown in the table may be an underestimate.

Although manufacturing experienced significant employment losses in 2002-06, it remains a strong sector in Banat and accounts for a much higher proportion of employment than in the mature economies of Western Europe. The importance of this sector has been recognized by inward investors since out of the 21850 working places generated from inward investment, 21,3% is generated in metal processing, 15% in construction, 14,4% in food processing and 10,2% in pharmaceutical industry. The reasons can be easily attributed to already existing infrastructure, skilful workforce and tradition in these industries

Private sector services are relatively under-represented in the economy of Banat, notably real estate and financial services and are subject to relatively low-growth. These sectors have been a major source of employment growth in recent years in advanced economies and also in Serbia as a whole.

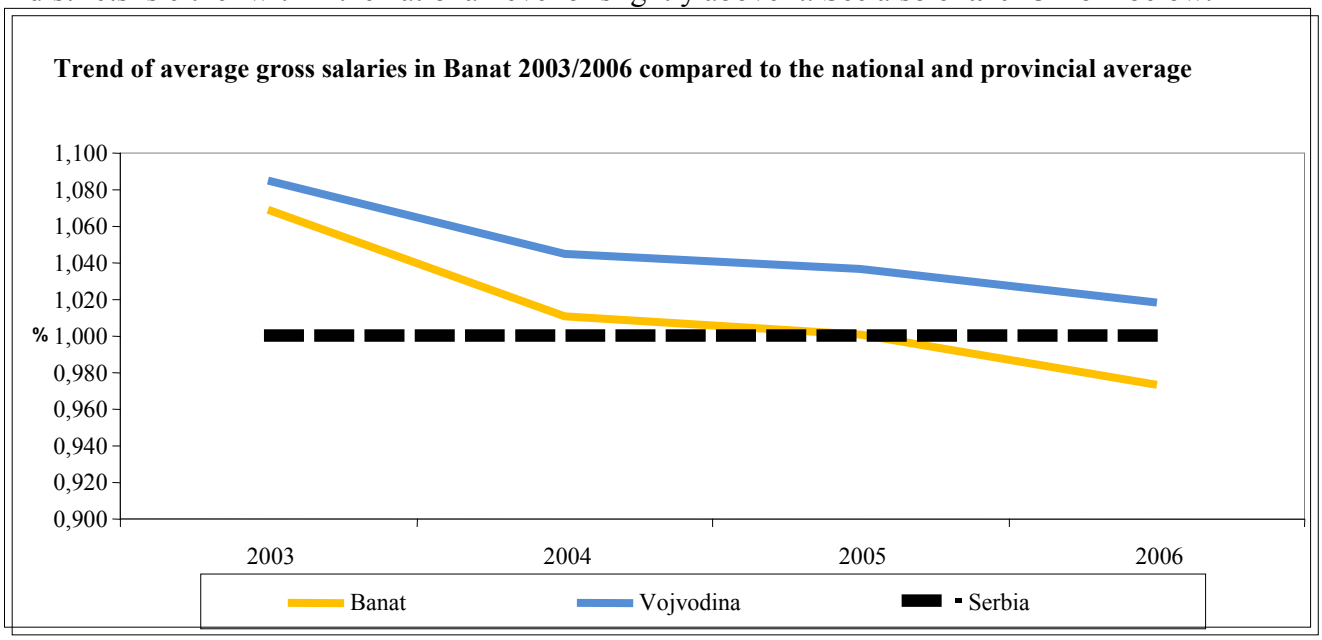
At around 24% of total jobs in 2006, the public sector in Banat has a similar weight in the regional economy as it does in Serbia as a whole. Education grew particularly rapidly (11%) between 2002 and 2006. The public sector accounts for a relatively small proportion of employment compared to the advanced economies of Western Europe. However, its sustainable growth, nationally and regionally, relies on growth in business and personal taxes.

In 2006 the total of the unemployed seeking a job for longer than two years is 60% in Southern Banat, 47.5% in Northern Banat and 50% in Central Banat district.

Research and development capacities of Banat are mostly concentrated around The Faculty of Technology in Zrenjanin, within the economic capacities in Zrenjanin, Pančevo, Kikinda and Vršac.

- *Average monthly salaries in BANAT are below the national level*

Since 2001, there is a trend of decrease of the average salary in Banat. However, the average salary in South Banat still stays above the national level. The standard of living in all three districts is either within the national level or slightly above it. See also **chart 13** from below.



Since Banat is not administratively recognized in Serbia as an region, GDP data is not provided for the area itself. Therefore, it can be only estimated to follow the provincial level in the similar fashion the average gross salaries do. The highest salaries in BANAT are in the sector of financial mediations and in mining, and the lowest ones are in the area of catering and wholesale and retail sale.Sector of manufacturing industries record low level of salaries. Even though it is customary for this sector to employ highly skilled labour, it is currently not the case. This sector does not require high level of education of labour, and there is absence of research and development factor. In this respect our best educated social layer favours non-productive sectors, such as jobs in public administration, or political careers, leaving the economy deprived of the most significant resources, human capital.

ECONOMY IN SERBIAN BANAT

Agriculture and rural development

- *By tradition and its geographical position, Banat is extremely agricultural area*

The municipalities with less than 50 000 inhabitants are considered rural areas in Serbia. People migrated to big towns, located outside the region, mostly towards Belgrade and Novi Sad, but also abroad. Middle aged inhabitants, key representatives of active population, took part in the migrations and they still do. Another occurrence was evident on ”local” level, but difficult to measure: migrations ”within the municipality”, from villages (especially the

remote ones) to towns. As a result, the population, as well as rural and agricultural labour force, are ageing, and the activity rate in smaller municipalities is slowing down.

85 % of Banat territory is agricultural arable land, which is at the same time over 16 % of total arable land of Serbia. This makes Banat extremely rich resource base for food industry. The capacities of food industry are not fully recognized neither of regional nor on national level. The result of the above mentioned facts is decreased production capacity and thus decreased budget revenues in rural municipalities. The municipalities are facing serious difficulties such as increasing requests for social care and protection, caused by the above mentioned demographic trends. In short, this vicious circle has as a final result the worsening of living conditions, the decrease of possibilities to keep the population and to attract 'movable resources (capital, qualified human resources) which are of crucial importance to socio-economic development of the community.

There are certain traditional segments of regional agriculture which are currently neglected, but could be value added and thus the position of primary producer could be avoided. Since the beginning of transition period in the 90ies, Banat seed industry, for example, underwent significant, mostly negative changes with the disappearance of combines and privatization of institutions which dealt with agriculture. According to the data of the Regional Chambers of Commerce, there are 247 companies registered for this area of activity. These companies are mostly remnants of public property and/or agricultural cooperatives and their production is very limited in capacity, with extremely low or zero investments in research.

A huge problem in agricultural production lies in the fact that agricultural land has been chopped up in numerous small pieces, the other problem are activities of registered farms, the number of members involved, and the age structure of the households in rural areas. Small parcels of agricultural households are a huge impediment for the development of intensive agricultural production. This state is inherited and it is a result of big socialist experiment from the 1950ies. Although there have been recent changes induced by leasing the state owned land to the farmers, according to the data of the Ministry of Finance in 2007, the image of Banat shows that the majority of farms belongs to the category between 2 and 5 hectares. The structure is more favourable in the District of Southern Banat, which may be attributed to greater number of enterprises who tend to merge arable pieces of land.

According to the structure, the registered farms prevalently belong to the type of individual agriculture manufacturers. Considering districts, Southern Banat has the leading position when it comes to commercial elements in agricultural production, with 188 enterprises and two individual entrepreneurs. Age structure and the rate of population involved in agricultural production on farms, indicates significant depopulation of this economic branch, i.e. lack of activities which would make it more attractive for the necessary young labour force.

- *Agriculture of this region does not utilize their full economic potential*

The lack of readiness to introduce the innovations, the lack of motivation for the purpose of cooperation, lack of readiness to adapt to EU standards and educational needs, as well as extremely bad financial status of farmers, open up huge space for national and even more important regional interventions and entrepreneur initiatives in gaining the benefits of "value added agriculture" through the finalization of primary production, and by meeting the request for good quality and world technology trends. In comparison to Serbia, the region is

characterized by the presence of large number of agricultural products, and larger, but devastated processing capacities.

Tourism

- *Although Banat has opportunities for tourism development, region is not recognized as a tourist destination*

Rich cultural heritage, monasteries, archaeological sites, thermal and thermo mineral water, hunting and network of channels and rivers are just some of the unused opportunities for tourism development in the region. Traditionally agricultural land, Banat started in the past few decades with development of the tourist offer and tourist image. Hunting tourism could be extracted from this statement, which under a different name pulling roots from aristocracy parties. Until two decades ago it was not in the acquisition of profit, although there are potentials for the development because about 27% of the territory of Vojvodina and Banat are bog lands, ideal game habitat. Large number of waterways, rivers, and river basins with appropriate forests are favourable environment for the preservation of flora and fauna biodiversity.

In terms of cultural/traditional resources, Banat municipalities and settlements have rich repertoire of local events, which are in the last few decades became traditional events: It is only in the last few decades that Banat has considered to develop tourist offers and to improve its tourist image. The only exception is hunting tourism that has existed for centuries under a different title, since up to twenty years ago it was not a profit making activity. There are capacities for its development since 25% of the territory of Vojvodina are marshes, a perfect habitat for the game. There are many rivers and forests along their banks, that create a suitable environment for preservation of a diversity of wildlife, both flora and fauna.

As far as cultural resources are concerned, we may state that towns and villages of Banat have a rich repertoire of local manifestations some of which have recently grown to become traditional:

While there are the tourist potentials in terms of the number of arrivals and overnights, according to the Serbian National Statistical Office, Banat realized below 1/3 of total indicators recorded of Vojvodina, with significant trend of further decline. Similar situation is in achieved overnights, where even nominal value records a serious decline of over 35 000 overnights, in the period 2005. - 2007.

In order to utilize numerous possibilities, a lot has to be invested in creating a unique regional tourist product, in coordinated management, resource management and staff trainings. The number of tourist visits shows that Banat has potentials as a tourist destination, but it also shows all its shortcomings depicted by the minimum numbers of overnight stays, i.e. the inability to make profit by tourist consumption.

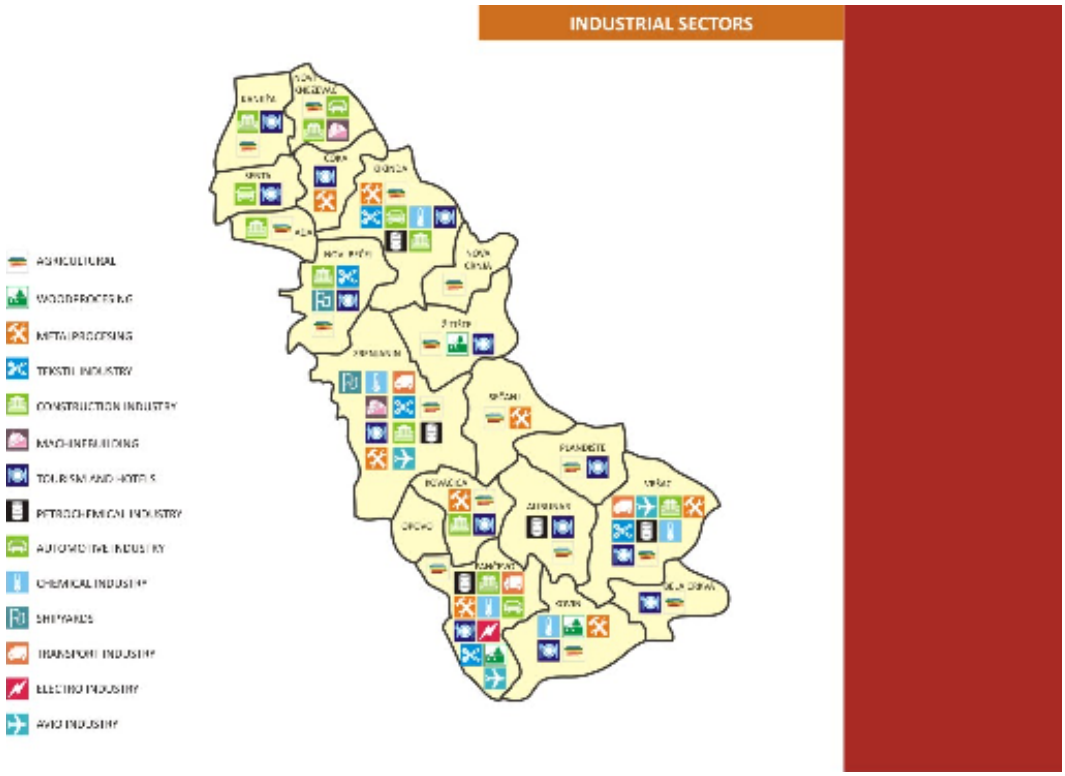
Small and medium enterprises and entrepreneurship

- *The development of Banat region is mostly due to entrepreneurship*

There is a long tradition of entrepreneurship in Banat region. To be more precise, wider (international) Banat region owes its golden years of prosperity and construction to the

periods that were characterized by the take off of personal initiative and trade (19th century) and intensive industrialisation in the second half of 20th century.

Today, entrepreneurship and SME sector share the problems of transition period, although they still are the most vital part of regional economy. See **map 14** from below.



According to the available data of the Regional Chambers from the end of 2007, there are 20 130 businesses and 19 273 companies on Banat territory, or in total 39 403 economic legal entities. Out of this number, 18 408 (91.4%) are classified as small and medium companies (SME). This is extremely dynamic data and can be taken into account only for description purposes.

Out of the so far presented information the conclusion may be that the bases of economic structure in the region are micro enterprises. The number of small enterprises (up to 489 employees) is balanced throughout all the three districts. It is because these categories, both small and medium, were established in the times of directed economy when homogenous economic development was a political, not economic issue. Significant number of micro-enterprises in South Banat may be explained by the vicinity of the capital and by economic connections with legal entities outside the region. The structure according to the size demonstrates that the largest number of enterprises employ up to 9 employees.

According to the data extracted on the basis of balance sheets of 4822 legal entities in three administrative districts for the year of 2006, the frequency according to the area of activities shows the significant deviation towards wholesales, followed by industry and agriculture.

The problem with working population in the SME sector is inherited for the period of command economy – lack of readiness to introduce and implement innovations, to adjust to the EU standards, lack of personal initiative and insufficient willingness for additional

education. Largest part of highly educated staff, over 70% (according to the national surveys) is ready to build their career abroad. The situation is similar in this region: 60% of young people are ready to build their career abroad, and 35% of the unemployed population consists of young people under 35 years of age.

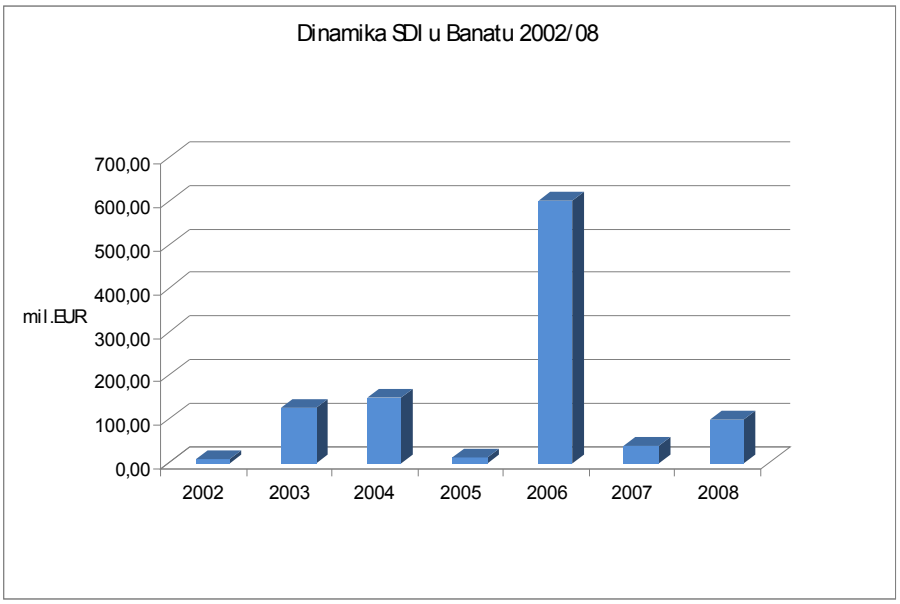
Introduction of modern technologies still has a status of capital investments, which is to some extent less present in SME sector, and more in larger (and/or privatized) systems, which to a great extent prevents the interchange with the world, especially when it comes to the exchange of industrial products and standardized technologies and qualities.

Lack of innovations in utilizing new technologies and developing new products, high costs of individual work, insufficient information on the market needs, and low productivity result in large deficit in external trade exchange. This depicts low competitiveness of domestic products which is why the export is insufficient.

Investments into fixed assets in SME and entrepreneurship sector is most often not recorded by the statistical institutions, thus the data in the following table mostly related to medium and large companies, which moderates the cumulative picture of investments in the area of economy. However, there is nominal increase in the investments into fixed assets by sector affiliation according to the Banat districts in a three year period. Superficial analysis shows that the largest increase was realized in construction industry and wholesale and retail sale.

- *Banat region is attractive area for Foreign Direct Investments.*

On the other hand, Foreign Direct Investments (later on: FDI) in this region started increasing after the democratic changes in the Republic of Serbia. In accordance with the political changes in this region, the level of FDI varies in the period 2002 – 2008, for which there are available data. See also **chart 14**.

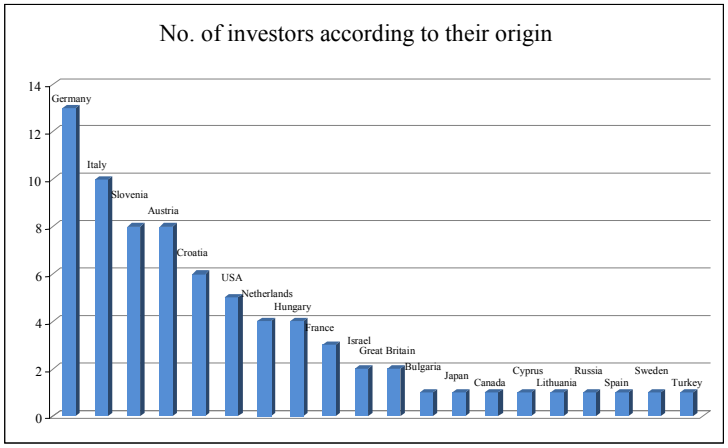


Source: VIP Fund

From the graph of the dynamics of FDI, it can be concluded that there is no constant trend of investing throughout the given period. For the last two years, FDI trend has been slightly decreasing, although it still records several hundreds of millions less than during the first half

of the decade. Over the period of six years, Serbian part of Banat has a average nominal inflow of about 147.5 million Euro per year. According to Vojvodina Investment Promotion and Serbia Investment and Export Promotion Agency, the level of FDI in Banat region is above the national level.

Regarding the origin of FDI, most of them are from the countries with which this region has a long tradition of business cooperation and trade exchange, and the largest number of investments (14) comes from Germany, Hungary and Bulgaria. There are no investments coming from Romania, which has the most similarities with this region as far as territory and geographical position are concerned. See also **chart 15**.



Source: VIP Fund

According to the foreign media, educated and available labour force, low profits tax, incentives for newly opened working positions, exemption for taxes for large investments, lower price of electricity and other energy generating products, favourable position in South East Europe, free trade agreement with Russia and CEFTA countries are the comparative advantages for investing into this region.

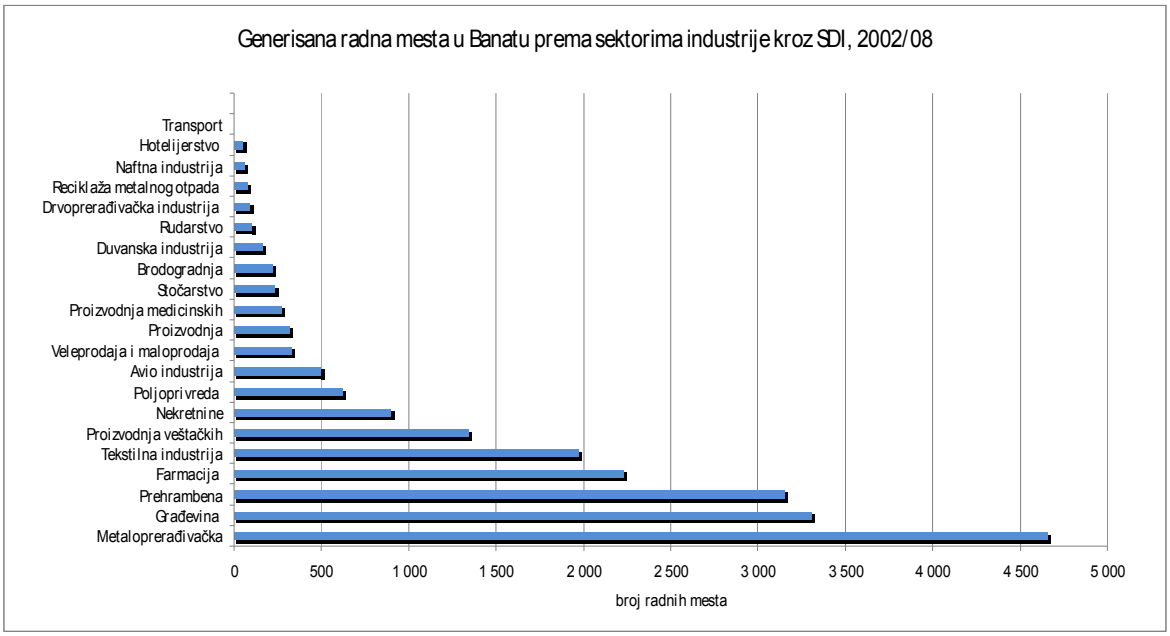
Company Ernst & Young did a research on the investments in South East Europe, according to which Serbia is fourth on the list of the countries where the investors intend to start with business activities, right after Romania, Turkey and Bulgaria. 216 CEOs of the companies from all over the world were interviewed. The research shows that what attracts investors the most are optimum costs of labour force, flexible labour regulations and the possibility of increasing their productivity.

As far as locations of FDI are concerned, there is certain affinity towards urban, that is industrial centres within the region. Basic reasons for that are certainly concentration of qualified labour force, the degree to which the locations are prepared for investments, the existing industry and belonging mechanism, service and infrastructure capacities, developed urban planning solutions of designated industrial zones.

According to the level of investments in Banat region, the leading sectors are pharmaceutical, metal processing, construction and food industry. Thinking logically, in the wider context of supporting industrial branches, including agriculture, it can be stated that these are also key industrial sectors of the region.

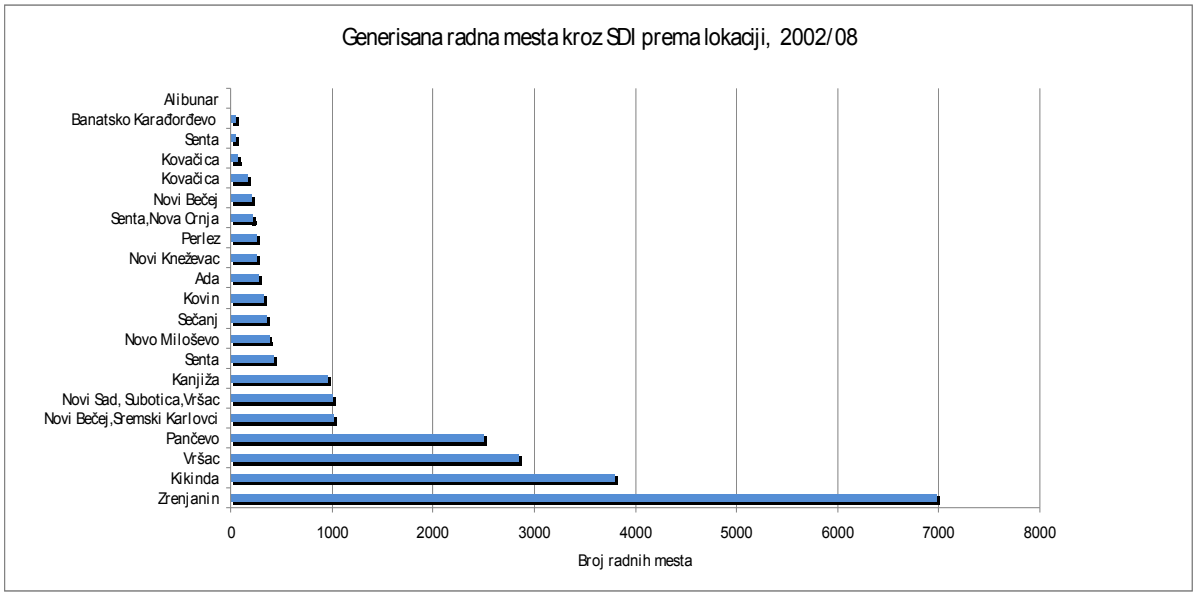
By analyzing FDI according to the sector, it is evident that the investments were made in the most developed economic branches in the region, i.e. that they upgrade the existing industrial infrastructure, while investments in research development capacities and high technology are still marginalized and insufficient.

By sectors, the largest number of working positions was created in industrial branches that recorded the highest level of FDI, i.e. metal processing, food industry, construction and pharmaceuticals. See also **chart 16** from below.



Source: VIP Fund

The largest number of generated working positions was in urban centres of the region, where the industrial infrastructure that attracts the most of FDI already existed. This fact illustrates the existing differences in availability and the level of readiness to absorb the investments between rural and urban environments. It should be noted that part of the data are integrated in national or provincial cumulative and are not available in details because of the business policies of the investors. See also **chart 17** from below



Source: VIP Fund

BANAT INFRASTRUCTURE

Industrial and commercial locations

In BANAT there is a presence of growing interest, of potential investors on the one side and local self-governments on the other side, for a development of industrial zones.

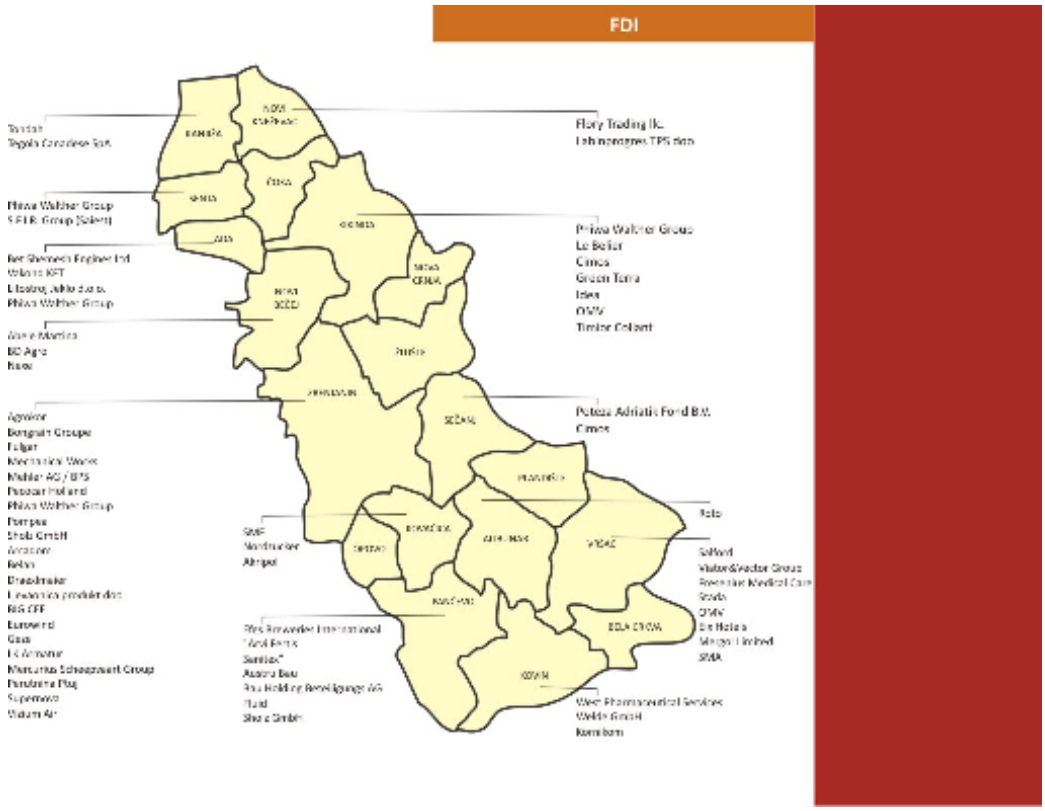
One of the following goals is to be reached by building the industrial zones:

- Attracting new production firms which will use integral infrastructure at the location;
- Cut down of expenses of building roads, train rails, ports, high voltage electro installations, communication cables, water supply and/or gas connection supplies;
- Decreased social and environmental influence of production facilities in surroundings of populated area.

Planning of the industrial zones is carried out, in certain extent, on municipal level within, in a case of bigger municipalities, urban development direction or, in a case of smaller municipalities, adequate municipal body in charge of planning and municipal development.

During planning and realisation of industrial infrastructure projects, the economical and spatial goals as a base for future planning are not fully taken into consideration.

Although the trend of direct foreign investments largely depends on the political situation on national level, the interest of the investors for Banat evidently increases in comparison to the 90ies, when the level of investments was negligible. Expressed in nominal values, the average inflow of FDI in Banat for the last 7 years amounts to about 147 million EURO. See also **map 15** from below.



- *BANAT has one functional free zone*

Zrenjanin, besides only 4 more municipalities in Serbia (Novi Sad, Subotica, Pirot and Belgrade), has the status of free trade zone within which different favourable business conditions are offered.

- *IN BANAT there are two functional incubators, in Zrenjanin and Kanjiža*

Business incubator in Zrenjanin BIZ is an enterprise established with an intention to support entrepreneurship process of the firms dealing with informative technologies and induce their innovations in order to increase successfulness of such companies. Business incubator in Kanjiža is smaller by a capacity and for now it has 4 occupants. It gives services in a domain of law, marketing, finances and book keeping to the occupants.

Information and telecommunication infrastructure

- *Banat has a well developed telecommunication network*

Basic IT infrastructure is in the national average. Cable internet of business provider that has interest in national market is on apology of small number of Banat towns. (Zrenjanin, Kikinda and Vršac) while situation with access to ADSL is slightly better and it is accessible in 12 Banat towns (Bela Crkva, Kovin, Pančevo, Vršac, Kovačica, Novi Bečej, Zrenjanin, Ada, Kanjiža, Senta, Kikinda and Novi Kneževac) and one settlement (Jabuka).

According to the survey on the usage ratio of IT technology by Statistical Office of the Republic of Serbia in 2007, situation in Banat is similar to national level: 34 % of households own a PC (in 2006. total was 26.5%), while 3.8% households own a laptop. (In 2006, total was 1.5%). 29.2% households in Vojvodina own Internet connection and 73.4% out of total

number is using modem connection, 16.1% uses WAP and GPRS, 15.6% has cable internet, 12.1% ADSL, 2.2% ISDN, and 3% other connections.

In comparison with 2006, in 2007 it is noticed that 4.5% more people are using PCs and in the same time usage of internet has increased for 3%. Although it is clear that PC literacy have increasing trend, those data are showing that lack of information and insufficient usage of informational technologies is present.

The best situation, concerning the Internet access is with wireless systems. Except in towns, wireless Internet is accessible in majority of settlements in Banat due to entrepreneurial initiatives in wider region.

Transport infrastructure

- *BANAT has dense and developed traffic network, but it's quality is under European standards and that is endangering safety and environment.*

The Banat presents slightly more that 11% of national territory and it distributes 9% of modern roads of republic. In that sense taking in consideration concentration of roads of that class in big urban centres (Belgrade, Novi Sad, Nis...) it is possible to say that (in compartment with other parts of Serbia) road network is satisfying needs although some road directions are neglected. In present based on data from RSZ (Republic Statistic Department) there is small but indicative trend of improvement of road network. On national level (as a part of the national road development strategy) as a capital investment it is planned construction of Banat main route as alternative to corridor 10.

Unlike the road infrastructure, railroad network, although first built in this part of Balkans is devastated due to long term lack of investing. Although, according to unofficial sources of information more than 80% of railroad cargo transport goes trough Banat, passenger transport is in declaim. Initiatives for solving this problem are on national level since they include capital investments that are high above from region financial capacities.

Huge, unused potential of the region is waterways network of canals and rivers, this resource could be used in agriculture and transport, especially if we remember that transport on roads is nine times more expensive than on waterways per every tone of cargo.

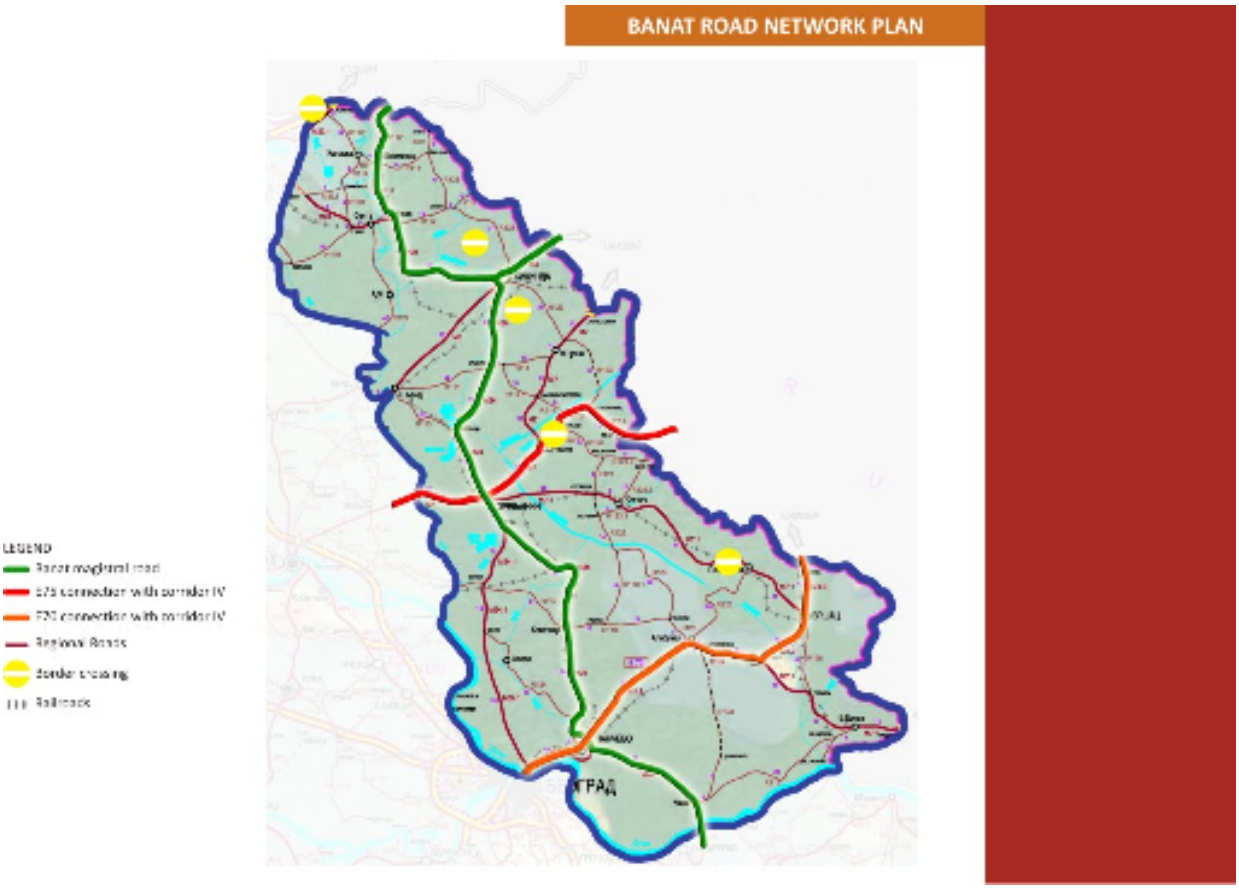
Development of traffic network is important pre condition for development of SMS, industry and tourism. The process of development will create number of possibilities for supporting businesses both production and services.

- *BANAT region is located in close vicinity of two Pan European corridors, but there is no classical high way and population is waiting for so called "Banatska magistrala" local highway for years.*

Main roads are Belgrade-Zrenjanin-Kikinda-Romanian border and Hungarian border (130km), Belgrade-Pančevo-Vršac-Romanian border (120km), Novi Sad-Zrenjanin-Srpska Crnja-Romanian border (110km).

There are no highways in the classical sense of the word in Banat. The Banat region is waiting for mentioned "*Banat Highway*" for years. Future highway is defined by Special plan of Serbia and it is located in corridor of regional road R 112, from border crossing Đala to Čoka and on corridor of magisterial road M 24 trough Kikinda, Zrenjanin, Pančevo and Kovin (bridge on Danube).

Provincial Government has adopted as priority construction of tunnel trough Fruska Gora and construction of horizontal road also called „*Banat Highway*". In order to achieve that project documentation is prepared. Project predicts construction of horizontal route in direction northeast-southwest from Timisoara direction towards international corridor E 70. This "semi-highway" would go from Timisoara trough Međa (Romanian-Serbian border), trough middle Banat near Zrenjanin, and to Novi Sad. This horizontal highway will have length of 162 km and will connect two corridors – Corridor 10 and Corridor 4 trough Romania. See also **map 16** from below.



Since the Ministry of Infrastructure started construction of road E-70 Beograd-Pančevo-Vršac towards Timisoara and in order to efficiently connect Vršac with Belgrade and other parts of Serbia, it is clear that together with previous plans Banat has a possibility to get three modern roads and efficient link with neighbouring regions and countries.

- *Railroads of BANAT in biggest part are not fulfilling quality standards of modern railroad traffic.*

The railroad network used in Banat today has total length of 439.1 kilometres. The longest railroad that connects Pančevo trough Zrenjanin with Kikinda and border crossing with

Romania (Žombolja/Jimbolia). The shortest railroad is connecting Zrenjanin (Tomaševac) trough Orlovat with Perlez, crossing river Tisa towards Bačka region in Novi Sad direction. Two more important railroads that are linking Banat in East-West direction are Zrenjanin-Vršac-Bela Crkva and Pančevo-Vršac-Border to Romania (Moravica). The most important and the highest quality railroad is Beograd-Pančevo-Vršac-Romanian border, with conditions for normal and safe transport.

Water ways and canal system in the region were developed primarily because of the needs for melioration and later for transport of agricultural and industrial products in 18th and 19th century. Throughout several decades of 20th century, bad quality maintenance and neglect of this potential in favour of other forms of transport conditioned intermodal points which connected these routes with railroads and roads to die out. In that sense, it can be stated that present condition of water roads does not contribute to the development aspirations of Banat, although, regarding energy, it presents the most efficient way of transporting goods.

- *Large part of BANAT is a part of European waterways network, the but existing ports are dilapidated and with small capacity.*

River traffic in Banat is mainly on border of the rivers Danube and Tisa, as well as on the Tamiš and the Begej. Strategic importance has port "Dunav" on 1153rd kilometre of Danube river, 15 km downstream from Belgrade. The "Dunav" port is located on 240 hectares and on territory of the town of Pančevo and it has one of biggest turnovers in county.

Navigable waterways in Banat are mainly on rivers (navigable rivers are Danube and Tisa in whole flow trough/buy Banat and, Begej and Tamiš are navigable trough one part but not over border towards Romania.

Less important are channels that are connecting Danube and Tisa and Danube and Begej. Total length of channels in Banat is 518.4 kilometres long , out of which navigable is 317.7 kilometres. Out of that 190.9 kilometres are navigable for ships able to carry up to 1000 tons, next 98.4 kilometres is navigable for ships that carry up to 500 tons, while additional 28.4 km is navigable for those up to 200 tons. System (network) of channels has total size of 12 700 km², between rivers of Danube and Tisa, in Bačka and Banat, on territory of Vojvodina.

Travel to work and ownership of the vehicles

- *Regardless of the developed road network, there are locations which are susceptible to traffic jams.*

According to Republic bureau of statistics for year 2006 percentage of the Banat population owning a passenger car was 19,94%. Compared to year 2002 it represents increase of 2,51%. Locations most liable to traffic jams are Zrenjanin and Pančevo. The heaviest traffic conducts through these directions due to vicinity of border crossings and mostly due to trucks avoiding speedway. Banat has rich and ramified road network with length of 2234 km.

Main roads are Belgrade-Zrenjanin-Kikinda-Romanian and Hungarian border (130km), Belgrade-Pančevo-Vršac-Romanian border (120km), Novi Sad-Zrenjanin-Srpska Crnja-Romanian border (110km).

Unfavourable fact is that road network does not meet European quality standards due which traffic safety and environmental protection problem is present.

b. The automotive companies in the Banat Region

The automotive industry in Vojvodina and Serbia has a long tradition of producing automobiles. In the late 1980's Serbian automotive firms produced over 250,000 automobiles per year and were active in more than 200 joint ventures with leading international producers, as component suppliers or assemblers of licensed cars. The automotive components industry of Vojvodina supplied production of Zastava Auto Factory and Auto Factory Priboj (FAP). Further development of the automotive industry in Vojvodina continued through cooperation with General Motors (Foundry Kikinda) and Fiat.

At the same time, a large number of small and medium companies in Vojvodina emerged on the automotive components market as original equipment manufacturers for some leading vehicle manufacturers: VW, AUDI and OPEL. To name a few:

- *DRÄXLMAIER (DAD DRAXLMAIER AUTOMOTIVE)*

The collaboration between Vojvodina Investment Promotion – VIP and the German automotive supplier Dräxlmaier, culminated in the opening of their production plant in Zrenjanin on May 9, 2008. They began production with 350 employees and today the number of employees is 1,350, which will reach 2,000 by August 2009.

The production of car wiring harnesses for Dräxlmaier runs in a production facility of 13,000 m2. Production is conducted according to Just in Sequence principles allowing no more than four days between ordering and delivery. The production plant in Zrenjanin produces specific custom/ made cable sets, which will be built in the top models of renowned car manufacturers.

The production process is carried out by selected highly skilled workers who satisfy the high quality standards expected from them.

- *LOHR (LOHR BACKA TOPOLA)*

The French company Lohr invested €3.5 million in a production site for semi-trailers intended for transport of vehicles. They began production in spring 2007 and at the moment employ 198 people. Lohr's Serbian products are being exported to the Russian market.

- *I.G. BAUERHIN (IGB AUTOMOTIVE COMP DOO)*

The German automotive supplier I.G. Bauerhin invested €1.8 million in Indjija where they are building car seat heating systems. At the moment they employ more than 200 people, but by the end of 2009 the number of employees should reach about 300.

They employ more than 200 people, but by the end of 2009 the number of employees should reach about 300. as Audi, They supply international firms such: BMW, Fiat, Ford, Hyundai, KIA, Opel, Porsche, Renault, Saab, Skoda, Smart, Volvo and others.

Also in the table 14 and 15 we present a list with company from Vojvodina and Banat.

Tabel 14. International automotive components producers in Vojvodina

YEAR	COMPANY	COUNTRY OF ORIGIN	TYPE OF INVESTMENT	INVESTMENT AMOUNT (in million €)	Number of employees
2008	**Boxmark**	Austria	Brownfield	N/A	400
2008	**CGS Tyres**	Czech Republic	Acquisition	20	520
2007	**I.G. Bauerhin**	Germany	Brownfield	1.8	250
2007	**Lohr**	France	Acquisition	7	198
2007	**Dräxlmaier**	Germany	Brownfield	7	1,350
2006	**Albon Engineering**	UK	Greenfield	8	81
2004	**CIMOS**	Slovenia	Privatization	100	2,162
2004	**Streit Groupe**	France	Brownfield	3.5	150
2004	**Neobus**	Saudi Arabia	Privatization	0.75	158
2003	**Le Belier**	France	Acquisition	10.5	530

Source: VIP Fund

Tabel 15.Automotive suppliers overview in Vojvodina

Company	Production focus	Region
AGENA TECHNOLOGY DOO	Entire turnkey production line solutions for the manufacture of connecting rods. Standard range of machines plus individual machines	
BOXMARK LEATHER	Components from leather	
IGB AUTOMOTIVE COMP. DOO	Production of electrical seat heaters, electronic control units and sensors	
DAD DRAXLMAIER AUTOMOTIVE	Car wiring harness production	Banat
LE BELIER KIKINDA	Casting plant for production of aluminum components for automotive industry	Banat
LOHR BACKA TOPOLA	Production of semi-trailers for transport of vehicles	
NEOBUS	Buses and bus bodies manufacturing	
STREIT JUCIT DOO	Automotive parts production - original equipment producer, flywheels	
CGS TYRES	Tire production	
TERMOMETAL ADA	Machine parts	Banat
KNOTT AUTOFLEX YUG	Production of car trailer parts, axles without brake, axles with brake and mudguards	
KONKAB	Cable sets finishing	
UTVA-MILAN PREMASUNAC	Mechanical industry	Banat
BATTERY FACTORY SOMBOR	Production of starter and traction batteries for all kinds of vehicles	
FKL TEMERIN	Metal industry, roller bearings and cardan shaft	
FADIP AD BECEJ	Hydraulic brake hoses, metal fittings for brake hoses	
TEHNIKA KULA	Processing of plastic parts for automotive industry	

HIPOL	Production of polyproylene and processing of plastic masses	
LAMPONE d.o.o.	Cable and wire production, production of ropes	
BANE SEKULIC	Factory for locks, handles and shields	
PNEUMATIK - FLEX	Standard metal products, flexible hoses and hose fittings	
SIGURNO-ST DOO	Rubber parts, hydraulic cylinder repair kit	Banat
POTISJE PRECIZNI LIV, A.D	Mechanical industry	Banat
CIMOS - FAM SECANJ Ai D.O.O	Mechanical processing	Banat

7. SWOT Analyses for the automotive industry in the West Region, Romania and Banat Region, Serbia

The SWOT analysis takes into account the strengths, weaknesses, opportunities, and threats and has been created and used by enterprises as a tool for defining strategies. This tool makes it possible to provide a quick analysis of key strategic issues such as the identification of strategic alternatives.

Before starting a SWOT analysis, a description of the existing background is necessary, so that all participants may start from a "common ground". This preliminary stage is fundamental, since companies most often have different views regarding development topics.

The SWOT technique of discussion/analysis and research is based on the brainstorming method, involving a discussion among the people involved in devising the strategy. Starting from here, we have performed a brief SWOT analysis of the sector at the level of the West Region, Romania and Banat Region, Serbia.

A number of characteristic features have been identified, of which we would like to mention: companies, regional economy, products and raw materials, workforce, research – development, partnerships. Using these elements, we have performed a SWOT analysis of the sector at the level of the West Region, Romania and Banat Region, Serbia.

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STRENGTHS	WEAKNESSES
Companies - The presence of tier 1 and 2 part manufacturers - The presence of several multinational companies - The presence of major brands from the category of part manufacturers - The existence of companies of all sizes - Certain companies are certified (quality standard, professional skill certification) ***Regional economy*** - Constant economic growth at the level of the West Region above the Romanian average - High turnover of the companies in the sector as a share of the total turnover made by the active industrial entities in the West Region and Banat Region - The presence of complementary industries (metallic processing, plastics, electronics, etc.) - The increase in the domestic demand for cars in Romania and Serbia - The industrial infrastructure is operational, but needs some improvement	***Companies*** - The lack of a carmaker in the West Region and Banat Region - Domestic companies need an influx of capital and know-how in order to become competitive - Lack of visibility and promotion of local suppliers ***Regional economy*** - High costs for setting up a new production facility (dependence on the evolution on the real estate market and the construction material market) - Weak transport infrastructure (lack of highways and expressways), making the region less attractive - Production costs rising each year ***Products made and raw materials*** - Lack of locally specific products - The prices of raw materials are sometimes high - Several companies depend on the import of raw materials and parts - Insufficient use of natural resources

Products made and raw materials - A variety of products obtained by the companies located in the region - The use of modern technologies - Tradition and presence in metal industry ***Workforce*** - Workforce with skills in various technical fields - Workforce costs still low compared with the countries in Central and Eastern Europe - Presence of young population educated in IT - Knowledge and skills in sectors of industrial production of construction materials ***Research and development*** - The existence of specific cooperation between the universities in the region and companies ***Partnerships*** - Industrial agglomeration – competition, competitiveness, multiple possibilities of cooperation - Developed institutional infrastructure to support SME (presence of business incubators, RDA Banat)	- Production costs rising each year ***Workforce*** - Difficulties in finding qualified people in areas with a high density of companies - Lack of an in-company human resource strategy (training, career management) ***Research and development*** - There is not enough R&D capacity and the R&D potential is still fuzzy - Lack of specific technological processes ***Partnerships*** - Lack of cooperation and commercial relations among the companies in this sector in the West Region
OPPORTUNITIES	**THREATS**
Companies - The economic performance recorded by the companies located in the West Region can lead to initiating new business in the sector - The emergence of new companies/structures enabling existing companies to outsource their services ***Regional economy*** - New carmakers have set up shop in the West Region (Ford in Craiova and Mercedes in Kecskemet) and Banat Region (Fiat in Kragujevac) - Access to European funds for production, human resources, foreign relations - State support for investors - Further initiatives to renew the domestic	***Companies*** - Dependence on a single client/manufacturer (for parts or cars) at supplier level - The acquisitions and mergers among part manufacturers decrease the number of competitors on the market ***Regional economy*** - Higher salaries in the sector - Cancellation of fiscal incentives - Non-involvement in the development of the sector - Volatile exchange rate, impacting the import-export activity - Increase of the price of energy ***Products made and raw materials***

automotive stock (the scrap bonus, the automotive tax) ***Products made and raw materials*** - New product development and adapting to the current requirements in the sector: lower CO2 emissions, Euro 5 and 6 engines, increased safety (ABS, AFU, and ESC) - Introduction of new technologies in production ***Workforce*** - Strategic promotion of companies' activities, especially among students, aiming at staff recruitment ***Research and development*** - Cooperation between companies and the academic world in specific projects - The possibility of relocating research and development activities to Romania ***Partnerships*** - Large number of companies willing to support the regional initiative to develop a cluster - Development of local supplier networks - Willingness for cooperation among companies occupying different positions in the supplier chain - Establishment of business associations: cooperatives, clusters, associations	- The transfer of some production facilities outside the region, along with de-location ***Workforce*** - The demographic decline from the beginning of the 90's is beginning to be felt on the labour market - Workforce dynamics affects companies' results ***Research and development*** - Research and development activities are not located in the West or Banat Region ***Partnerships*** - Lack of interest regarding the existing cooperating initiatives at regional level

8. Conclusions

Overview

The quality of the workforce in the former communist countries and the low salaries demanded by employees are the main factors that have brought the automotive industry to Central and Eastern Europe.

If we were to assess Central and Eastern Europe as a single market, the states comprising it can be analysed in different ways, depending on their role in this whole. The following categories emerge:

- **centres of major manufacturers**: this category includes the states that have received the largest investments and where production is mostly oriented towards exports (over 75%). The states in this category, such as the Czech Republic and Slovakia, have chances to become that European export hub, covering the supply for the European market, as well as the local one;
- **centres of major local producers**: this category includes states such as Poland or Romania, with massive production for the domestic market and an absorption rate of over 100,000 new cars/year. These countries have the chance to become major exporters if they can make a comparable product to the already existing European offer, but with a certain competitive edge;
- **centres for automotive part manufacturers**: these usually coincide with the locations chosen by the carmakers. Nevertheless, there can also be other aspects persuading automotive part manufacturers to settle in a certain area: low labour cost, highly qualified human resources, the presence of university centres with well developed research departments, etc. This category is populated by countries such as: The Czech Republic, Poland, Ukraine or Romania.

As for the upcoming period, estimations are that Eastern Europe will be making more cars than Western Europe by 2010. A large share of the production is going to be exported. A survey done by Price Waterhouse Coopers mentions an increase of the production capacity in at least four or five countries in Central and Eastern Europe (The Czech Republic, Poland, Romania, Serbia, Hungary, and Slovakia). They are estimated to produce 3.46 million cars in 2011, which would be 4% of the global car production.

A further expansion is expected towards South-Eastern Europe and Ukraine. Salaries in Central Europe have already surged, and the advantage of cheap labour is gradually fading. On the other hand, local capacity is already significant, so there is not much reason left for additional investments. At the same time, the south-eastern area is still fertile.

The Romanian view

The recent ascension to the EU, the moderate taxes imposed in Romania, and the low costs on the labour market have made Romania an attractive destination for automotive part manufacturers that supply factories all over the world and are now considering the Eastern European market.

The Romanian automotive industry is thriving, on the one hand due to the infusion of foreign capital attracted by the cheap and skilled workforce, the low costs, the experience in the relations with foreign partners, the desire to cooperate and, on the other hand, by the Romanian manufacturers of automotive parts. The latter are currently restructuring their

activity, undergoing certification processes according to the requirements of the current European legislation, continuously prospecting the market for new contacts and new agreements with foreign partners.

As concerns the production units, there are four categories of companies specialized in the production of automotive parts in Romania:
• New, greenfield investments;
• Production and/or assembly locations belonging to international groups that have followed Renault to Romania (either greenfield or brownfield);
• The old Romanian factories have started partnerships with representatives of the automotive industry (joint ventures);
• Domestic capital entities that have not yet formed joint ventures, but already have contracts in the automotive industry as a result of the investments made (brownfield).

The Serbian view

The current status of automotive industry in Serbia is characterized by:

- Limited availability of local companies with international potential;
- Domestic companies struggling to improve their production, quality potential and links with Tier 1 and Tier 2 producers;
- Diversification to small series of local companies as a barrier for exports;
- Significant number of companies from the component sector still not privatized;
- Local OEM's operating at limited capacity, primarily due to lack of demand on both markets but also because of their low ability to add value – that has strong impact on suppliers;
- FIAT reaction to crisis also limiting the short term potential to motivate local companies to invest as well as to attract suppliers;
- Linkages between companies and educational institutions still are not appropriate.

The West Region view

Generally speaking, the automotive companies in the West Region are multinationals which, according to the Romanian law, belong to the category of large enterprises (over 250 employees and a turnover of more than 50 million euros) and have completed large investment projects in the West Region, exceeding 10 million euros (on average).

A distinctive feature of these companies is that, although they initially settled in one location, after starting operation, they sought the development of new production units, both in the West Region and in the neighbouring regions (especially the North-West or Central Region);

The production achieved by the automotive companies is largely intended for export, based on firm contracts with major European, Asian or American carmakers.

At the same time, domestic companies in this industry are either medium-sized or part of a larger group that has some operations focused on this sector. These are mainly suppliers of the Dacia-Renault and the main preoccupation is to attract/sign contracts with foreign carmakers.

The Banat Region view

The automotive sector of Vojvodina predominantly consists of automotive suppliers. A number of well-known international Tier 1 suppliers – such as Draexlmaier – entered into the Vojvodina automotive sector in the past years.

Two Original Equipment Manufacturers are located in Vojvodina, Neobus and Lohr. Neobus is a well-established producer of buses, producing around 100 buses per year. Its buses are produced either on its own chassis or on a mobile chassis of a partner firm. Neobus has formed a strategic partnership with Volvo. The French company Lohr is the market leader for car-carrier trucks in Europe. Table 1 lists selected Original equipment manufacturers and Tier 1 automotive suppliers that are present in Vojvodina with their production focus and the number of employees.

APPENDICES:

FIGURES

CHARTS

MAPS

TABLES