

# AUTOMOTIVE INDUSTRY



**S A R I O**

Slovak Investment  
and Trade Development Agency

## Automotive industry in Slovakia

Automobile industry is a key industrial and economic sector in many of the Central and Eastern European countries. It has been an important source of foreign direct investment for this region for the past 20 years. Car producers have sought to take advantage of well-educated and highly productive labour force, relatively low wages, Slovakia's strategic position for export to the East as well as advanced infrastructure base that closely links the country to the core of Europe.

Slovakia has become an important global automotive center producing the highest number of cars per capita in the world. This became possible thanks to the presence of major global automotive suppliers and especially three world-known car manufacturers: **Volkswagen** (Bratislava), **PSA Peugeot Citroën** (Trnava) and **KIA Motors** (Žilina).

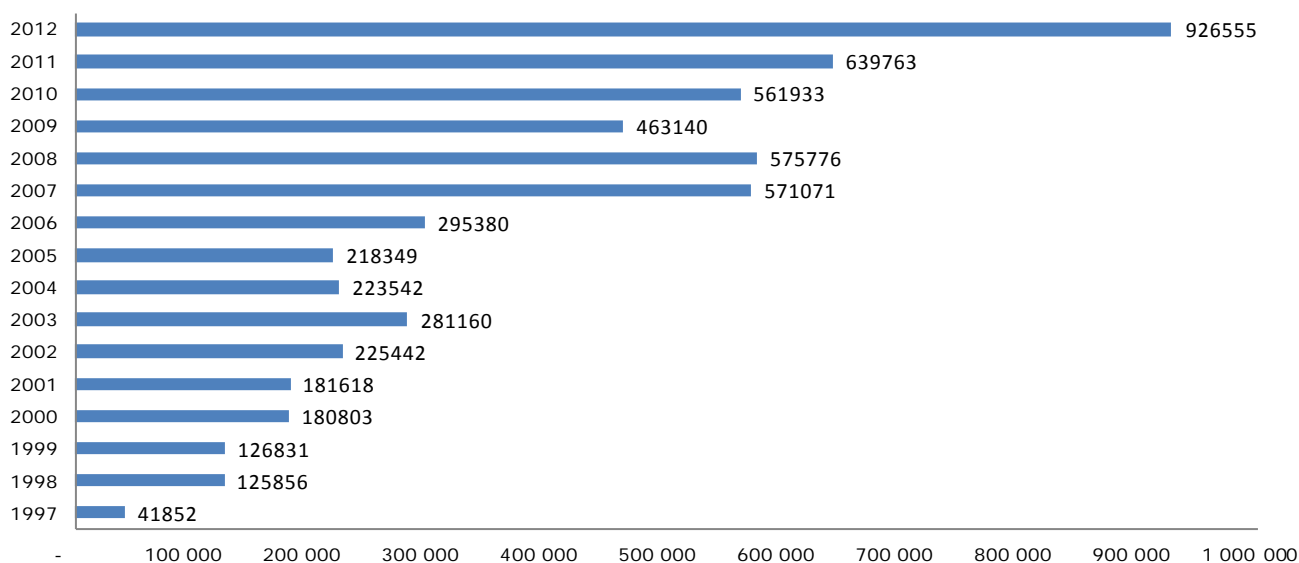
The development of the automotive industry in Slovakia and integration into the important global automotive centres began in the early 1990s when the German company Volkswagen AG decided to start the car production near Bratislava. This important milestone helped to develop the economy after the loss of the former "Eastern Bloc" markets and the closure of armaments production in Slovakia. The creation of a supply chain started hand in hand with the arrival of Volkswagen, and thus further investments into the automotive industry rose in the supply sector. Slovakia had started a new path of development of industrial production, above all in the sectors of automotive and engineering.

The implementation of the second important wave of investments into the automotive industry took place in years 2003-2005 thanks to the arrival of other two world-known automotive companies: PSA Peugeot Citroen and KIA Motors, which built their plants in Trnava (PSA) and Žilina (KIA).

Car production in Slovakia increased so significantly after the implementation of production lines, that Slovakia became one of the 20 biggest car producers in the world. **In 2012**, the production in the Slovak automotive production and assembly plants reached **926,555 passenger cars**. This is an increase of production by 44,9% (286,792 cars) in comparison with 2011. **Slovakia is the world's largest producer of cars per capita** with production of 171 cars per 1000 inhabitants.

With slightly more than 5 million inhabitants, the country produced half of the entire production of the United Kingdom and more passenger cars than for example Italy, while the population of each of these countries exceeds 60 million citizens.

### Car production in Slovakia



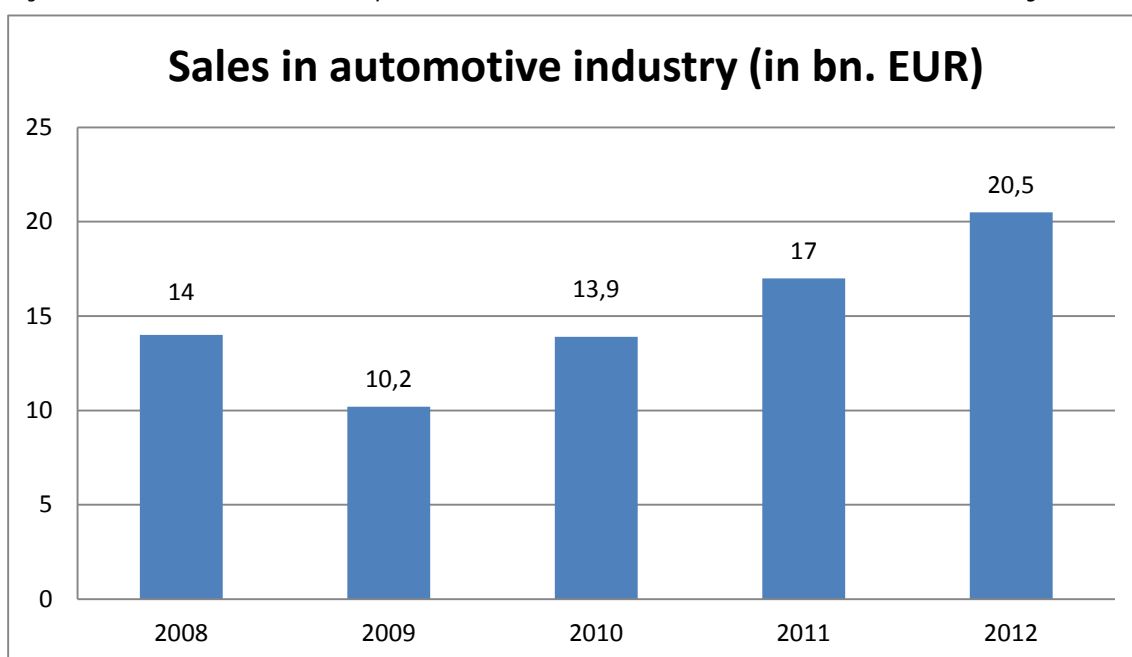
Source: Automotive Industry Association of the Slovak Republic (ZAP SR); The International Organization of Motor Vehicle Manufacturers (OICA)

The estimates of the Slovak carmakers for **2013** is the production of **930 000 cars**, which means further **increase of annual production by 0,4%** even after the immense rise in 2012. This is a good sign for the Slovak economy.

Volkswagen has “positive expectations”<sup>1</sup> concerning its production volumes in 2013 after its factory in Bratislava doubled its production of cars to more than 400-thousand units and reached full capacity in the previous year. Its current production consists of SUVs (56%) and small town cars New Small Family (44%). Kia Slovakia plans to produce 300 000<sup>2</sup> and PSA around 230 000<sup>3</sup> vehicles. Achieving the results of 2012 also this year will further strengthen Slovakia’s position as automotive leader in per capita terms.

In comparison, car production data of neighbouring countries in 2012 were as follows: 1,171,774 Czech Republic; 215,440 Hungary; 540,000 Poland; 123,602 Austria and 69,687 Ukraine. The overall number of cars produced globally was 63,074,662 in 2012.<sup>4</sup>

The automotive industry is the key industry and driving force behind the development of the Slovak economy. Its sales of Eur 20,5 bn represented **30,6 % of the total sales in the industry** in 2012.



Source: ZAP SR, Statistical Office of the Slovak Republic

The sector also **contributes significantly to the total exports** of Slovakia in the amount of **26%** (16,3 bn EUR). All three established automotive producers are listed among the most important exporters.

The number of employees working in the automotive sector, directly or indirectly, was about **72 thousand** in 2011, which represents approximately 14% share of the total employment in Slovak industry. 2012 expectation was an increase to 74 thousand employees. In comparison, in 2002 there were 50 000 employees working in the automotive industry and in 1993 there were only 22 000 employees.

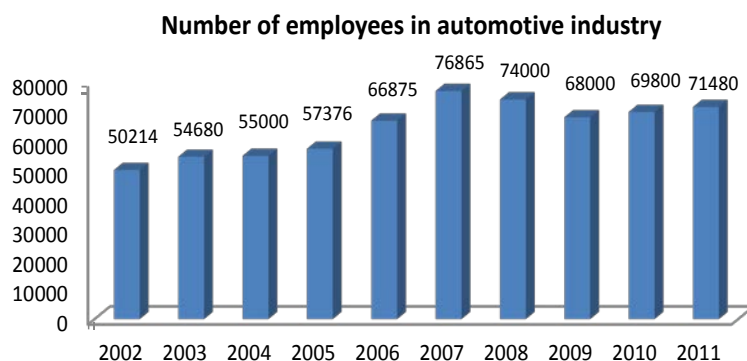
<sup>1</sup> <http://ekonomika.sme.sk/c/6741739/bratislavsky-volkswagen-vlani-zdvojnasil-vyrobu.html>

<sup>2</sup> <http://www.webnoviny.sk/automagazin/kia-ocakava-ze-tento-rok-vyrobi-rek/704246-clanok.html>

<sup>3</sup> <http://www.teraz.sk/ekonomika/peugeot-pozastavenie-vyroba-dopyt/58596-clanok.html>

<sup>4</sup> Source: OICA

□



Source: ZAP SR



### PSA Peugeot Citroën Slovakia

Established in: 2003

Production capacity: 300,000 vehicles /year

Production 2012: 215 000 vehicles (2011: 178 000 vehicles)

Sales 2012: € 1.94 bn

Exports as percentage of sales in 2012: 99%

Models: Peugeot 208, Citroen C3 Picasso

Number of employees 2012: 3,500

Plant of the PSA group is located in Trnava.

### Kia Motors Slovakia

Established in: 2004 – first production plant of KIA vehicles in Europe

Production capacity: 300,000 vehicles/year

Production 2012: 292 050 vehicles (2011: 252 250 vehicles)

Sales 2012: € 3.92 bn

Exports as percentage of sales in 2012: 99%

Models: Kia Sportage, Kia Venga, Kia cee´d

Number of employees 2012: 3,739

KIA plant is situated in Teplice nad Váhom near Žilina together with motor production.

### Volkswagen Slovakia

Established in: 1992

Production capacity: 400,000 vehicles /year

Production 2012: 419 888 vehicles (2011: 210 441 vehicles)

Sales 2012: € 6.59 bn

Exports as percentage of sales in 2012: 99%

Models: Volkswagen Touareg and Hybrid version, AUDI Q7 and Porsche Cayenne body-in-white, Volkswagen up!, ŠKODA Citigo, SEAT Mii

Number of employees 2012: 9,400

Volkswagen Slovakia plants are situated in the following localities: Bratislava (assembly plant), Martin (components production plant) and Košice (preparation of VW vehicles for the Russian market).

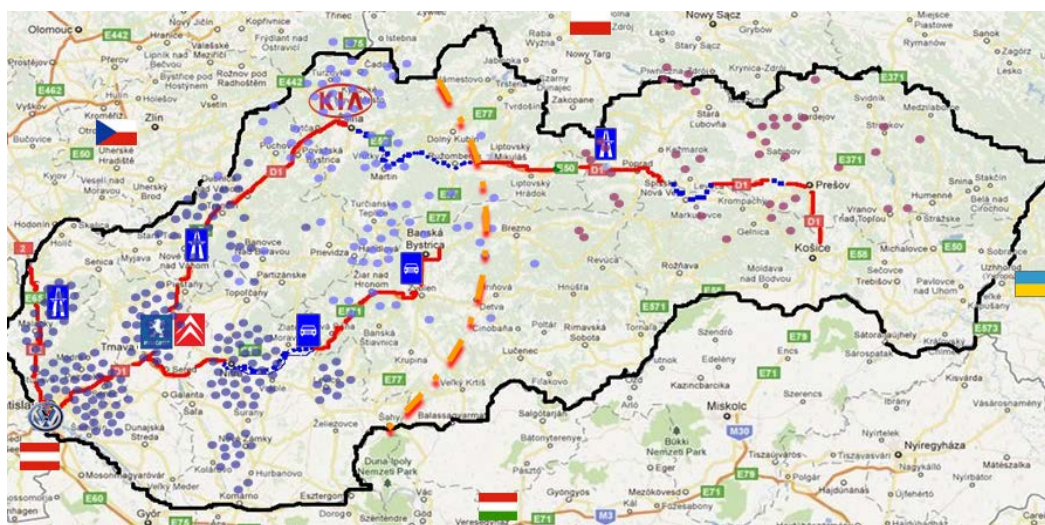


## Automotive suppliers in Slovakia

Not only the three established automotive companies make the core of the Slovak automotive industry but also a **high-quality supply chain companies**, which operate close to the automotive plants. Supply chains represented by a wide range of suppliers Tier-1-3 also supply products to plants abroad.

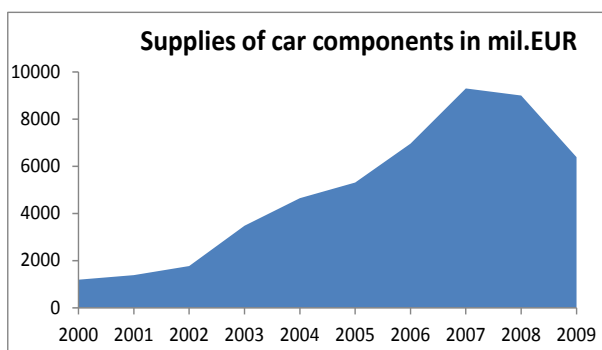
The combination of three different cultures of car producers operating in Slovakia, the proximity of other automotive plants in Central Europe and three different main groups of suppliers have created a stable structure. The various types of suppliers are not divided only according to the level (Tier-1, Tier-2, Tier-3) but also according to functionality and specialization (e.g. technology suppliers, engineering and construction services suppliers, systemic suppliers with own R&D, cluster initiative etc.).

Currently, **274 production plants supplying automotive industry** operate in Slovakia, of which 202 are located in the western part of the country, especially along the highway D1 from Bratislava to Žilina and highway R1 from Trnava to Banská Bystrica.

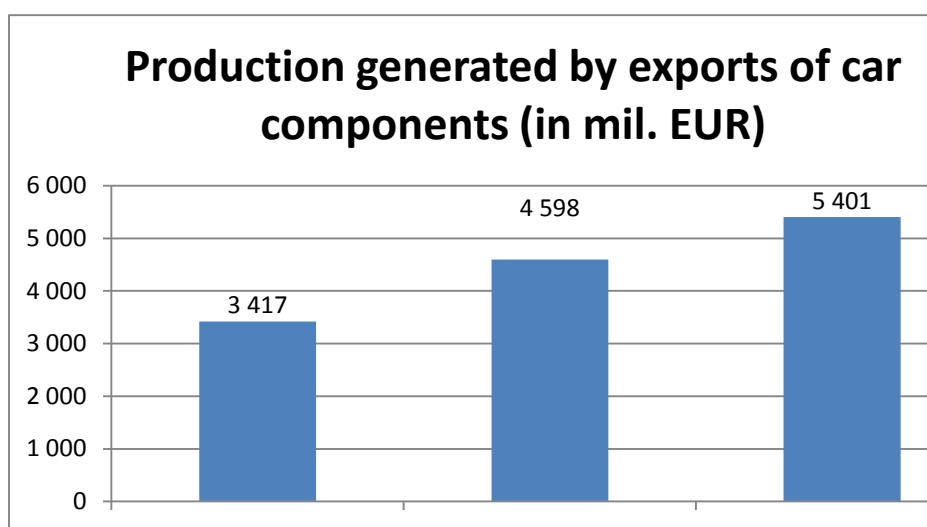


Source: Automotive industry association of the Slovak Republic (AIA SR), 2011

Suppliers were increasing amounts of production from 2002 until 2009 when the economic crisis led to cuts in the production volumes.



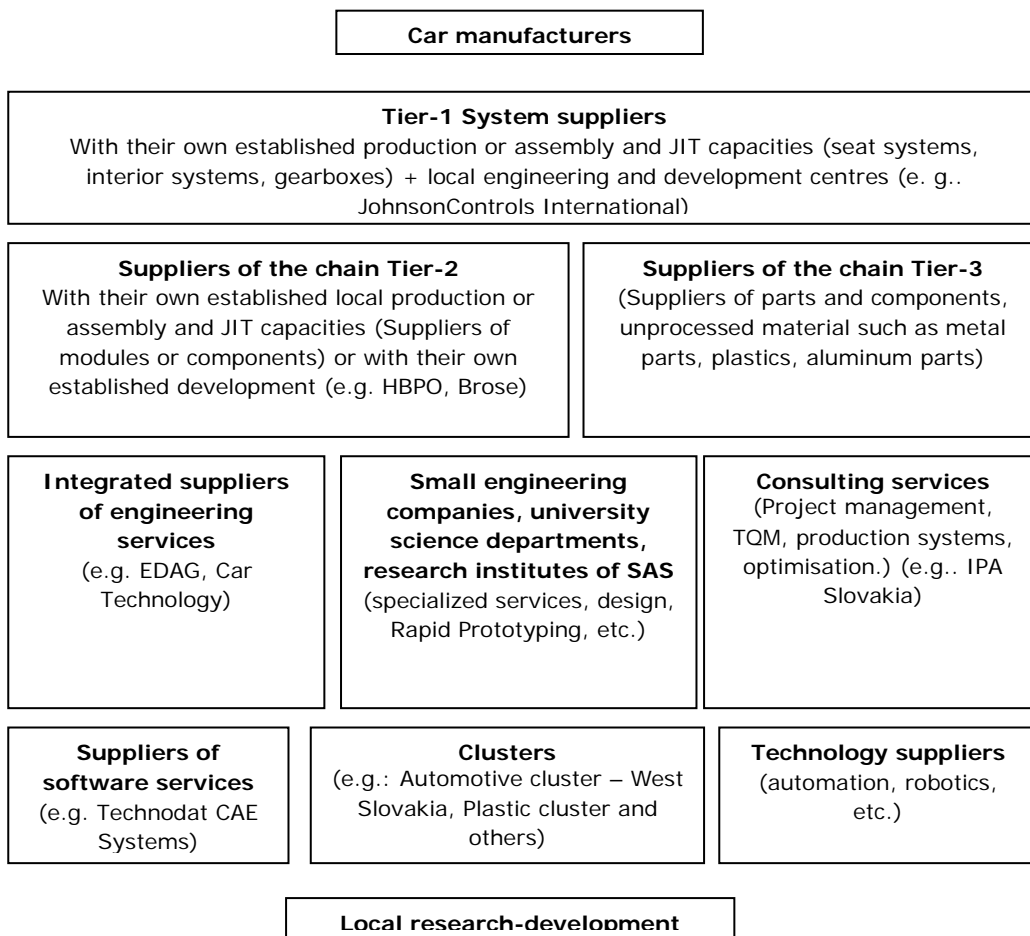
Source: Automotive industry association of the Slovak Republic (ZAP SR), 2010

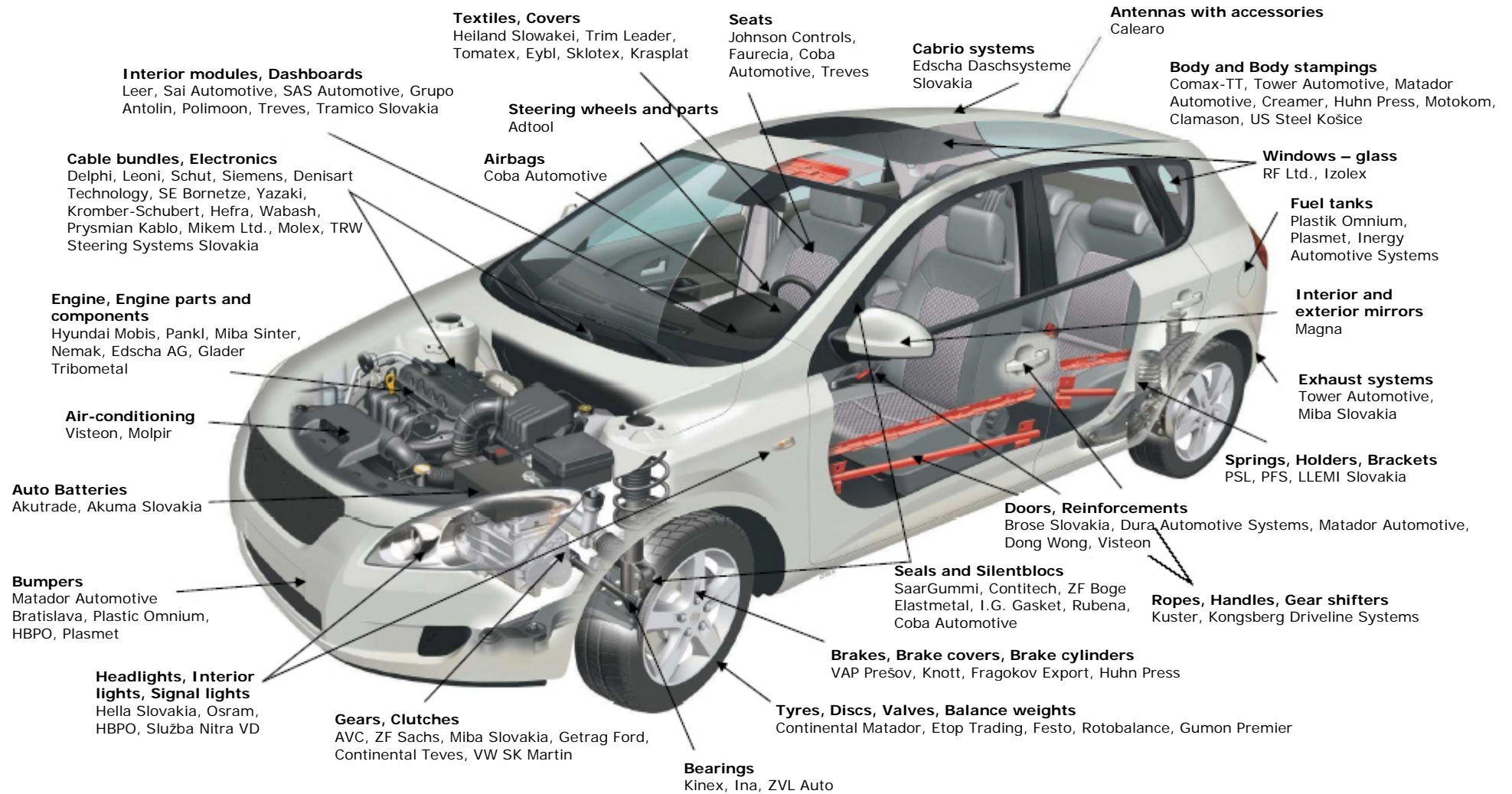


Source: Automotive industry association (ZAP SR), 2013

The supply sector thanks to foreign investors is building up a modern visage with the elements of the latest technologies in production, new culture, networks, development of innovative activities etc.. Among the key suppliers in the supply sector are listed **Continental, Johnson Controls, INA, Mobis, Magneti Marelli, Getrag Ford, Valeo, ZF SACHS, ArvinMeritor, Visteon, Faurecia, Lear** and many others.

# Structure of the supply network in Slovakia







## The most important companies in the Slovak automotive industry per sales (2012)

Company	Locality	Sales (in thousands Euro)		Change (in %)	Export share in sales (in %)	Average number of employees
		2012	2011			
Volkswagen Slovakia, a.s.	Bratislava	6 587 443	5 192 936	26,9	99,7	9400
Kia Motors Slovakia, s.r.o.	Žilina	3 919 126	3 328 383	17,7	98,7	3800
PSA Slovakia, s.r.o.	Trnava	1 936 214	1 642 432	17,9	95	3000
Mobis Slovakia, s.r.o.,	Gbeľany	951 931	788 270	20,8	12	1658
Johnson Controls International, s.r.o.	Bratislava	640 384	483 417	32,5	36	3023
SAS Automotive, s.r.o.	Bratislava	576 742	419 835	37,4	1	504
Faurecia Slovakia, s.r.o.	Bratislava	441 547	296 077	49,1	20	1800
INA Kysuce, a.s.	K.N.Mesto	395 740	374 562	5,7	96,6	3800
INA Skalica, s.r.o.	Skalica	374 154	341 425	9,6	98,5	4150
Getrag Ford Transmissions Slovakia, s.r.o.	Kechnec	316 775	360 473	-12,1	0	950
Halla Visteon Slovakia, s.r.o.	Ilava	258 903	200 882	28,9	48,2	497

Source: Trend TOP v priemysle, September 2013; ETREND; Slovak Information and Marketing Company;

## Companies with highest investment in the Slovak automotive industry (2012)

Company	Locality	Investments (in thousands Euro)	
		2012	2011
Volkswagen Slovakia, a.s.	Bratislava	354 535	225 542
Kia Motors Slovakia, s.r.o.	Žilina	120 959	199 836
Continental Matador Rubber, s.r.o.	Púchov	72 199	103 534
INA Kysuce, a.s.	K.N.Mesto	57 247	45 581
INA Skalica, a.s.	Skalica	52 257	36 214
PCA Slovakia, s.r.o	Trnava	37 146	81 437

Source: Trend Špeciál Top 200, June 2013

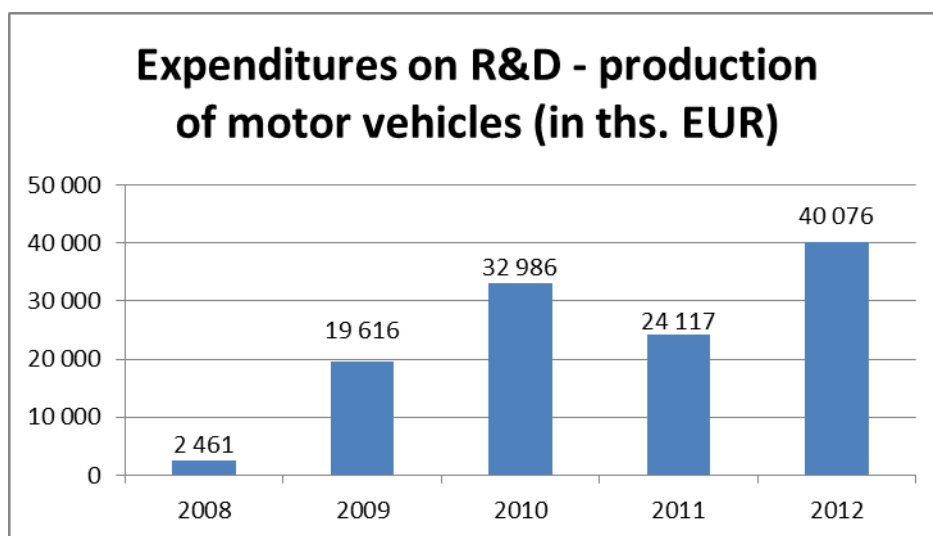
## Salary overview in the Slovak automotive industry (2013)

Post	Average gross salary (EUR)	Post	Average gross salary (EUR)
Auto-electrician	1,114	Operator of machines and devices	894
Auto-tinsmith	1,661	Repairer	931
Auto-mechanic	779*	Tyre service worker	763*
Electro-mechanic	1,373	Receiving technician	902*
Maintenance engineer	1,765	Procedural engineer	1,374
Constructor	1,520	Technologist	1,432
Quality supervisor	1,316	Maintenance man	937
Painter	1,485	Service manager	2,486
Mechanic	880		

Source: Trexima Bratislava, average brutto salaries per month in the automotive industry (January-June 2013); \* - information wages in automotive industry are missing; general wages of the respective occupation in Slovakia were used

## R&D in the Slovak automotive industry

Some of the companies in the industry enlarge their activities also in research and development, which is a great contribution to automotive companies, but to suppliers as well, since they can react more flexibly to customers' demands. Another advantage of established automotive R&D in plants is the support of production and assembly processes, their optimisation, and development of new technologies and products. Continually developing **co-operation with Slovak universities and research centres** is also of great significance. The support of innovation is becoming of key importance in Slovakia, not only in the field of the automotive industry, but also for other sectors of industry such as electrical engineering, ICT, chemical industry, etc.



Source: Statistical Office of the Slovak Republic

## E-Mobility in Slovakia

Among the important activities of modern automotive industry development can be listed not only the construction of the latest automotive plants with the latest technologies, but also the first initiatives in the development of **e-Mobility in Slovakia**. Building an electrical infrastructure for electric cars in Slovakia was initiated by Východoslovenská energetika, member of the RWE group, and Západoslovenská energetika, member of the E.On group. Research and development activities in the field of electric vehicles took place at following Slovak universities: The Technical University in Košice, The Slovak University of Technology in Bratislava and University of Žilina.



E-mobility development is at its beginning in Slovakia. Infrastructure for electric cars is secured by Východoslovenská energetika, a member of the RWE group, and Západoslovenská energetika, a member of the E.On group. In Slovakia, first charging stations are in Košice and Bratislava. Activities have been recorded not only in infrastructure building but also in the field of research and development - mainly at universities.

### Projects in the field of e-mobility implemented up to this time:



The Slovak University of Technology in Bratislava: co-operation of two faculties and Západoslovenská energetika, member of E.On group, project: Student Electric Formula

The Slovak University of Technology in Bratislava – design and development of special hybrid vehicles



The Technical University in Košice, Faculty of Engineering – Students Project ICAR 2010 – design prototype studies of a vehicle

The Technical University in Košice, Faculty of Electrotechnics and Informatics – participation in a competition of student electric cars 3. Bosch Electromobile Race in Hungary



University of Žilina – project Edison – electric car



Secondary vocational automotive school in Košice – project: Student Electric Vehicle

### Activities of established automotive plants:



Volkswagen Slovakia produces Volkswagen Touareg Hybrid in Slovakia. Moreover, a decision of Volkswagen AG headquarters on the location of production of electric car models Up! and Space Up! was made in 2011.



PSA Peugeot Citroën began with sale of electric cars in 2010 in Slovakia: Peugeot iOn and Citroën C-Zero.

### Activities in the field of projects:



Association Automotive Cluster–West Slovakia deals with the AUTOCLUSTERS; activities focus on networking, support of the cooperation of automobile organisations in Europe, strategy-making and policies.



Company E.On launched the project “VIBRATE” with objective to build electric stations between Vienna and Bratislava and to implement standardized infrastructure of charging stations between these two cities.

## Co-operation with educational institutions

Slovak secondary vocational schools and universities have wide-ranging co-operation with automobile companies. This co-operation has been realized by establishing new educational centers, laboratories and preparation of educational study courses that shall simulate real manufacturing conditions.

### Education in automobile specialisation at universities

**The Slovak University of Technology in Bratislava** ([www.stuba.sk](http://www.stuba.sk))

Faculty of Mechanical Engineering:

Study programs: Automobiles, Ships, and Combustion Engines; Mechatronics; Process Engineering; Mechanical Engineering Production and Quality Management; Applied Mechanics; Automation and Informatics of Machines and Processes; Automated Production Systems...

Faculty of Electrical Engineering and Information technology:

Study program: Automobile Electronics

Faculty of Architecture:

Study program: Products Design; Interior Design

**Academy of Fine Arts and Design in Bratislava** ([www.vsvu.sk](http://www.vsvu.sk))

Study program: Industrial Design

**The Technical University of Košice** ([www.tuke.sk](http://www.tuke.sk))

Faculty of Mechanical Engineering:

Study program: Automotive Production

Faculty of Electrical Engineering and Informatics:

Study programs: Electronics; Informational and Managing Systems in Mechatronics; Automotive Electronics; Automotive Mechatronics

Faculty of Arts:

Study program: Design

**University of Alexander Dubček of Trenčín in Trenčín** ([www.tnuni.sk](http://www.tnuni.sk))

Faculty of Mechatronics:

Study program: Mechatronics of road vehicles

**University of Žilina in Žilina** ([www.uniza.sk](http://www.uniza.sk))

Faculty of Operation and Economics of Transport and Communications:

Study programs: Road Transport; Railway Transport; Air Transport; Professional pilot; Transport Engineering

Faculty of Mechanical Engineering:

Study programs: Transport devices; Vehicles and Engines

## Education in automotive specialisation on secondary vocational schools

### Pilot centres

Pilot centre is an existing school, in which the proficiency of educational activities is guaranteed by ZAP SR (Automotive Industry Association of the Slovak Republic) and the professional growth of lectors by State Institute of Professional Education and Lecturer centres.

### Objectives of the project Pilot centre

- increase in preparation quality of new graduates, requalification of recorded unemployed, lifelong education of pedagogues, lifelong education of technologists from practice,
- establishment of the centre for professional lifelong education,
- promotion of education according to the existing needs of the work market,

### List of pilot centres:

Name of the centre	School
Pilot centre Bratislava	SOU strojárské (Machinery Apprentice School), J. Jonáša 5, Bratislava
Pilot centre Senec	ZSŠ Senec (Integrated High School Senec), Kysucká 14, Senec
Pilot centre Trnava	SOU strojárské (Machinery Apprentice School), Coburgova 39, Trnava
Satellite pilot centre Galanta	ZSŠ obchodu a služieb (Integrated High School for Transportation and Services), Z. Kodálya 765, Galanta
Pilot centre Nové Zámky	ZSŠ dopravy a služieb (Integrated High School for Transportation and Services), Jesenského 1, Nové Zámky
Satellite pilot centre Nitra	SPV Nitra (Apprentice School – Centre of Practical Education Nitra), Ďurčanského 2, Nitra
Satellite pilot centre Zlaté Moravce	ZSŠ Zlaté Moravce (Integrated High School Zlaté Moravce), SNP 2, Zlaté Moravce
Pilot centre Trenčín	SOU J. Ribaya (Apprentice School J. Ribaya), Partizánska cesta 76, Bánovce nad Bebravou
Pilot centre Banská Bystrica	SSŠ Banská Bystrica (Vocational Integrated School Banská Bystrica), Školská 7, Banská Bystrica

Satellite pilot centre Lučenec	ZŠŠ služieb (Integrated High School for Services), Zvolenská cesta 83, Lučenec
Pilot centre Martin	ZŠŠ dopravná (Transportation Integrated High School), Zelená 2, Martin-Priekopa
Pilot centre Prešov	SOU dopravné (Transportation Apprentice School), Konštantínova 2, Prešov
Pilot centre Košice	SOU dopravné (Transportation Apprentice School), Moldavská cesta 2, Košice

## Development opportunities for Slovak automotive industry

### Opportunities for development

- Support and development of supply base of local companies with the aim to build up own research and development
- Support of education and development of the gifted in technical sciences
- Implementation of Lean principles
- Costs reduction, processes optimisation
- Development of innovative activities in plants
- Support of project networking, participating in research projects FP7
- Development of e-mobility strategy
- Cluster initiative development

### Main development trends in Slovak automotive industry

- Employment growth
- State of the art production technologies
- Combination of various types of production systems (Production System PSA, KIA WAY, VW Production System, other production systems of supply enterprises)
- Regional development
- Educational development
- Support of research and development; establishment of R&D centres and laboratories
- Impact on local suppliers
- Development of project networking
- Entrenchment of cluster and network initiative

## Useful links

Automotive Industry Association of the Slovak Republic – [www.zapsr.sk](http://www.zapsr.sk)

Internet Portal for Slovak Automotive Suppliers – [www.ipdap.sk](http://www.ipdap.sk)

Automotive Cluster – Western Slovakia - [www.autoklaster.sk](http://www.autoklaster.sk)

The International Organization of Motor Vehicle Manufacturers – [www.oica.net](http://www.oica.net)

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