



CBI Product Factsheet: Suspension Systems for passenger vehicles in EU5

'Practical market insights for your product'

Germany is the largest and most receptive market to suspension system and parts imports from the Developing Countries (DCs), followed by the UK and France. The largest market growth has been seen in Germany, the UK and Spain. In the future, it is expected that advanced suspension systems, such as air and acoustic suspension systems, will drive growth in the market and it may become the most opportune sector for suspension system manufacturers.

Product definition

Suspension systems and their parts are grouped under "Suspension systems and Parts thereof, including shock absorbers" (HS codes 87088010, 87088020, 87088035, 87088090, 87088091 and 87088099). This Product Factsheet analyses the market for suspensions and their parts as used in the passenger vehicles for EU5 countries (i.e. the biggest EU economies: Germany, France, the UK, Italy and Spain).

Product specifications

Quality: Compliance with international standards and the European standards on safety is required, as well as conformity to existing EU and national legislation and practices. The ISO/TS 16949 standard is considered to be the highest level of quality. This standard is important for the European automotive industry as it outlines the best practices when designing, developing, manufacturing, installing or servicing automotive products.

The quality of materials used in the production suspension systems for European vehicles is very high in order to ensure their durability and safety, so the supplied parts have to be carefully produced and inspected, as defective parts may be returned.

Materials: Most modern suspension systems are made of steel. In recent times aluminium has been replacing steel in order to reduce the component weight of suspension systems.

Suspension system parts include mainly:

- Coil springs, air springs, torsion bars, shock absorbers, struts and anti-sway bars, front and rear suspensions.

Considerations for action

- For more information on requirements for exporting casting and forgings to the EU, please refer to the CBI Buyer Requirements database for more information on [Labels and Standards: Sustainability in Casting and Forging](#)

Packaging & Labelling: Suspension system parts are typically packaged in plastic bags and placed in cardboard boxes to protect them from being damaged. The packages would typically be labelled with a picture and description of the contents, including the technical parameters of parts and their specific part serial number.

In general, packaging is dependent on the buyer, either OEM or end-user consumer (aftermarket). For aftermarket applications, the packaging is typically one-way packaging, in which the packaging is discarded after a single use. Returnable packaging is the most often used by OEM suppliers, in order to reduce cost and improve efficiency of the packaging operations. Returnable packaging is not thrown away after use. The empty packaging is circulated by the OEM or a designated packaging operator. If you want to export to the EU, you must ensure that the packaging you use for your products meets all EU requirements. To reduce the harmful impact of packaging on the environment, the EU has specified legislation concerning the management of packaging and packaging waste.

Considerations for action

- For more information on requirements for packaging and packaging waste, please refer to the [European Commission](#).

Design: The weight, size and characteristics of suspension systems vary considerably according to the vehicle for which they have been developed and according to the type of suspension. There are different suspension system types including: 1) Double wishbone suspension: Independent suspension which uses two wishbone-shaped cars and is common for medium to large cars; 2) Multi-link: independent suspension using three or more lateral arms and one or more longitudinal arms. This type of suspension is most commonly found in racing and off-road vehicles; 3) Strut suspension: does not have an upper control arm and wheels are held in place by an upper strut mount; 4) Air suspension: mostly used in luxury and heavy duty vehicles, it is lighter and potentially more durable than other systems; and 5) Acoustic suspension: uses electromagnetic motors, power amplifiers, control algorithms and computation speed. Typically used in the luxury vehicles. Future generations of suspension systems will interact with chassis functions like ABS, ESP and brakes.

Figure 1: Suspension system parts



Source: Fotolia/Internet

Buyer Requirements

Legislative Requirements: The most important requirement for automotive components is that they comply with the technical standards set by EU legislation in order to guarantee vehicle and environmental safety.

Type-approval is a certification for various types of motor vehicles and their components, which includes agricultural and forestry tractors. The type-approval or certification is valid in all EU Member States and is required when selling any products in the EU. Many automotive components are not approved until the final assembly, in which case certification of individual components is not necessary, although these components will still have to comply with type-approval requirements.

The End of Life Vehicles (ELV) Directive aims to avoid environmental pollution during the scrapping process through reducing the hazardous materials used in vehicle production. Vehicles must be designed to facilitate proper dismantling and recycling (by coding the components) and the use of heavy metals such as lead, mercury, cadmium and hexavalent chromium is prohibited (with the exception of a few applications). □

Common buyer requirements: In addition to legislative approval, there are other common buyer requirements. While these are not obligatory in the legal sense, they are implemented by various competitors in the market and are thus necessary in order to compete effectively.

Quality Management: In order to apply for type-approval, production processes need to meet quality management criteria. ISO TS/16949 and ISO 9001 are accepted as standard requirements and EU buyers and manufacturers often insist on them.

Corporate social responsibility (CSR) and the extent to which buyers expect a certain level of social and environmental performance is becoming increasingly important. Bigger EU companies have developed their own CSR policies and require their suppliers (and their sub-suppliers) to conform to these. Signing a supplier code of conduct is often a prerequisite. These codes of conduct generally cover compliance with local laws, protection regarding workers' health and safety, respecting basic labour rights and also business ethics. The implementation of an environmental management system is often a requirement for core suppliers.

Considerations for action

- Check with your buyer, or with [the approval authority of the country you want to export to](#), what the specific standards are for the parts you are manufacturing.
- Read more about type approval at the [EU Export Helpdesk](#).

- Check if your buyer uses the International Material Data System (IMDS). This is a collective, computer-based data system developed by automotive OEMs to manage environmentally relevant aspects of the different parts used in vehicles. It has been adopted as the global standard for reporting on material content in the automotive industry.

Considerations for action

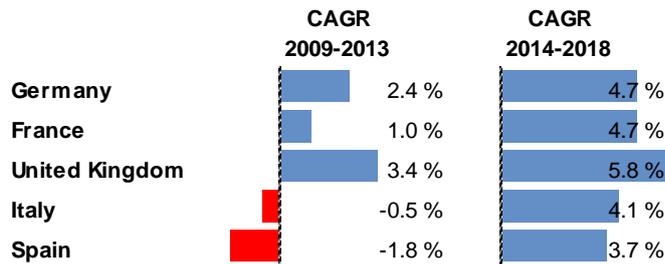
- Implement ISO 9001 and ISO TS/16949, as it is a standard requirement of EU buyers. Click [here](#) for more information on ISO TS/16949 at the ISO website

- Most big car brands publish their CSR policies and supplier code of conduct on their websites. An internet search for these may give valuable insight into assessing your company's performance by comparison.
- Implement an environmental management system, such as [ISO 14001](#), as it is a common requirement.

Macroeconomic statistics

The GDPs of the EU5 countries have on average grown by only 1.3% between 2009 and 2013. However, the IMF predicts considerable GDP growth in all of the EU5 countries between 2014 and 2018. The estimated UK GDP CAGR for 2014-2018 is an impressive 5.8%, followed by solid increases in all other EU5 countries. Italy and Spain, in particular, have gone from negative growth during 2009-2013 to close to 4% estimated growth for 2014-2018.

Figure 2: GDP Compound (current prices) Annual Growth Rate (CAGR) for 2009-2013 and 2014-2018 in EU5

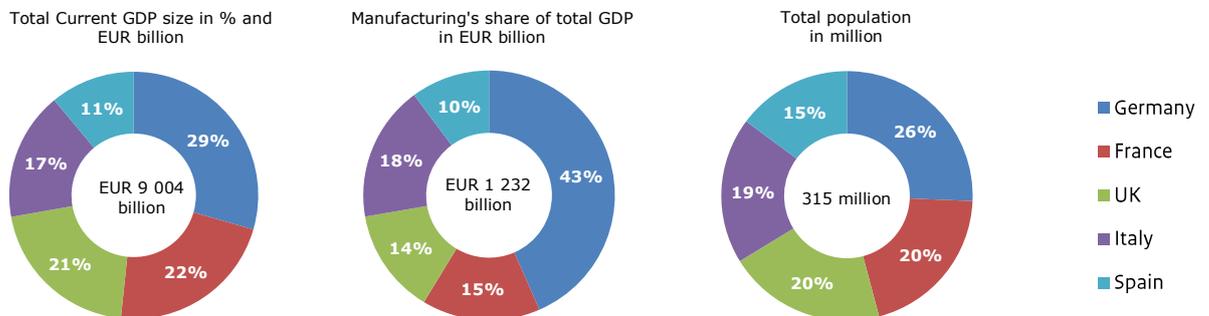


Data source: IMF 2014, World Economic Outlook Database

The total GDP value for the EU5 countries was estimated at more than €9 trillion in 2013. Germany is the largest market in the EU5 with a GDP of €2.65 trillion accounting for almost one third of the total GDP and with by far the strongest manufacturing base of all EU5 countries (€535 billion in 2013). Germany is followed by France and the UK, each of which represent roughly one fifth of the GDP value and 15% of the total manufacturing value for the five countries. With the 2013 GDP close to €1 trillion and the manufacturing value of €125 billion, Spain is the smallest of the five economies.

In 2013, the EU agricultural machinery market was estimated to be worth €24.8 billion – equivalent to 30% of global sales. The EU is also the biggest manufacturer of agricultural machinery, with sales of more than €26 billion in 2011. Although the European agricultural machinery industry is in a solid economic position, with high demand in many markets, over the short/medium term it is expected to stagnate.

Figure 3: Key 2013 macroeconomic indicators for EU5, in € billions (population in millions)



Data source: IMF and OECD 2014

Trade Statistics

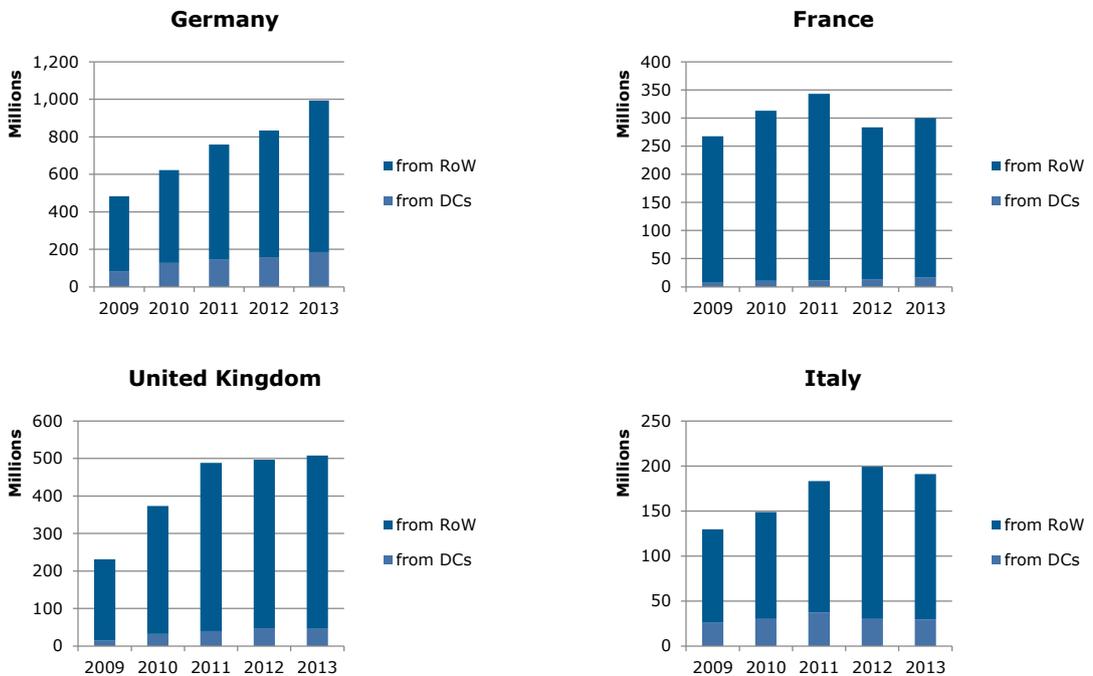
Imports and exports

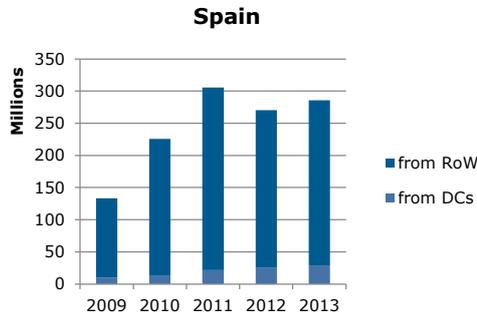
EU5 has imported roughly €2.3 billion worth of suspension system parts in 2013. Germany alone represents nearly 44% of the imports with an import value of €994 million in 2013. It is followed by the UK with €508 million and France with €300 million. The imported suspension system parts are mainly shipped from Western and Eastern Europe as well as from other developed countries such as Japan, the United States and Korea.

Imports of suspension system parts from DCs to EU5 represented almost €305 million (13% of total) in 2013 and have grown at a CAGR of 21% between 2009 and 2013. Germany and the UK combined, represent over 75% of DC suspension system imports with €185 million and €46 million, respectively.

The biggest DC exporters of suspension system parts to EU5 are Turkey (€121 million) and China (€104 million), together accounting for approximately 74% of suspension system imports from DCs to EU5. The suspension system imports from these two countries have more than doubled in the last five years. Based on current trends, the future outlook is that imports from the DCs will continue to grow at a faster rate than total imports, effectively increasing the share of DC exporters in the market. All EU5 nations, with the exception of Italy, have seen their share of DC imports grow within their total import portfolio, with the UK and Spain increasing at the highest rates.

Figure 4: Imports of suspension system parts in the EU5, € million (the range of the y-axes varies by country due to different import levels)

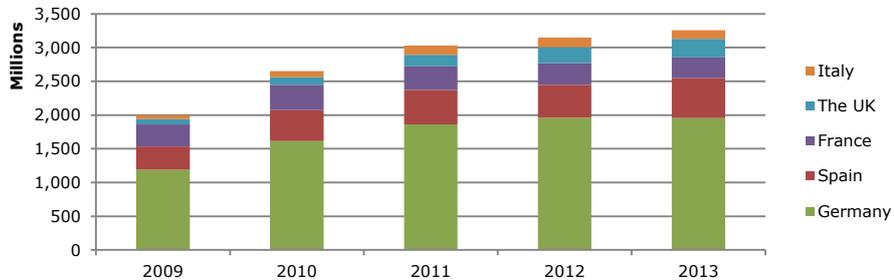




RoW: Rest of the world
 Data source: Eurostat 2014

EU5 is a net exporter of automotive suspension systems parts. In 2013, it exported close to €3.3 billion worth of these. Germany is by far the largest exporter of suspension system parts among the EU5 countries, with nearly €2 billion in exports (comprising a 60% share of all EU5 suspension system parts exports). It is followed by Spain with €590 million (18% share of the total). EU5 suspension system exports have been quite resistant against economic disruptions, growing with a 13% CAGR between 2009 and 2013. The export market is subject to developed country demand, as roughly 75% of the exports end up sold in Western and Eastern Europe and in countries like the United States and Russia. However, it must be noted that the exports to DCs have nearly doubled, between 2009 and 2013, growing from €347 million to €659 million. China, Turkey, Mexico and Argentina are the largest importers and together account for €441 million or 67% of DC exports.

Figure 5: Exports of suspension systems parts, in € million

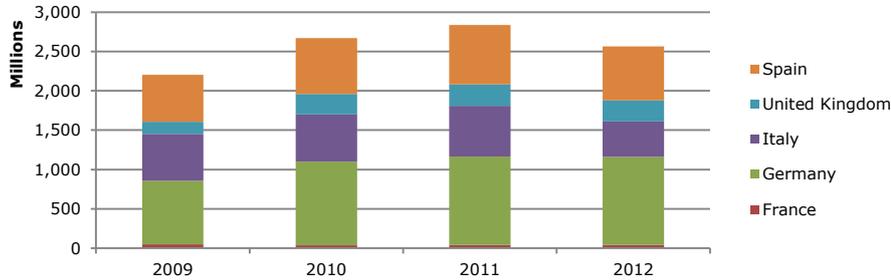


Data source: Eurostat 2014

Production and consumption

Total suspension system parts production in EU5 was estimated at €2.6 billion in 2012. Germany is the biggest producer with a 2012 production value of €1.1 billion, representing close to 44% of the total EU5 suspension system parts production. It is followed by Spain with €684 million and Italy with €452 million. These three countries represent nearly 88% of the total suspension system production in the region. The production has shown a strong 10% CAGR between 2009 and 2011, before dropping in 2012.

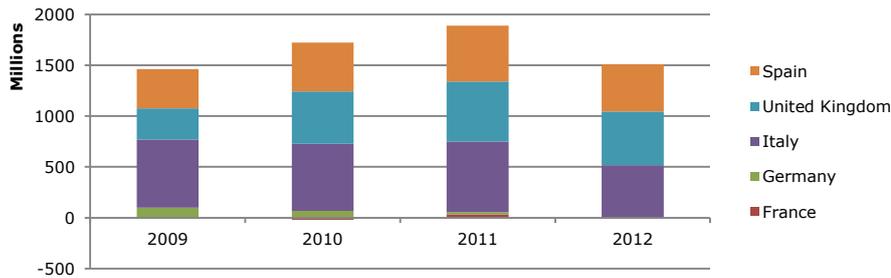
Figure 6: Apparent production of suspension system parts in the EU5, in € million



Data source: Eurostat (Prodcop) 2014

The apparent level of consumption of suspension parts has grown sharply from €1.5 billion to €1.9 billion (up 30%) between 2009 and 2011, before dropping back to its 2009 level in 2012. The United Kingdom, Italy and Spain represent almost 100% of the total EU5 consumption.

Figure 7: Apparent consumption* of suspension systems parts in the EU5, in € million



*Apparent Consumption = Production + Imports - Exports

Data source: Eurostat (Prodcop) 2014

For more information on automotive trade statistics, please refer to [CBI Market Trade Statistics](#)

Market trends and opportunities

Although the European automotive market is expected to stagnate over the short/medium term, there are still opportunities to be explored by the DC exporters in the OEM market as well as in the aftermarket sector (including new spare parts and overhauled components). The greatest opportunities in this market lie in shocks, struts, ball joints and springs, as well as metal/rubber bonded parts. For unsprung masses such as knuckles and control arms, lightweighting presents additional advantages. The easiest way to market these components would be to approach the local automotive parts wholesalers or the OEMs and/or component/systems suppliers with a subcontracting offer. Contact can be made at trade fairs, which generally are a good place to make connections with the OEMs and parts and components suppliers.

Germany is the biggest European market for suspension systems and parts with estimated imports of €994 million in 2013, more than twice as much as in 2009. With an average compound growth of 20% per year and the share of imports originating from the DCs standing at almost 19%, Germany is an excellent market for DC suspension systems and parts exporters.

The UK and France are the second and the third largest EU5 markets for suspension systems and parts, with 2013 imports of €508 million and €300 million respectively.

While the UK has been experiencing an average compound growth of almost 22% over the past five years, French imports have remained largely unchanged, growing at a modest 3% per year. Both countries have the lowest share of DC suspension system imports in the EU5, with 6% for France and 9% for the UK (up from 3% and 6% in 2009). Since 2009, however, the import rates of both nations have been rapidly increasing – 19% for France and 34% for the UK annually.

For more information on automotive market trends, please refer to [CBI Market Trends](#)

Price

Apart from the distribution of new parts, the aftermarket for automotive parts also encompasses a lively distribution of used or overhauled parts and components. Pricing depends on the supply chain positioning. The aftermarket, in particular, is very discount-driven and has varied mark-ups at each distribution step, and for different parts and components. Due to large variation in types and models of parts, it is difficult to provide a general overview of suspension systems prices, but it is possible to provide some insight into margins imposed by different players in the supply chain. Based on the margin ranges, DC suppliers selling to the tier 3 supplier in the OEM supply chain could price their products at between 64% and 81% of the OEM delivery price. In order to better ascertain prices of specific products and models, you can search the internet to determine the appropriate range, or talk directly to wholesalers and/or retailers. The differences in price of branded spare parts will not be great among the various countries. Those players who are present in several European countries have largely harmonised their prices; any differences in pricing may occur because of different logistics and local costs. In the Original Equipment segment, the price is set by 4+ year contracts, which usually include a 3-5% price reduction each year after the first year. In the aftermarket, the prices are negotiated every year.

| OEM supply chain | Margin |
|---|--------|
| Tier 1 supplier delivering to OEM | 6-8% |
| Tier 2 supplier delivering to tier 1 | 6-15% |
| Tier 3 supplier delivering to tier 2 | 10-25% |
| Aftermarket OES supply chain | Margin |
| Tier 1 delivering to OEM for OES sales through approved service chain | 10-30% |
| Tier 1 delivering to OEM for OES sales through independent outlets | 10-25% |
| OEM delivering OES parts through its approved service chain | 25-65% |
| OEM delivering OES parts through independent outlets | 30-40% |

Main sources

- [European Commission’s macroeconomic publications](#)
- [IMF](#) – good source for macroeconomic information
- [OECD](#) – good source for macroeconomic and industry-specific information
- [European Commission’s Directives and Regulations pertaining to motor vehicles, their trailers, systems and components](#)
- [CLEPA](#) - European association of automotive suppliers
- [ACEA](#) - European automobile manufacturers association
- [Ernst & Young’s Automotive information](#) - Automotive information – good source on automotive information
- [Ernst & Young’s European Automotive Survey 2013](#) – interviews mostly automotive suppliers
- [Inovev](#) - Worldwide automotive knowledge platform that offers free-of-charge and fee-based content
- Trade fairs are a good place to network, to meet buyers and to promote your company. The most prominent agricultural machinery trade fairs in Western Europe are: [Hannover Messe](#) - World’s leading trade fair for industrial technology taking place in Germany; [Internationale Automobil-Ausstellung](#) (every year) – German automotive trade fair; [Barcelona Motor Show](#) (once every two years) – Spanish automotive trade fair; [British International Motor](#)

[Show](#) (organized by SMMT once every two years); [Paris Motor Show](#) (once every two years) – French automotive trade fair and [Bologna Motor Show](#) (every year) – Italian automotive trade fair.

This survey was compiled for CBI by Global Intelligence Alliance

Disclaimer CBI market information tools: <http://www.cbi.eu/disclaimer>