

# Exporting vehicle brakes and brake parts to the European market

Brakes and brake parts for tractors, motor cars and other motor vehicles are – and will likely continue to be – a growing market in Europe. Every year, Europe imports more brakes and brake parts from developing countries, creating an opportunity for the export of good-quality and competitively priced products. There are opportunities both in the Original Equipment Manufacturers (OEM) market and in the aftermarket, where parts such as brake callipers, brake mountings, brake discs, brake drums, brake parts and brake shoes are in demand.

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## 1. Product description

Brake systems are grouped under “Brakes and brake linings” (Harmonised System (HS) codes 87083010; 87083091; 87083099). This Product Fact sheet analyses the market for brake callipers, brake mountings, brake discs, brake drums, brake parts and brake shoes in the European Union. For more information on these HS codes, we refer to the [integrated Tariff of the European Union](#) (TARIC). In this report, we focus on the use of brakes and brake lines for vehicles such as tractors (agricultural), vehicles for the transport of persons, vehicles for the transport of goods and special-purpose vehicles.

## Materials and components

Braking systems consist of the following materials:

- brake pads: organic fibres, ceramic compounds, copper fibres, cellulose, glass and steel;
- brake disks: cast iron, grey iron, ceramics and carbon fibre;
- brake callipers: aluminium or steel.

### Tip:

Make a detailed offer that pays attention to all specifications of the buyer. In most cases, the buyer will provide a document with very detailed specifications: quality, materials, deviations, quantity, delivery date, and so on.

## Geographic scope

The geographic scope of this study is the European Union. Based on the total import values and the import values from developing countries, there is a focus on a selected group of countries: Germany, the United Kingdom, Italy, Spain, the Netherlands, Slovenia and Hungary. These countries are the larger importers of brakes and offer good opportunities to exporters from developing countries. The term “focus countries” refers to these seven selected countries, unless stated otherwise.

## 2. Which European markets offer opportunities for exporters of brakes?

On a global level, the market for brakes and brake parts has grown in recent years. The forecast is also positive; the global brake market is projected to grow at a Compound Annual Growth Rate (CAGR) of 4.7% from 2016 to 2021, partly due to the increasing number of vehicles. With a total export value of €23.0 billion in 2015, Europe is a net exporter of brakes and brake linings. This position makes the EU an excellent market for part or material suppliers from developing countries.

### Macroeconomic statistics

The Gross Domestic Product (GDP) growth factor is an important economic indicator, and therefore a predictor, of both the production of and the demand for brakes in vehicles. With a national GDP value of €3.0 trillion, Germany has the largest economy in the EU. The Czech Republic, Germany and Slovakia are the most industrious economies, as their manufacturing bases (the part of the GDP comprised by the manufacturing of goods) amount to between 21% and 27%. The manufacturing bases of the other focus countries range from 10% to 19%.

The automotive industry within the European Union is still recovering from the global crisis. From 2010, the market has been growing again and the expectations for the coming years are positive.

### Import

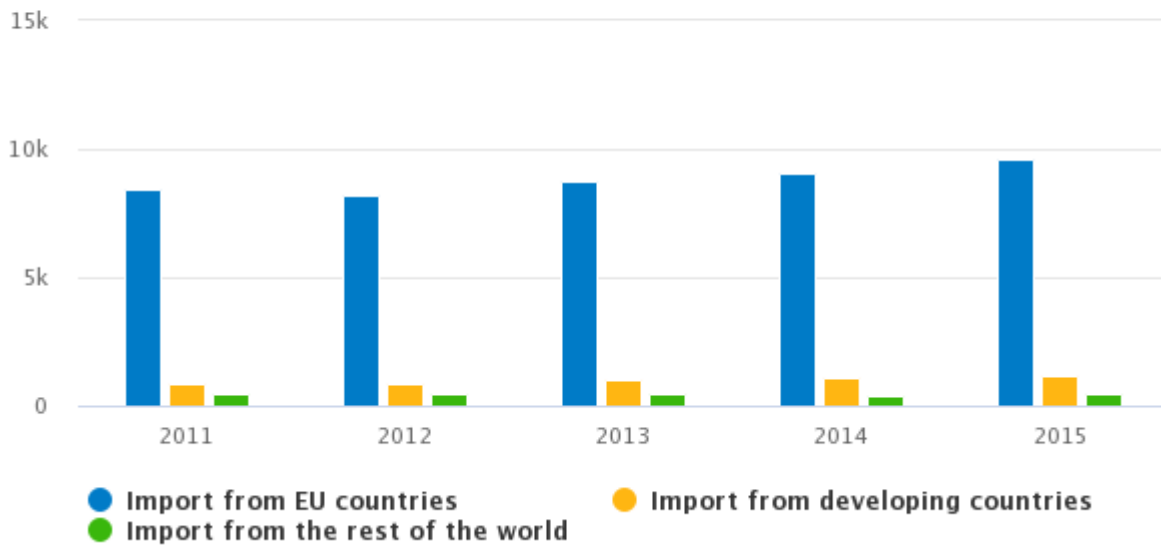
In 2015, the total value of brakes and their parts imported to the EU was €11.3 billion. The import of brakes and their parts has increased at a CAGR of 3.7% since 2011. This figure reflects a positive growth over the past four years.

### Import from developing countries

The share of the imports from developing countries was 10.6% of the total import in 2015. These imports have had a CAGR of 9.1% since 2011. There are several reasons for this growth. One reason is that some major producers of brakes have outsourced part of their production to developing countries, characterised by lower wages. Another reason is EU policy that stimulates trade with developing countries with the aim of putting trade at the service of inclusive growth and sustainable development. Examples of this stimulus policy [are trade agreements](#) with several developing countries.

Figure 1: Total imports of brakes to the EU by origin,  
2011-2015

in € million



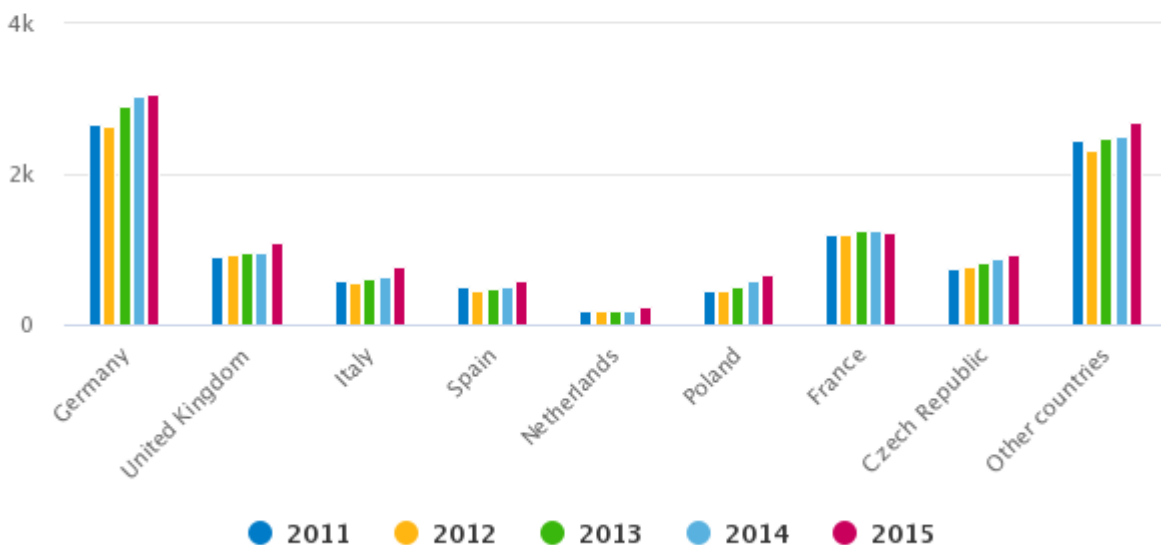
Source: Eurostat, 2017

### Import of the focus countries

Having one of the most important automotive industries in the world, Germany is the largest importer of brakes in the EU with imports valued at €3.1 billion in 2015. Germany is followed by France and the United Kingdom (€1.2 billion and €1.1 billion, respectively). These high import values can be partially explained by the presence of large manufacturers of brakes and brake parts such as [TRW](#) (recently acquired by ZF Friedrichshafen), [Continental](#) and [Brembo](#).

Figure 2: Total imports of brakes by EU focus countries,  
2011-2015

in € million



Source: Eurostat, 2017

The largest importers of brakes from developing countries in the EU are Germany (€299 million), the United

Kingdom (€223 million), Italy (€161 million), Spain (€83 million), the Netherlands (€83 million), Poland (€64 million), France (€45 million) and the Czech Republic (€40 million). Of these countries, the Netherlands and Spain had a CAGR of 30.8% and 22.2%, respectively - the highest growth in import value from developing countries. Despite a lower import value than Germany, the Netherlands and Spain therefore offer an interesting opportunity because of their increasing demand for brakes from developing countries. Other focus countries that have seen an increase in import from developing countries are Hungary (82.4% CAGR) and Slovenia (38.6%). In spite of their lower import value (€17 million and €23 million, respectively), these countries may offer interesting opportunities as well.

The United Kingdom and Italy are not only interesting because of their high import value but also because of the relatively high share devoted to developing countries (20.2% and 20.9% of the total import value, respectively). With a share of 35.7% import value from developing countries, the Netherlands offers the highest willingness to source from developing countries.

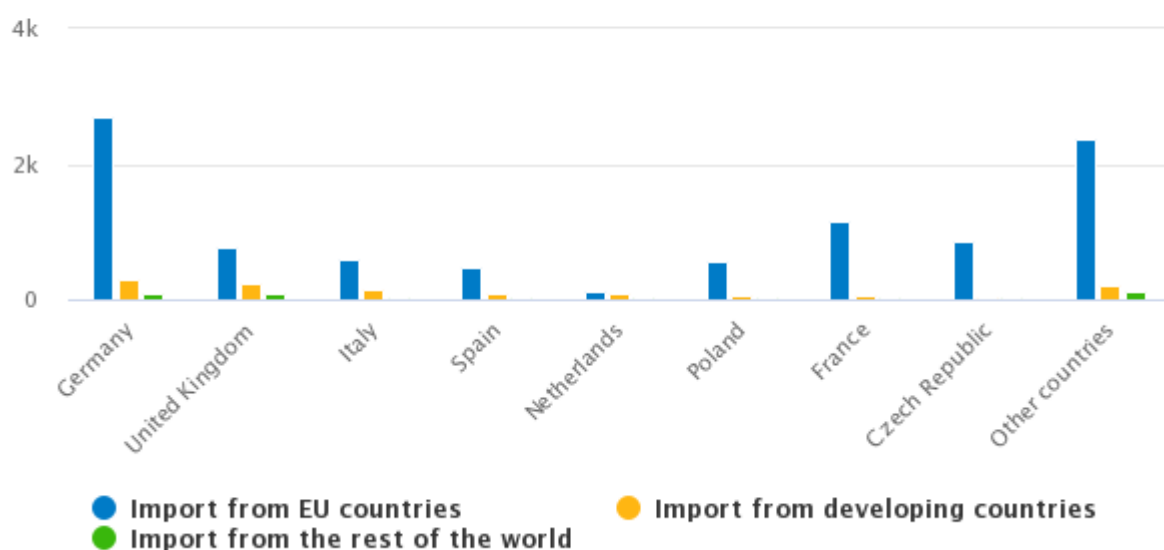
### Tips:

Focus your sales effort on Germany, the United Kingdom, Italy and/or the Netherlands. Where the German, British and Italian markets are the largest, the willingness of the Netherlands to source from developing countries is the highest (and still growing significantly year by year).

Monitor the development of Slovenia and Hungary as importers of brakes from developing countries. Although both countries have mid-sized import values, they have seen a tremendous increase in willingness to source from developing countries.

**Figure 3: Imports of brakes in EU focus countries by origin, 2015**

in € million



Source: Eurostat, 2017

### Tip:

Try to export your product to one of the focus countries. These countries are the biggest importers of

brakes from developing countries in the EU.

## Important suppliers of brakes

The export of vehicle brakes and their parts from developing countries is almost entirely dominated by China (€772 million in 2015). Other important suppliers are Turkey (€139 million) and India (€117 million). All these countries have relative low wages combined with a good infrastructure. Of these countries, China has seen the largest growth of its export to the EU (12.1% CAGR since 2011). India has seen an export growth of 4.1%.

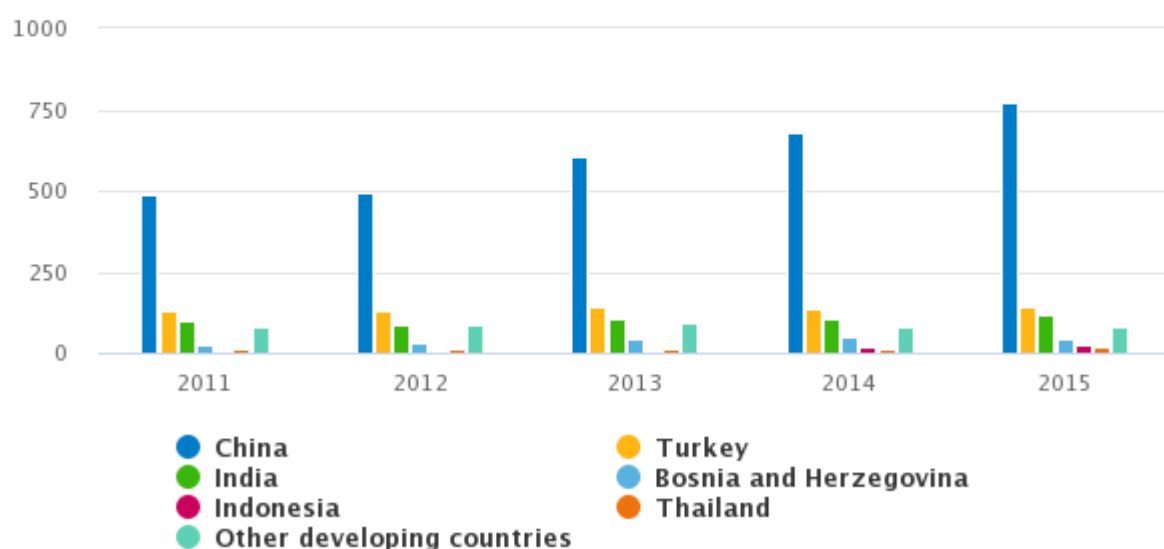
The export value of Turkey to the EU has been more or less steady. The high export value of brakes and brake parts from Turkey is partly explained by its traditionally large automotive industry, the presence of large automotive producers and their compliance to European standards and norms. It should be noted that there might be economic consequences due to the recent tensions between the EU and Turkey. Although there has not been a significant effect on trade up until the first quarter of 2017, the situation should nonetheless be watched closely.

Of the eight most important exporters of brakes from the list of developing countries, Indonesia has experienced the highest growth. The export of vehicle brakes and their parts from Indonesia grew at a CAGR of 42.1%, increasing from €5.9 million in 2011 to €24 million in 2015. The export growth of brakes and brake parts from Indonesia is in line with its growing automotive industry, which has expanded due to a lucrative market (low per capita car ownership, low labour costs and a rapidly expanding middle class).

With a CAGR of 16.9% from 2011 to 2015 and an export value of €44 million in 2015, Bosnia and Herzegovina is becoming more important as an exporter of brakes to the EU as well. In addition to its affordable labour force, it has a very good location, a long tradition in auto components export and high-quality products.

**Figure 4: EU imports of brakes from main supplying developing countries, 2011-2015**

in € million



Source: Eurostat, 2017

### **Tips:**

China, Turkey and India export a fair amount to the EU. Seek partnerships with these countries, given their status as a major trade hub for access to the European market.

The high value growth of exported brakes from both Indonesia and Bosnia and Herzegovina might offer an interesting opportunity as well. Explore the chances of a partnership with these countries.

Consider partnerships with Bosnia and Herzegovina and/or Turkey because of their strategic location.

## **Export**

In 2015, the total value of vehicle brakes exported by countries in the EU was €23.0 billion. As a result, the EU has a positive trade balance (exports minus imports) of €11.7 billion. The CAGR for exports of brakes since 2011 amounted to 2.9%. The majority of brakes and brake parts were exported within the EU (49.2%), whereas only 6.2% (€1.4 billion) was exported to developing countries. Of the brakes and brake parts exported to developing countries, more than half of the value was destined for China (€366 million), Turkey (€250 million) and Mexico (€129 million). Exports to developing countries have increased at a CAGR of 4.7% since 2011.

Within the EU, Germany is the largest exporter of brakes, with an export value of €6.3 billion. The countries that follow export significantly less: Italy (€3.0 billion), the Czech Republic (€2.8 billion), France (€2.0 billion) and Poland (€1.9 billion). Export from Ireland and Croatia grew the most between 2011 and 2015 at a CAGR of 63.2% and 60.7%, respectively.

### **Tips:**

Germany, Italy and the Czech Republic export a fair amount within the EU. Seek partnership with these countries, given their high export value and their inside knowledge of the European market.

Focus your production efforts on brakes and brake parts destined for the EU OEM market.

## **Production**

The total production value for brakes in the EU was around €10 billion in 2015. Production values have grown at a CAGR of 8.4% between 2011 and 2015.

The production levels of the European countries with the highest production values (of which the data are known) are given in the figure. Of these countries, Italy has the highest production value (€1.5 billion). It should be noted that the data for Germany are unknown. Having the largest economy and being the most industrial country of Europe, it is expected that Germany has the largest production level.

With regard to production in individual countries (of which the data are known), the production in the Czech Republic grew the most rapidly at a CAGR of 10.1% between 2011 and 2015.

### **Tip:**

Italy and – very likely – Germany are the largest producers of brake and brake parts in the EU. Combined with their relatively high willingness to source from developing countries, these countries provide business opportunities for suppliers of brake parts.

## Consumption

All focus countries, except for France and the United Kingdom, had a negative consumption in 2015. The negative consumption of brake and brake parts is partly explained by the stagnant European market for consumer vehicles (decreasing demand on EU end markets), combined with strict quality requirements (decreasing demand on EU OEM markets). A simultaneous trend that creates the excess supply in the EU is the growing demand for cars and automotive parts in emerging economies, which are characterised by a growing middle class.

### 3. Which trends offer opportunities on the European market for vehicle brakes?

From all vehicle components that are dedicated to passenger safety, brakes might be the most important. Although airbags and belts are of life-saving importance as well, one can drive without them, whereas driving without brakes is practically impossible. This means that the brake business, compared to other automotive parts, is relatively unaffected by several important changes in the automotive industry such as the introduction of electric and hybrid vehicles.

The trends affecting the growth of the market for brakes and brake parts are classified into two main categories: safety-driven trends and environment-driven trends.

#### Safety-driven trends

Since vehicle brakes are one of the most important (perhaps the most important) safety equipment in vehicles, safety-driven trends are of high importance to this market. These trends are not only stimulated by government regulations but are also initiated by the industry itself.

- Growth of the brake market is driven by governments mandating stricter safety regulations. The European Union is continuously seeking new methods and technologies that can ensure higher vehicle safety. An example is the [Pedestrian Protection Regulation](#) adopted in 2009. This regulation requires manufacturers to fit Brake Assist Systems into their vehicles. In November 2014, the EU made another big step in safety regulation by introducing the [General Safety Regulation](#). From 2015, the same regulation requires new trucks and buses to be equipped with advanced emergency braking systems.
- The rise of autonomous vehicles has resulted in the development of multiple methods of driver assistance; for example, automatic braking. These innovations, which require manufacturers of brakes and brake parts to comply with new technologies, should be monitored closely.
- There have also been product improvements to enhance vehicle safety, especially over the last decade. Examples are the acceptance of electronically assisted brake systems and technologies such as [anti-lock braking system \(ABS\)](#) and [regenerative braking](#).

#### Tips:

Read the [CBI study of trends in the automotive industry](#).

Always comply to EU regulations. Not complying weakens your export position significantly.

Anticipate new EU and/or country-specific regulations, as this gives a strong competitive advantage.

Gain another competitive advantage by initiating new safety technologies and try to innovate in this area.

Keep your production technologies up to date, since newly developed methods can improve productivity and quality.

## Environment-driven trends

As demonstrated by the Paris Climate Conference in December 2015, environmental issues are vitally important drivers of the world economy – and therefore of the automotive industry. In short, two major environment-driven trends can be distinguished: weight savings and the use of sustainable materials.

- Considering its unobtrusive presence with respect to weight and size in vehicles, brakes are not affected by the weight-saving trend as much as [axles](#) and [seats](#), for example. Nevertheless, this aspect should be mentioned in this report, because weight saving is one of the automotive industry's most important trends. Lightweight materials demand less energy and therefore reduce fuel consumption. This trend has been a key driver in the development of components constructed from lightweight materials such as aluminium for brake callipers and carbon fibre for brake disks.
- Another environmental issue has to do with the sustainability of the materials used. Gains are not only achieved by using more sustainable materials but also by introducing new technologies that reduce the use of chemicals.

### Tips:

Communicate your efforts in the area of sustainability to the outside world.

Use lightweight materials for the production of brakes and brake parts, as the growing demand for lightweight components is one of the EU's most important automotive trends.

Analyse the possibilities and financial or other effects of using sustainable products for your brakes and brake parts. Although this process may lead to higher costs, a higher demand is expected in this area.

## 4. Which requirements should brakes comply with to be allowed on the European market?

The quality, reliability and durability of brakes in Europe is very high, because the machines are used for extended periods of time on a day-to-day basis and do not always have extensive maintenance schedules. This situation means that the parts supplied to the market have to be carefully manufactured and inspected. Within this section, requirements on testing, coding, packaging and quality management systems are discussed.

### Tips:

Read our [study of buyer requirements](#) for additional information on legal and non-legal requirements.

For more information on the legal requirements of your product, go to the [EU Export Helpdesk](#).

## Test brakes by Whole Vehicle Type Approval

[Whole Vehicle Type Approval](#) (WVTA) is a certification for various types of motor vehicles and their components, which include agricultural and forestry tractors. The WVTA is valid in all EU Member States and is required when selling any products in the EU. Because many automotive components are not approved until the final assembly, certification of individual components is often not necessary, although these components will still



have to comply with type approval requirements.

Within the WVTa system (specifically in [Directive 2007/46/EC](#) under Annex I, Paragraph 8), different aspects of brakes are tested. The system enables the identification of several brake characteristics (such as drums or discs, the make and type of shoe/pad assemblies and/or linings, and so on). It also requires suppliers to deliver an operating diagram, description and/or drawing of a list of braking systems. The directive provides a clear overview of the required information specifications.

**Tip:**

Add every piece of information that is required to earn the WVTa. Consult the corresponding directive for the specifics.

## Code all components

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.

**Tip:**

Always code the components of the product that you are exporting.

## Adjust your packaging according to your buyer and European regulations

Brakes are typically packaged in boxes to protect them from being damaged. For brakes, there is no typical packaging material. Boxes can be made of cardboard, plastic, wood, steel, and so on. The industry has a preference for returnable packaging, since reusable packaging reduces the production of waste materials and is therefore better for the environment. In addition, packaging should always be labelled. The outer package should include the brand name and type number. This procedure is not only for the purposes of identification during transport but also to indicate the quantity, weight, the products themselves and the producer's name.

In order to export to the EU, note that product packaging must comply with EU standards and legislation. This situation means among other things that the maximum level of heavy metals used in packaging is restricted ([Directive 94/62/EC](#)).

**Tips:**

Identify the requirements and specifications of the product, the materials and packaging of the buyer.

For additional information on requirements for packaging and packaging waste, you are referred to the [European Commission](#). Additional requirements apply to [wood packaging](#).

## Implement quality management systems

In order to apply for type approval, production processes need to meet quality management criteria. 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. [ISO 9001](#) is a more general quality system. Both are accepted as standard requirements, and EU buyers and manufacturers often insist on them.

### Tips:

Implement [ISO 9001](#) or [ISO TS/16949](#), as these are a standard requirement of EU buyers.

Check with your buyer, or with [the notified body of the country to which you want to export](#), what the specific standards are for the parts that you are manufacturing.

## 5. What competition do I face in the European Union?

The global industry of brake and brake parts is dominated by a few large players. As a result of the exit of [Delphi](#) and the upcoming exit of [Bosch](#) as large players, the brake market is in the process of becoming even more dominated by fewer (but larger) manufacturers. The two major players left are [TRW](#) and [Continental](#). As a result of the exit of both Delphi and Bosch, other smaller players such as [Brembo](#) – and Japanese players including [Aisin Seiki](#) and [Akebono](#) – are gaining market share. These foreign suppliers export to Europe, but they also have factories in Europe. With a growing global and European market, many suppliers have been focusing on growth as well as on research and development.

For suppliers from developing countries, the dominance of a few large manufacturers means that buyer power is further increasing. Prices will probably drop. In addition, larger quantities are demanded from suppliers of brake manufacturers. Furthermore, integration of IT systems will become more important. In order to supply to these large players, it is important that suppliers are able to adjust to these market changes. Producing larger quantities can lead to economies of scale, enabling suppliers to handle price drops. For suppliers that do not have the capacity to produce larger quantities, it might be fruitful to seek cooperation with other local producers – especially with producers that have knowledge of the IT requirements of the large manufacturers.

### Tips:

Take note of the additional sector-level information provided in the [CBI study of competition](#) within the automotive industry.

Read the [CBI Tips for doing business with European buyers](#) in the automotive industry.

Implement effective quality control (deliver only high-quality products). The ability to produce products according to the exact specifications that OEMs provide can be an advantage. Delivering consistent quality is desirable. Because the consolidation of the largest brake manufacturers gives them more buyer power, this aspect is of an even higher importance than it is normally.

Build successful industrial relationships with downstream firms by providing after-sales service and repairs.

Create an extensive distribution network (sales channels). Supplying products through a wide retail distribution network can decrease costs and increase competitiveness.

Undertake technical research and development. Advances in technology, and the skills of employees in using the newest technologies, can help to maintain a competitive advantage. These skills can help

to manufacture cost-effective and high-quality products.

## 6. What do the trade channels and interesting market segments for brakes look like in Europe?

You can find a general overview of the European market channels and segments for automotive parts and components on the Market Intelligence Platform of CBI. The market channels and segments for brakes do not differ significantly from those for the sector in general. One difference compared to other vehicle parts is the number of opportunities that are provided in the aftermarket. Due to various reasons, there is a large demand in the aftermarket for brakes and brake parts. Among these reasons are personal preferences and mandatory replacements due to high usage.

### Tips:

Read the [CBI study of channels and segments](#) in the automotive industry.

Try to partner up with large producers of brakes and/or brake parts. Their high budget and global coverage provides more opportunities.

Service the aftermarket, as it provides many opportunities. Ensure that the EU's quality standards are met.

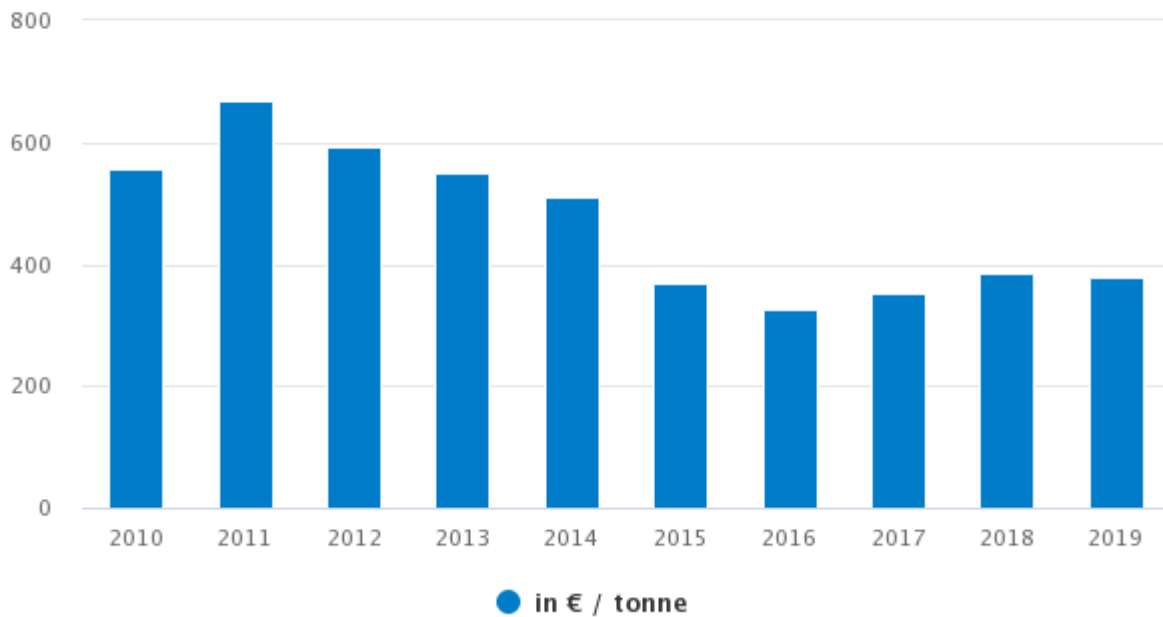
Research the preferences (such as colours) of the different types of automobile users and try to respond to these preferences.

## 7. What are the end market prices for brakes?

Suppliers of chassis and safety (including brakes and their parts) have margins that fluctuate between 5% and 10%. The exact margins depend on the efficiency of the supplier and whether the products are sold to OEMs or the aftermarket (margins are higher in the aftermarket), but also on the core business of the suppliers. Suppliers which are more vertically integrated have higher sales margins but also higher production costs, while supplier who focus more on assembly have lower sales margins but also lower production costs. Moreover, product innovators are found to outdo product specialists in terms of profitability. In general, we expect the margins of automotive suppliers to grow slowly.

Because the brake market has grown in recent years – and is expected to grow further in the coming years – manufacturers have been consolidating and have increased their production capacity, leading to lower production costs. Furthermore, new production technologies have led to a more efficient production process. Where production costs per unit have generally decreased, lightweight processes mean higher material costs. Lightweight materials such as carbon fibre and aluminium are more expensive than the materials that they replace (cast iron and steel, respectively). Representing the most important material in the production of brakes and brake parts, Figure 5 below gives the historical price (up until 2015) and the forecast price of steel. While the price of steel has dropped significantly in recent years, the forecast for the coming years is that it will rise slightly.

Figure 5: Price of steel, 2010–2019



Source: Knoema, 2016

Prices of specific parts differ per product. 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 large 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.

### Tips:


Lower your production costs in order to prepare for even lower margins on brakes and brake parts.


Use contracts with variable material costs in order to prepare for higher prices of steel.

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