



CBI Product Factsheet: Gearboxes in EU5

'Practical market insights for your product'

Germany is by far the largest market for agricultural gearboxes in Europe, representing 70% of all EU5 imports, but only 1.5% of these imports originate in the DCs, revealing untapped potential in that nation for DC exporters (the same situation can be found in France and Italy, the next two biggest markets). The UK, on the other hand, is most likely to import gearbox parts from developing countries and its share of DC imports continues to grow. The greatest opportunities for DC exporters lie in directly approaching OEMs/wholesalers with gearboxes or their parts (especially gear wheels, power take-offs, clutches, hydraulics, valves and hoses), or selling gearbox parts in the aftermarket sector to companies specializing in overhauling gearboxes.

Product definition

Gearboxes and their parts are grouped under "Gearboxes and parts thereof" (HS codes 87084010, 87084020, 87084050, 87084090, 87084091 and 87084099). This Product Factsheet analyses the market for gearboxes and their parts as used in the agricultural machinery 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, reliability and expected durability of gearboxes used in agricultural machinery in Europe is very high because the machines are used daily for extended periods of time and do not always have extensive maintenance schedules. The quality of materials used in the production of spare parts needs to be high to ensure their durability and safety and the supplied parts have to be carefully manufactured and inspected, as defective parts may be returned.

Materials: Gearboxes are typically made of steel or cast iron and may be housed in an iron unit. The quality of materials used in the production of gearboxes needs to be high to assure their durability and safety. Gearboxes are typically

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](#)

comprised of the following parts and component materials:

- o Housing; input and output caps and cap gaskets; input seals; input shafts; ball bearings; retaining rings; input gears; steel shims; output gaskets; lockwashers; nuts; pinions and spigot bearings.

Packaging & Labelling: Gearboxes are typically packaged in cardboard and/or wooden boxes with foam to protect them from being damaged. The packages are typically labelled with a description of the contents, including technical parameters of the gearboxes, such as model application, brand name, power, speed ratios, input ratios, and weight.

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.

Design: In Europe, agricultural machinery gearboxes can be divided into manual and automatic transmission types. Typically, gearboxes are specific to the type, make and size of the machine they are destined for, and therefore they will have different dimensions and design. In particular, variable transmission (intelligent systems that act on a number of revolutions) are gaining market share. The demand for comfort is increasing rapidly and as a consequence more and more electronic features are demanded and offered. Developments in transmissions include addition of more forward speeds, synchronised transmission, shifting on the go and continuously variable transmission.

Figure 1: Agricultural gearboxes and parts



[Forging](#)

Considerations for action

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



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

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

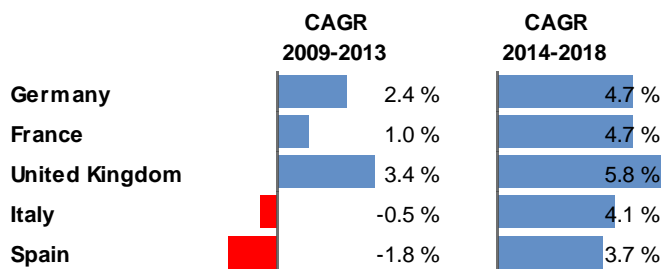
sub-suppliers) to conform to these. Signing a supplier code of conduct is often a prerequisite. These codes of conduct generally cover compliance with local laws, protection regarding workers' health and safety, respecting basic labour rights and also business ethics. The implementation of an environmental management system is often a requirement for core suppliers.

- 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



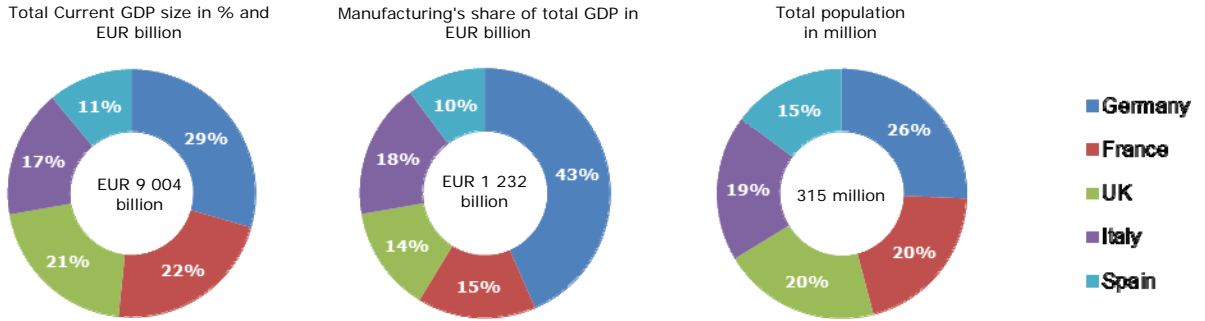
Data source: IMF 2014, World Economic Outlook Database

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

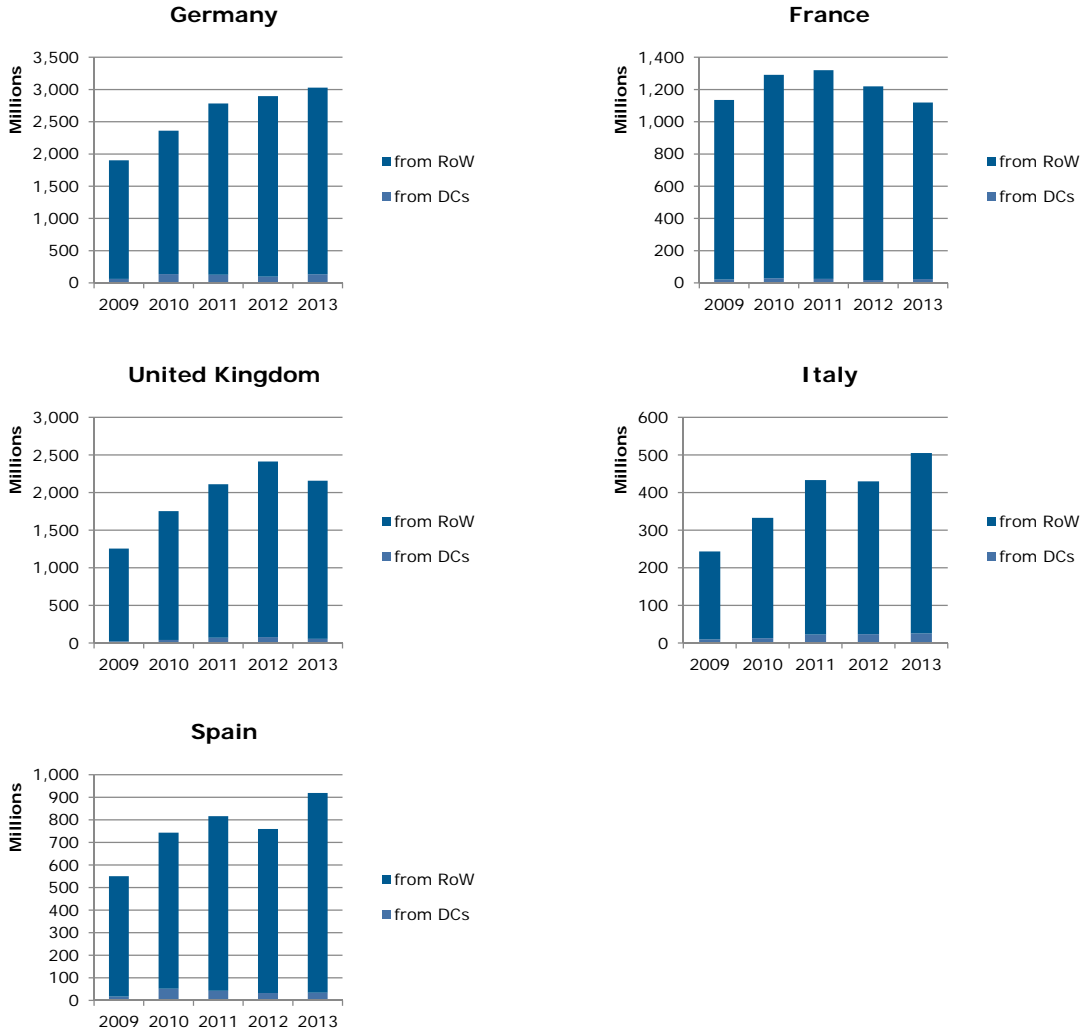
Imports and exports

EU5 imports roughly €7.7 billion worth of gearboxes and related parts each year. Germany alone represents close to 40% of the imports with an import value of €3 billion in 2013. It is followed by the UK with €2.16 billion and France with €1.12 billion. The imported gearboxes and related parts are mainly shipped from Western and Eastern Europe as well as from other developed countries such as Japan and the United States.

Imports of gearboxes and their parts from the Developing Countries (DCs) to EU5 represented almost €274 million (3.6% of total) in 2013 and have grown at a CAGR of 20% between 2009 and 2013. Germany and the UK combined, represent nearly 70% of DC gearbox imports with €134 and €56 million, respectively.

The biggest DC exporters of gearboxes and related parts to EU5 are China (€86 million), Mexico (€59 million), Argentina (€34 million) and Brazil (€29 million), together accounting for over 75% of gearboxes imports from DCs to EU5. The gearbox imports from China have more than doubled in the last five years, while the imports from Mexico have grown more than sevenfold. If the present trends continue, the future outlook is that imports from the DCs will continue to grow at a slightly higher rate than the overall gearbox imports, as Western European manufacturers continue to source cheaper components.

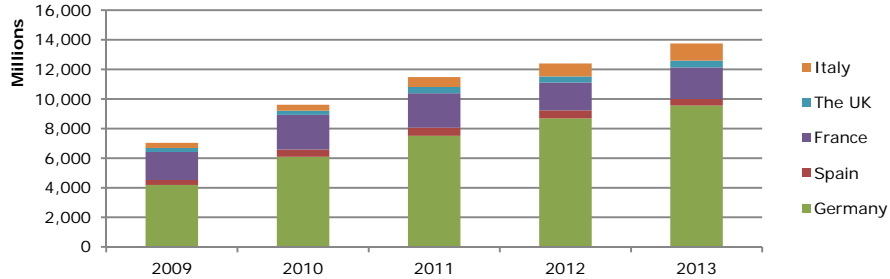
Figure 4: Imports of gearboxes and gearbox parts in the EU5, € million (the range of the y-axis varies by country due to different import levels)



RoW: Rest of the world
 Data source: Eurostat 2014

EU5 is a net exporter of automotive gearboxes and related parts. In 2013, it exported close to €13.8 billion worth of these. Germany is by far the largest exporter of gearboxes and their parts among the EU5 countries, with close to €9.6 billion in exports (comprising almost 70% share of all EU5 gearbox exports). It is followed by France with €2.1 billion (16% share of the total). EU5 gearbox exports have been growing uninterrupted since 2009. Nearly 35% of the gearbox exports are shipped to the developing countries, up from a 21% share in 2009. The biggest recipients include China (the largest overall importer) with €2.63 billion worth of imports, Turkey (seventh largest importer with €497 million) and Brazil (ninth largest importer with €383 million).

Figure 5: Exports of gearboxes and related parts, in € million

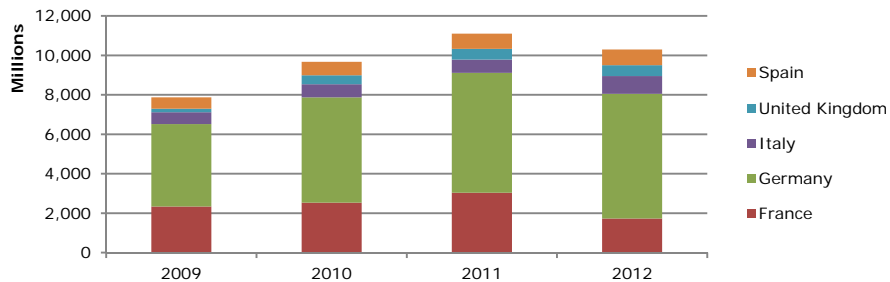


Data source: Eurostat 2014

Production and consumption

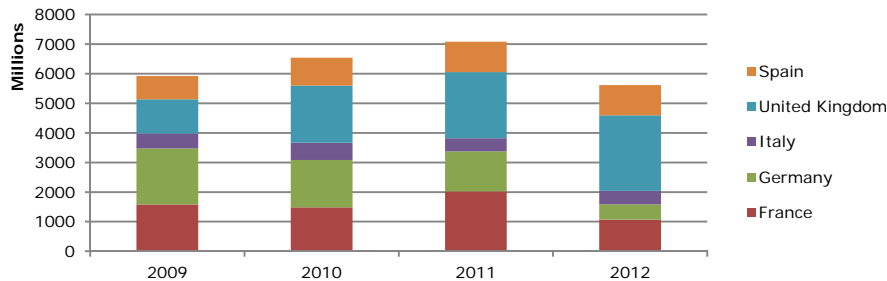
Total gearbox and related parts production in EU5 was estimated at €10.3 billion in 2012. Germany is the biggest producer with a 2012 production value of €6.3 billion, representing over 61% of the total EU5 gearboxes and related parts production. It is followed by France with €1.7 billion million and Italy with €902 million. These three countries represent nearly 87% of the total gearbox production in the region. Production has shown a strong 19% CAGR between 2009 and 2011, before dropping by 7% in 2012.

Figure 6: Apparent production of gearboxes and their parts in the EU5, in € million



Data source: Eurostat (Prodcom) 2014

The apparent level of consumption of gearboxes and their parts has grown from €5.9 billion to €6.5 billion (up 20%) between 2009 and 2011, before dropping sharply in 2012 to a pre-2009 level of €5.6 billion. This coincides mainly with an increase in exports, as well as a drop in the local production. The United Kingdom and France represent roughly 65% of the total EU5 consumption, with the UK reporting more than a doubling of its consumption between 2009 and 2012. Conversely Italy, France, and in particular Germany have observed a consumption decline in the same time period.

Figure 7: Apparent consumption* of gearboxes and their parts in the EU5, in € million

*Apparent Consumption = Production + Imports – Exports

Data source: Eurostat (Prodcorn) 2014

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

Market trends and opportunities

There are major opportunities to be explored in all EU5 nations in the OEM market as well as in the aftermarket sector (including new spare parts and overhauled components). These opportunities lie in the manufacture of gearbox parts, which includes gear wheels, power take-offs, clutches, hydraulics, valves and hoses.

Although the OEM market is experiencing a slowdown, EU5 economies are, despite the recent decline, very sizable markets and the decrease in demand means that they will need cheaper production alternatives. The easiest way to market these components would be to arrange a meeting with the local agricultural parts wholesalers or the OEMs and/or component/systems suppliers and approach them with a subcontracting offer. When dealing with larger OEMs, certain criteria for manufacturing specifics will need to be in line with each individual OEM's requirements. Exporters targeting the aftermarket sector may find it advantageous to enter the sector through the independent distributor channel, as distributors tend to carry a larger variety of parts in their inventory rather than focusing on a few selected suppliers. A good strategy for the aftermarket sector would be to sell gearbox parts to companies that specialise in overhauling gearboxes.

Germany is the biggest market in Europe for gearboxes and parts imports, with imports estimated at €9.6 billion in 2013, representing 70% of all EU5 gearbox imports. The value of Germany's gearbox imports has increased more than twofold since 2009, although the share of imports originating from the DCs has largely remained the same (1.5% of €134 million in 2013). This indicates that the DC suppliers have not yet been successful in tapping into this market, creating an opportunity for manufacturers to access the German market with more competitively-priced parts.

France and Italy are the second and the third largest gearbox importers among the EU5 nations, with 2013 imports estimated at €2.1 billion and €1.2 billion respectively. While French gearbox imports have been growing at a modest compound rate of 3% annually, Italy's imports have risen at an impressive average growth rate of 36% per year since 2009. This indicates that the market for gearbox imports is extremely dynamic. Like Germany, both France and Italy report a relatively low share of gearbox imports originating in developing countries (between 1-3%), which is a sign of untapped potential.

The UK, which is the fourth largest gearbox import market at an estimated €468 million in 2013, reports that 12% of its imports come from developing countries (up

from 8% in 2009). During the same period, the country's total gearbox imports rose by a factor of 1.5. This not only indicates that the market is trending upwards, but also that there is a growing demand for DC parts and components for gearboxes.

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

Price

Apart from the distribution of new parts, the aftermarket for agricultural 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 agricultural gearbox 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, 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.

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 wheeled agricultural or forestry tractors](#)
- [CEMA – Agricultural Machinery in Europe](#)
- Trade fairs are a good place to network, to meet buyers and to promote your company. The most prominent agricultural machinery trade fairs in the EU5 are: [Paris International Agri Business Show: SIMA-SIMAGEMA](#), [German Agricultural Machinery and Equipment Fair: Agritechnica Hannover](#), [Italian Agricultural Machinery Fair: EIMA](#)

This survey was compiled for CBI by Global Intelligence Alliance

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