

Exporting bearing components to Europe

Europe is a large production region for anti-friction bearings and it is therefore a considerable market for bearing components. There are several interesting markets for developing countries; for example, Germany, Austria and Slovakia. A considerable share of bearing components already comes from low-cost locations outside the bearing-manufacturing countries; for example, China and India. You must be ready to compete with bearing component exporters from these countries.

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1. Product description

Bearing components are parts of anti-friction bearings; for example, forged rings, turned rings, super-finished rings, cages, balls, rollers, cast-iron housings, plastic housings and rubber seals. Bearings are found in applications ranging from automobiles, trains and aeroplanes to computers, construction equipment, machine tools, refrigerators and ceiling fans.

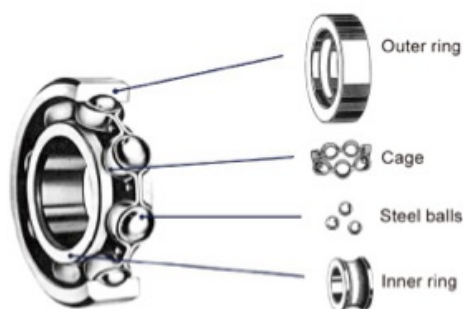
Anti-friction bearings are metallic or ceramic precision-made devices. They allow constrained relative motion between two parts due to the placement of round elements between these two parts. The relative motion of the pieces causes the round elements to roll, or tumble, with little sliding. They enable machinery to move at very high speeds and carry high loads with ease and efficiency.

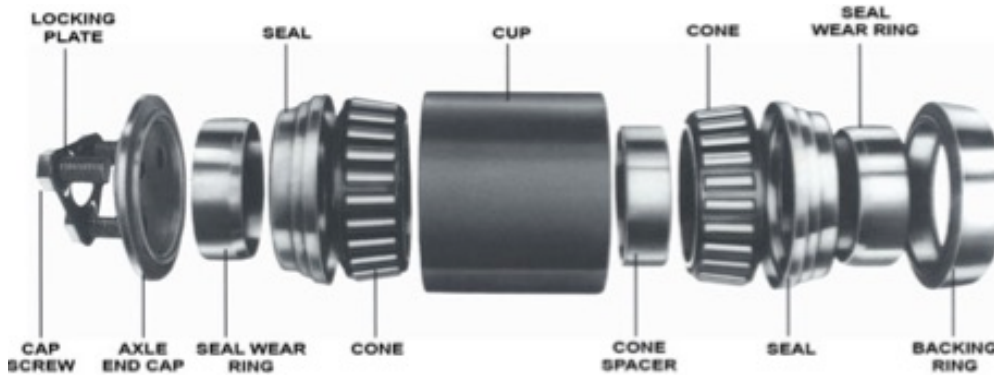
When bearing components are referred to in this survey, it involves the selection of the product codes in the [Harmonised System](#), Chapter 8482, paragraph 9, unless stated otherwise.

For more information on complete anti-friction bearings, please refer to our study of [Exporting anti-friction bearings to Europe](#).

Product specification

The specifications of bearing components as required by European buyers are described below. These involve requirements related to the material used, dimensions and finishing of the parts, the processing steps, documentation and packaging. Pictures 1 and 2 below provide examples of bearing components.





Material and design

Bearing components are typically made of bearing steel, which is a type of alloy or low-carbon steel. Some applications, including the rail industry, require case-hardened, high-carbon, bearing-quality steel. Depending on the size of the bearing to be produced, appropriate quantities of alloying elements are added to the steel melt to ensure optimum properties in the finished product.

In general, material requirements can vary from customer to customer. Bearing manufacturers (the main customers) that buy component parts from a subcontract supplier (the producer or exporter of bearing parts) will specify the design and the materials. They will also probably require conformity certification and batch identification for traceability.

The European bearing manufacturer will often allow the subcontract supplier to use bearing steel only from suppliers that are approved by the European bearing manufacturer. This is because the structural and chemical composition is of critical importance to the European bearing manufacturer. In addition, the European bearing manufacturer may also specify their approved suppliers for wire or castings.

The material grades may differ for castings, but high-strength Grade 250 (BS EN1561:1997) cast iron is often desirable. For forge-rolled rings, SAE 52100 and 100Cr6 are the normal grades for bearing steel.

Processing

To produce bearing components such as rings and rollers, the European bearing manufacturers set high standards for the equipment infrastructure. As an indication, to provide structural and metrological analysis alone will require a number of quite expensive, purpose-made instruments. For cages, 3D modelling and Coordinate Measuring Machines will be required.

In addition, the European bearing manufacturer may also specify the processing steps; for example, specific heat treatment requirements. This also requires a certain level of investment, as controlled tempering and quenching must be guaranteed. "Super cooling" may also be a requirement in some cases.

Documentation

Bearing manufacturers will require associated reports about the quality and specification of the material used, including registration of critical process parameters, test reports, as well as traceability reports for the batches of products made.

Labelling and packaging

In general, multi-packaging is used for smaller parts and single packaging is applied to large parts. Usually, bearing parts are coated with a rust inhibitor before being packaged and shipped.

Packaging consists of an interior package and an outer package. The interior package is an oil paper or a plastic tube/envelope, to avoid the dispersion of the protective oil used, or sometimes hermetically vacuum-sealed synthetic pouches. The outer package is usually made up of carton lined with plastic sheeting and should

contain brand name and type number.

The package for ocean transport is a wooden, iron or plastic pallet, wrapped in plastic sheeting and packaged with metal strips. The sizes of the boxes depend on the weight per box and handling possibilities. Moreover, it may well be the case that the customer has his own additional packaging requirements and preferences. Batch numbers on individual boxes may also be a requirement.

2. What makes Europe an interesting market for bearing components?

Imports

European import of bearing components parts increased by 1.9% on average per year between 2011-2015 to €2.5 billion. After a weak year in 2012, the import from developing countries started to recover in 2013, reaching €406 million in 2015. At 16%, the share of developing countries in the total imports remained virtually stable during the whole period.

With a 30% share, Germany is the largest importer of bearing components, followed by France (18% share). The import from developing countries is also the highest in Germany, at a value of almost €105 million in 2015. Italy (€68 million) and Austria (€63 million) are also large importers from developing countries. The import of bearing components is expected to show a small growth in the coming years, in the range of 0-2% per year.

Germany showed the largest absolute growth (€22 million over four years' time) in imports from developing countries, followed by Slovakia (€19 million) and Austria (€6 million).

Tips:

You can use [Eurostat](#) and [ITC International Trade Statistics](#) to obtain detailed trade statistics about the industry.

You can use trade fair databases such as [Eventseye](#) to look for suitable fairs to attend. [Hannover Messe](#) is the leading annual industrial technology exhibition in Germany. A dedicated fair on MDA (Motion, Drive & Automation) is part of the Hannover Messe every odd year.

Leading suppliers

Germany, Slovakia, China, Italy and Romania are the leading suppliers of bearing components, together representing 51% of the total European imports of bearing components in 2015. China is the largest supplier in this category (€228 million in 2015), followed by India (€46 million) and Bosnia and Herzegovina (€36 million). Hungary showed the highest annual growth (15%) in exports to Europe between 2011-2015, followed by the Netherlands (8%) and Slovakia (6%).

Slovakia's and Romania's leading positions are a result of 1) trade of bearing parts (cages) from Schaeffler Slovakia and Romania to Schaeffler Germany and 2) trade originating from several medium-sized Slovakian and Romanian bearing parts producers.

Tip:

Benchmark your company against your peers from China and India, as well as those from Germany,

Slovakia, Italy and Romania; for example, [PSL](#), [Kinex](#) and [Omnia KLF](#) in Slovakia and [SC Rulmenti](#) (part of [URB-Europe](#)), [URB](#) and [URB Rulmenti Suceava](#) in Romania.

Exports

After experiencing a dip of €2.0 billion in 2013, European exports recovered in 2014 and 2015, reaching €2.1 billion in 2015. Export of bearing components are mainly destined for other European countries, whereas a share of 15% of the total European exports is destined for developing countries. This share of developing countries in export was relatively stable in the period under review and is forecast to remain virtually stable at 15% in the coming years as well.

Germany is the largest European exporter of bearing components (€765 million in 2015), accounting for 30% of the total European exports. Germany mainly exports to other European countries, although the export to developing countries is also very high with a share of 23% in the total German exports. German exports to developing countries represented more than 50% of the total European exports to developing countries.

Germany's leading position as an exporter of bearing parts is a result of Germany's dominant role in bearing production in Europe. The country is the largest bearing producer in Europe and produces many high-end bearing components as well. Many of these components are exported by Schaeffler to Schaeffler's assembly locations in other European countries, as well as to manufacturing plants in countries on other continents.

Other important European exporters are France (10% share of European exports), Italy (9% share), Romania (9%), Slovakia (7%) and Poland (5%). European exports of bearing parts are expected to continue to grow over the coming years at around 1-2% per year.

Tip:

You can find more information about the anti-friction bearings sector and the companies in different countries by visiting the websites of sector associations such as [CETIM](#) and [FIM](#) (France); [VDMA](#) (Germany); the [Dutch Association of Engineering, Electronics and Contracting](#) (the Netherlands); and EPTDA and [The Ball and Roller Manufacturers Association](#) (the United Kingdom).

Production

European production dropped in 2012 to €1.9 billion after a peak of €2.3 billion in 2011. This decline was caused by a falling demand for bearings by main end-user industries, such as automotive and engineering. The production started to rise again, if only slightly, in the years after. In 2014, the total European production of bearing components amounted to €2.1 billion.

The country that showed the highest annual growth between 2010-2014 was Romania (15%). Romanian output benefited from the decisions of large manufacturers such as Schaeffler to source more parts from relatively low-cost locations. Contrasting with the growth in Romania, German and Italian outputs have shown a downward trend between 2010-2014.

It is difficult to give a general picture of production developments in Europe, as most countries have a specific profile in terms of production, local demand, and import versus export. For example, the situation in France, Austria and the United Kingdom is quite similar. These countries have a considerable production base of

bearings and therefore require a lot of bearing components. As local production of the components is not enough to fulfil local demand, the countries are net importers of bearing components.

Tip:

Apart from Germany, there is also considerable production output in France, Slovakia, Romania and Sweden. The presence of producers in these countries offers subcontracting opportunities to you.

Apparent demand

After a peak year in 2011 (€2.4 billion), European apparent demand dropped to €2.1 billion in 2012. Demand recovered in 2013 and 2014, reaching €2.4 billion again in 2014. Germany is the largest market for bearing components (29% share of the total European market), followed by France (20% share) and Slovakia (9%). Other relatively large European markets are Austria (7% share), Sweden (6%) and Romania (6%).

3. What trends offer opportunities on the European market for bearing components?

Bearings manufacturers in Europe are strongly investing in product development. Innovation in bearing technology is driven by issues such as long service life, low friction, less maintenance and lower overall cost, as well as lighter, smaller and extended capabilities. For example, they apply sensors to measure parameters such as speed, load, temperature and overall bearing condition.

Many innovations come from the leading bearing manufacturers, such as [this innovation from SKF](#). In order to support product development, [new test equipment](#) has also been developed.

The European market is characterised by a growing demand for cost-effective bearings, while advances in materials have extended the operating life of anti-friction bearings sold in Europe, even under harsh operating conditions. One [key area of advance is the wind power segment](#).

Continuous improvement systems are implemented to enhance production efficiency while reducing costs. An example is [improving efficiency with automation](#) by Schaeffler United Kingdom.

It is expected that future bearing materials will improve energy efficiency and boost performance via increased load-carrying capacity. Bearing technology advancements entail a focus on the use of high-hardness coatings, ceramics and new speciality bearing steels. New elements that are expected to become the main focus in the future are sensor technology and high-temperature thermoplastics.

In the medium to long term, it can be expected that buyers will increasingly look at Corporate Social Responsibility (CSR) as a fundamental issue in the selection criteria for new suppliers to Europe.

See our study of [Trends for anti-friction bearings](#) for more information on trends shaping the bearing industry.

Tips:

[Bearingnet](#) may be a useful source for you, as this website provides the latest news about the industry and a list of bearing companies in Europe.

Other relevant sources are magazines such as [Drives & Controls](#), [IEN Europe](#) and [PCN Europe](#). They

provide information about the latest trends and developments in the industry.

4. What requirements should bearing components comply with to be allowed on the European market?

See our study of [Buyer requirements for motion control](#) for a general overview of requirements. Below are the requirements that apply specifically to bearing components.

Legal requirements

No specific legal requirements apply to parts in general. This also means that there are no specific legal requirements for parts that are exported to Europe for application in anti-friction bearings.

Packaging and liability

There is also non-product-specific legislation on [packaging](#) and [liability](#) that applies to all goods marketed in the European Union.

The European Union has also restricted the use of certain chemicals in the [Registration, Evaluation and Authorisation of Chemicals](#) (REACH) Regulation. In the case of bearing parts, REACH is relevant for the protective and anti-corrosion oils used in the packaging. In practice, this means that you as an exporter from outside the European Union have to provide information on the chemicals/oils used in the product.

Duties

An [8.0% duty](#) is levied on European imports of bearing parts from third countries. Several countries benefit from a preferential 0% tariff under the Generalised System of Preferences or through bilateral arrangements; for example, Turkey and South Africa. These percentages are the same for complete anti-friction bearings.

Tips:

With regard to packaging, the requirements are often provided by the customer. If this is not the case, ask them what they would prefer. You have to be careful to provide the right amount of packaging; not too little but also not too much, since it is expensive to dispose of packaging in Europe.

In terms of packaging legislation, meeting the wood packaging material (WPM) requirements can be challenging. Make sure that your WPM qualifies for the European market. If you are unsure, ask your WPM supplier for clarification. Your WPM supplier should take any further action required in order to comply with the Directive. If the supplier is unable to do so, you may be able to switch to another supplier.

Additional requirements

Customers' primary requirements will be related to the technical aspects of the part itself, as its material, dimensions and finishing must meet the customer's specifications. Refer to the "Product specification" section for more information on customer requirements.

All these issues are key in the sample phase. If the customer approves the samples and all other conditions have been agreed, the contract can be signed. After this, the main challenge for the suppliers is to deliver the

products according to the agreed specifications, delivery times and volumes.

Tips:

See our [10 tips for doing business with European buyers of motion, drives, control and automation](#) and our [10 tips for finding buyers in the motion control sector](#). These tips also offer more information on which topics are decisive for European buyers when searching for (new) suppliers.

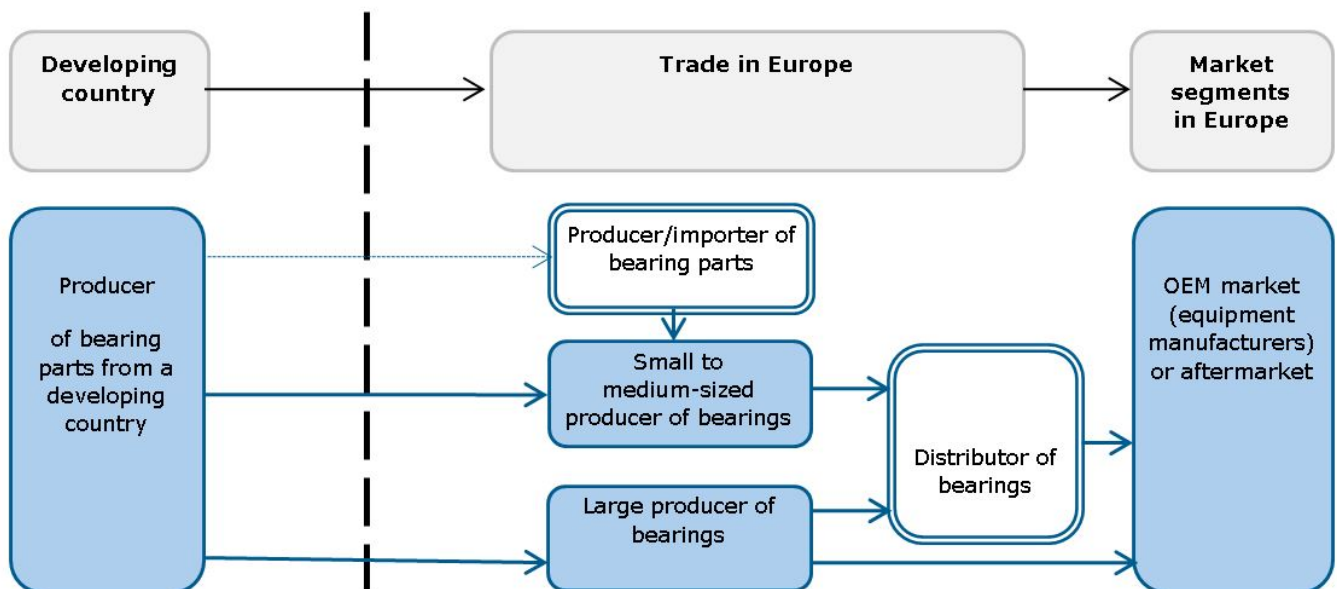
You must send product samples accompanied by inspection reports that are accurate and correspond exactly to the samples.

Please refer to the [EU Export Helpdesk](#), the [ITC Market Access Map](#) and the [ITC Standards Map](#) for more information on gaining access to the European market.

[Commisceo Global](#) offers a lot of information about differences in business cultures and etiquette. You should pay some attention to this aspect before you start exporting to Europe.

5. Through what channels can you get bearing parts on the European market?

Figure 5: Trade structure for bearing parts in Europe



Within the context of bearing manufacture, there may be opportunities for producers of bearing components such as rings, rollers, balls and cages, as none of the bearing producers make all of the components themselves.

The main difference between the large and the small to medium-sized manufacturers is the fact that only the small and medium-sized ones are likely to outsource complete bearing assemblies. On the other hand, the larger producers often only outsource component production.

For more information, also refer to this study of [Market Channels and Segments for Anti-Friction Bearings](#).

Business landscape

Further details on the business landscape in the focus countries in Europe are outlined below, as each country has its own characteristics. The details are grouped by the three main categories of prospects: large producers of bearings, small and medium-sized producers of bearings, and importers and/or producers of bearing components. All these categories can be interesting prospects for you.

Large producers of bearings

Germany

Germany is the home country of the [Schaeffler Group](#), which is a merger of the two German bearing manufacturers FAG and INA. The Schaeffler Group has five or more production facilities in Germany. Other global bearing manufacturers with production facilities in Germany include [SKF](#) (three plants in Germany), [NSK](#) (one plant), [NTN](#) (two plants) and [JTEKT](#) (one facility).

France

France is the home country of [SNR](#), the originally French bearing manufacturer that used to be affiliated with French car manufacturer Renault. About 40-50% of production output in France comes from the three NTN-SNR factories. Several of the other leading bearing manufacturers also have a production facility in France, such as [JTEKT](#), [SKF](#), [INA](#) and [Timken](#). However, it is worth noting that many of the major supplier and engineering decisions for these locations are made elsewhere.

Italy

Italy is not a home country to any of the world's leading bearing companies. However, as the country is home to a large automotive and engineering industry, several of the market leaders produce bearings in Italy, such as [Timken](#), [INA](#) and [SKF](#). Note that for these three factories, most of the major supplier and engineering decisions are made elsewhere.

Austria

The large producers in Austria are SKF, Schaeffler (FAG-INA) and NKE. [SKF Austria](#) represents more than 50% of total production output in Austria, while more than 90% of SKF Austria's production is destined for export markets. [Schaeffler](#) represents 30-40% of Austrian production. Two of FAG-INA Austria's main suppliers are the TMD Group from Bosnia and Herzegovina, and FerolImpex from Croatia. NKE, who are part of Spanish bearing producer Fersa, manufacture and import components and complete assemblies.

The United Kingdom

[NSK](#) has had a sizeable presence in the United Kingdom since they bought RHP (the British bearing manufacturer), but most of the other leading bearing manufacturers also have a production facility in the United Kingdom, including [Timken](#), [JTEKT](#), [INA](#) and [SKF](#). Note that not all of the major supplier and engineering decisions for these operations are made in the United Kingdom.

Tip:

Become a domestic supplier to one of these global companies and obtain local approval for their products. In this case, you are often required to source the bearing steel from approved suppliers. You will be subject to audits and will have to have very tight quality control procedures. Following local approval, you could seek a direct relationship with the particular companies' facilities in Europe.

Medium-sized producers of bearings

Europe hosts a number of small and medium-sized bearing producers. These smaller manufacturers are more willing to buy complete bearings that will be branded in their name and packaged to their specifications. Although they sell their bearings all over the world, their headquarters and production facilities are mostly in Europe.

For example, Germany is home to [GMN](#), [HFB](#), [IBC](#) and [SLF](#). In Italy, there are companies such as [CPM](#), [FARO Industriale](#), [Meter Bearings](#), [ICSA](#) and [Nadella](#). Companies in Austria include [NKE](#), [APB](#) (part of Myonic) and [STC](#), while [Cooper](#), [Phoenix](#), [HB Precision](#), [Revolv](#) (taken over by Timken in 2014) and [Gamet](#) have facilities in the United Kingdom.


Importers and/or producers of bearing components

Some examples of importers and/or producers of bearing components are [IsoMetall](#), [MPT](#) and [Ziller](#) in Germany; [CIMAP](#) and [Rollix](#) in France; [Bifrangi](#), [Martin Balls](#) and [Neumayer Tekfor Group](#) in Italy; and [Stokes Forgings](#) and [Atlas Ball](#) in the United Kingdom.


Such companies can be interesting prospects for you.

Please review our [market information disclaimer](#).

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