

Exporting pulleys to Europe

Europe is among the largest machinery manufacturing regions in the world and it is therefore also a large market for pulleys. The six leading importing countries in Europe offer good opportunities for exporters from developing countries, although up until now they only source pulleys from China, Turkey and India. Two important trends that dominate the market are energy efficiency and price competition. This situation offers two strategic directions that can be chosen by pulley suppliers from developing countries: either to supply pulleys to European importers under the importer brand, or to develop and specialise in energy-efficient pulleys.

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1. Product description

The scope of this survey is pulleys. However, as pulleys are part of the “flywheels and pulleys” code in the trade statistics section, flywheels are also included in the figures. For this reason, a definition of flywheels is also provided below.




Pulleys: A pulley is a wheel on an axle that is designed to support movement and change of direction of a cable or belt along its circumference. Pulleys are used in a variety of ways to lift loads, apply forces and transmit power (source: Wikipedia). In this report, only pulleys which are used to transmit power (mechanical engineering) are covered.

Flywheels: A flywheel is a rotating mechanical device that is used to store rotational energy. Flywheels are used to provide continuous energy when the energy source is discontinuous, to deliver energy at rates beyond the ability of a continuous energy source and to control the orientation of a mechanical system (source: Wikipedia).

When pulleys and flywheels are referred to in this survey, this concerns all the [Harmonised System](#) codes in Chapter 8483, paragraph 50.

Product specification

Specifications of pulleys and flywheels as required by European buyers are described below. Pictures 1-6 show a few examples of pulleys and flywheels sold in Europe.

Picture 1: V-belt pulleys	Picture 2: Timing-belt pulleys pilot bore	Picture 3: Synchronous pulleys
		
Picture 4: Rim-type flywheel	Picture 5: Solid disc-type flywheel	Picture 6: Variable-speed pulley
		

Material and design

Most pulleys are produced from grey cast iron (DIN 1691; mostly [EN-GJL-200](#)). For marine applications, stainless steel is the preferred material to make pulleys. However, other materials such as aluminium or plastic can also be used.

Flywheels are typically made of steel, but some modern flywheels are made of carbon fibre materials and employ magnetic bearings.

Labelling and packaging

Pulleys can be packaged in a carton or a wooden box, depending on the size of the parts. The outer package should include the brand name and type number. The package for ocean transport is a wooden, steel or plastic pallet, wrapped in plastic sheeting and sealed with metal strips. The size of the boxes depends on customer requirements and preferences, and is also influenced by the weight per box and handling possibilities.

Note: If you use [wood packaging materials](#) to export products to Europe, you must consider the health (phytosanitary) requirements set for these materials. In practice, this means that the wood must have undergone heat treatment or been fumigated with methyl bromide.

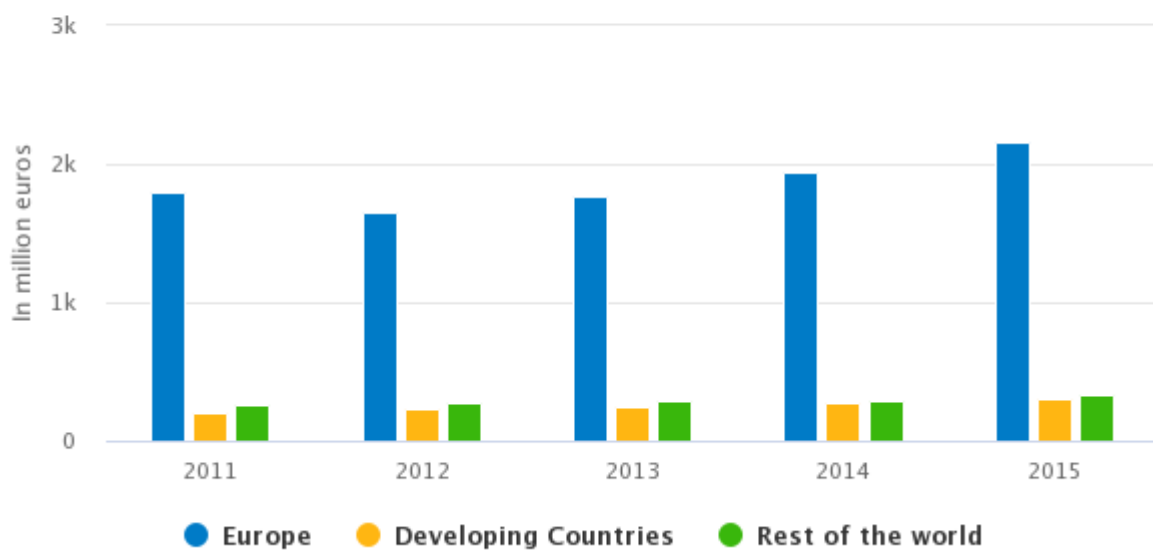
Last but not least: packaging should always be labelled, not only for the purposes of identification during transport but also to indicate the quantity, the weight, the products themselves and the producer's name.

2. What makes Europe an interesting market for pulleys?

Imports

European import of pulleys and flywheels increased by 2% per year between 2011-2015 to €2.8 billion. Pulleys and flywheels were mostly imported from countries within Europe. However, the import from developing countries grew more rapidly in the past few years (10% annually). In 2015, imports from developing countries represented 11% of the total European imports. The share of imports from developing countries is expected to grow to 12% in the coming years.

Figure 1: European import of flywheels and pulleys by main origin
2011-2015

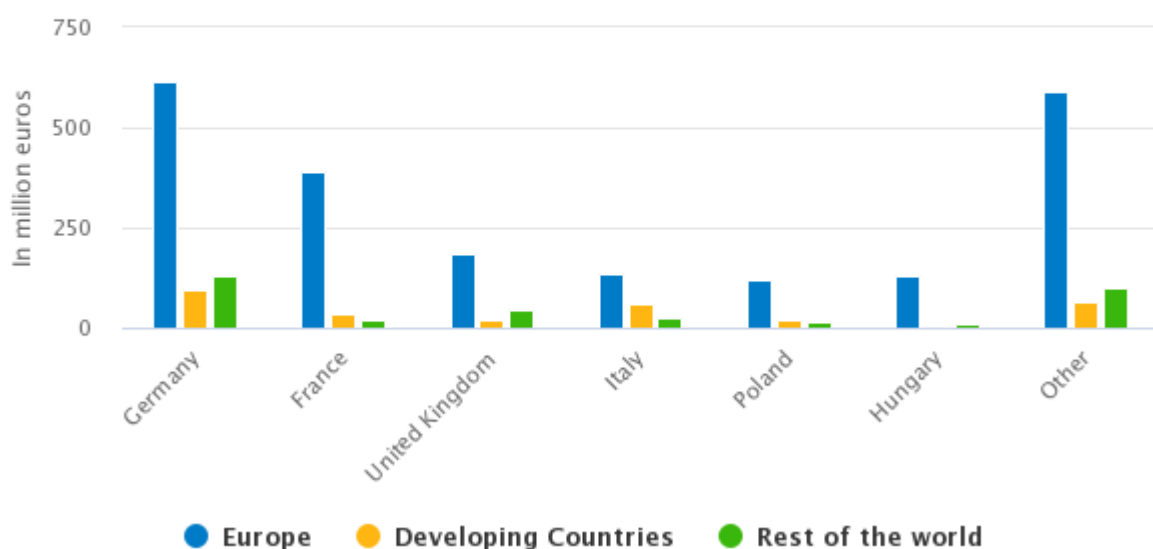


Source: Trademap

Representing a share of 30%, Germany is the largest importer of pulleys and flywheels, followed by France (16%) and the United Kingdom (9%). Germany showed the highest import from developing countries in 2015 (€93 million), followed by Italy with €61 million and France with €36 million. Germany also showed the largest absolute growth (€25 million over four years' time) in imports from developing countries. The import of pulleys and flywheels is expected to exhibit a slight growth of 0-2% in the next few years.

One quarter of the pulleys and flywheels traded in Europe are in cast form.

Figure 2: Leading European importing countries of flywheels and pulleys
2015



Source: Trademap

Leading suppliers

Germany and France are leading suppliers, together representing 44% of the total European import of pulleys and flywheels. Other leading suppliers are Italy (8% share), Hungary (7%), China (6%) and Slovakia (5%). Among these suppliers, Slovakia showed the highest annual growth over four years' time (14%), followed by China (13%) and Italy (11%). Imports from developing countries are dominated by China and Turkey, followed at a large distance by India and Brazil.

Tips:

Benchmark your company against your peers from China, Turkey and India, as well as those from European countries. Several factors can be taken into account, such as market segments served, perceived price and quality level, countries served, and so on. One source that could be used to find exporters of pulleys per country is [ITC International Trade Statistics](#) (for which you have to register first).

You can also use [Eurostat](#) to obtain detailed trade statistics about the industry.

You can use trade fair databases such as [Eventseye](#) or [Auma](#) to find relevant trade fairs in Europe. The most important trade fair for you is [Hannover Messe](#) in Germany. A dedicated fair on MDA (Motion, Drive & Automation) fair is part of the Messe every odd year. Another relevant fair might be [METAV](#). Other interesting trade fairs are [Drives and Controls](#) and [Subcon](#) (the United Kingdom); [MECSPE](#), [Sub-fornitura](#), [SPS IPC Drives Italia](#) and [M&MT](#) (Italy); [Midest](#) (France); and [EUROTOOL](#), [Hapexpo](#) and [SteelMET](#) in Poland.

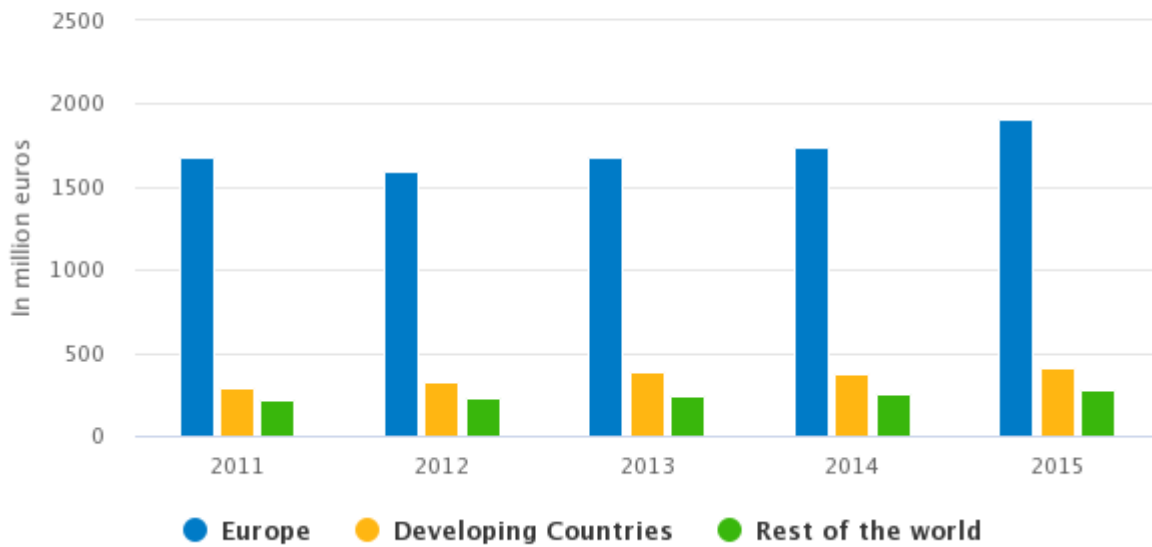
Exports

The total European exports of pulleys and flywheels increased by 4% per year between 2011-2015 to €2.6 billion. Exports of European pulleys and flywheels were mainly destined for other European countries. However, the export to developing countries showed a higher annual growth (8% per year on average). In 2015, European exports to developing countries amounted to €408 million, 16% of the total European exports. The share of exports to developing countries is expected to grow to 20% in the coming years.

Germany is the largest European exporter of pulleys and flywheels (€1.2 billion in 2015; 48% of the total European exports), followed by France (14% share) and Italy (12%). Other important exporters are Slovakia (6% share), Belgium (5%) and the Czech Republic (4%). China is the largest destination for European exports in the category of developing countries. The European export of pulleys and flywheels is expected to exhibit a slight growth of 0-2% in the next few years.

Figure 3: European export of flywheels and pulleys to main destinations

2011-2015



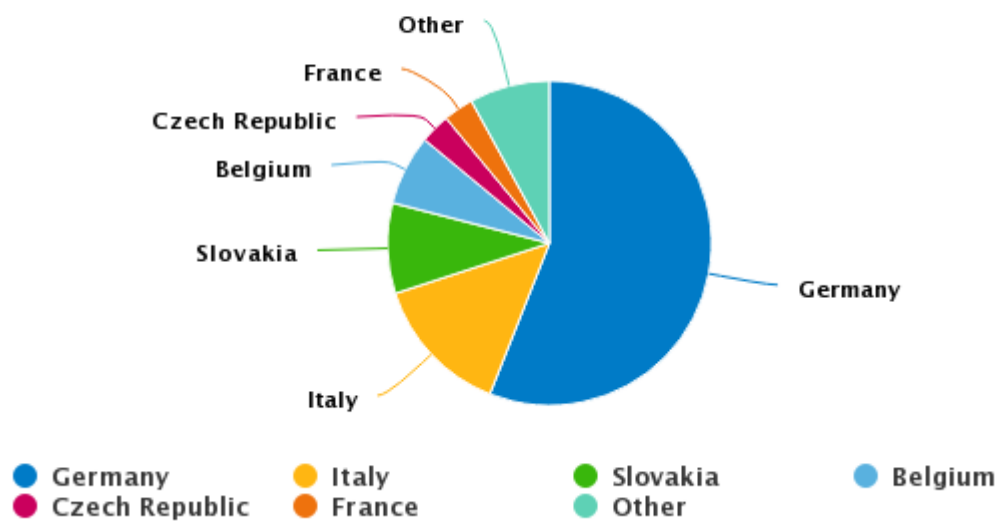
Source: Trademap

Germany is the largest European exporter of pulleys and flywheels (€1.2 billion in 2015; 48% of the total European exports), followed by France (14% share) and Italy (12%). Other important exporters are Slovakia (6% share), Belgium (5%) and the Czech Republic (4%). China is the largest destination for European exports in the category of developing countries. The European export of pulleys and flywheels is expected to exhibit a slight growth of 0-2% in the next few years.

Production

Production of pulleys and flywheels in Europe totalled €2 billion in 2014 thanks to a continuous growth. The production showed an annual increase of 9% between 2010-2014. Germany is the largest producer of pulleys and flywheels in Europe (56% share), followed by Italy (14%) and Slovakia (9%).

Figure 4: Main European producers of flywheels and pulleys
2014



Source: Eurostat Prodcorn

Tips :

Apart from Germany, there is also considerable production output in Italy and Slovakia. The presence of producers in these countries offers subcontracting opportunities to exporters from developing countries.

You can find more information about the pulleys and flywheels sector on the websites of European associations such as the [European Committee of Associations of Manufacturers of Gears and Transmission Parts](#) and the [EMEA Power Transmission Distributors Association](#).

You can also find information about the sector and the companies in different countries by visiting the websites of sector associations and federations such as [VDMA](#) and [VTH Verband Technischer Handel](#) (Germany); [ANIMA](#) (Italy); [AGORIA](#) and [Belgitrans](#) (Belgium); [HIPH](#) and [NOT](#) (Poland); and the [British Gear Manufacturers Association](#) and the [Engineering Industries Association](#) (the United Kingdom). You can use Google Translate to convert the website to your own language.

[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.

Demand

European demand totalled €2.2 billion in 2014 thanks to a continuous growth. The apparent demand showed an annual increase of 8% between 2010-2014. Major reasons for the growth include increased spending activity in the end-user industries, which led to a growth in demand. Germany, the United Kingdom and Italy are the largest markets for pulleys and flywheels, together representing 51% of the total European market. Other countries with a high demand are Poland, France and Hungary (6% share each). Each of these six focus countries has its own specific market profile, which will be described below.

Germany

Germany is the number one producer in virtually every industry in Europe. It is well known for its output of machinery, cars and electronics.

The United Kingdom

Key manufacturing sectors in the United Kingdom include:

- Aerospace
- Automotive
- Chemicals
- Oil
- Defence equipment
- Electronics
- Food and beverages

The United Kingdom has a long tradition of producing machinery and equipment. Important market segments include agricultural machinery and construction, quarrying and mining machinery.

Italy

Italy's main industries are:

- Iron and steel
- Machinery
- Chemicals
- Textiles
- Food processing
- Motor vehicles
- Footwear
- Clothing
- Ceramics

After Germany, the country is the second-largest machinery producer in Europe. It produces virtually all categories of machinery.

Poland

Poland's largest industries are:

- Mining (copper, coal, salt)
- Machine building
- Shipbuilding
- Chemicals
- Agriculture
- Food and beverage processing
- Timber
- Textiles

Most machinery produced in Poland is agricultural and food-processing equipment.

France

France's leading industries produce:

- Machinery
- Chemicals
- Automobiles
- Metals
- Aircraft

- Electronic equipment
- Textiles
- Food

Most machinery production is focused on either agricultural machinery or machinery for textile, apparel and leather.

Belgium

Key manufacturing sectors in Belgium include:

- Engineering and metal products
- Motor vehicle assembly
- Transportation equipment
- Scientific instruments
- Food and beverage processing
- Chemicals
- Basic metals
- Textiles
- Glass
- Petroleum

Belgium has a relatively small, but highly innovative machinery and equipment sector. The sector is very much export driven. Important market segments include agricultural machinery and the textile machinery industry. The latter, for instance, consists of around 50 companies active in machinery for indoor textiles, garments and technical textiles.

Tips:

Exporters from developing countries could concentrate on market segments that are strongly represented in the focus countries. Specialisation in any of those segments may give exporters a competitive advantage, as there is an increasing demand for customised solutions. European importers therefore prefer specialised suppliers that are able to offer customer support and joint engineering in specific market segments.

You can also use international magazine sources such as [Power in Motion](#), [Power Transmission](#) and [Power Transmission Engineering](#) to read about the latest trends and developments in the pulleys industry. Other magazine sources from leading countries include [Industrie](#), [Industrie Anzeiger](#), [Industrieweb](#) and [Maschinen Markt](#) (Germany); [Connecting Industry](#), [Industrial Technology](#), [The Engineer](#) and [Drives & Controls](#) (the United Kingdom); [Axes Industries](#) (France); and [Projektowanie i Konstrukcje Inzynierskie](#) (Poland).

3. What trends offer opportunities on the European market for pulleys and flywheels?

Importance of energy efficiency in manufacturing industry

Important demand drivers for pulleys and flywheels are climate protection, energy efficiency, renewable energy and environmental legislation. As energy efficiency has become such a hot topic recently, European governments have implemented stricter energy efficiency regulations for industrial equipment such as motors, pumps and fans.

Belt drives benefited strongly from this development, as they are highly cost-effective and energy-efficient modes of power transmission. The same goes for motorised pulleys, which have relatively low power

consumption and high energy efficiency.

Although belt drives are quite energy efficient, they are threatened to be replaced by alternate advanced power transmission systems such as variable-frequency drives (VFDs). So far, such advanced systems have found limited applications, but this is set to change in the long term as belt-drive producers are investing a lot of resources in R&D to develop cost-effective and energy-efficient solutions.

There is a move away from the use of classic V-belt design to the more positive and energy-efficient synchronous or timing-belt types. Therefore, the trend is toward tooth-belt pulleys.

Laser-align pulleys

One of the most common causes of unplanned downtime for belt-driven machines is crooked pulleys. Misaligned pulleys cause increased wear, noise, vibration and ultimately machine downtime. The new laser-based alignment systems have been developed to reduce the wear of belts and pulleys, to reduce noise, to stop friction and to lower energy consumption.

Price sensitivity in European countries

Since 2008, the economic recession in several European countries has caused many companies to focus increasingly on price. Therefore, the larger distributors have been looking to introduce their own brands in the pulleys and flywheels category. Such low-priced alternatives are especially interesting for large OEMs, as price is a major consideration for these customers. For instance, the European market is flooded with unbranded, cheap pulleys manufactured in China. In such segments where brands are not important, low prices are extremely important.

European industrial production is expected to increase further in 2015, following strong year-to-year gains in 2013 and 2014. Signals of progress in industrial machinery production will continue to create favourable conditions for industrial suppliers in and to Europe in 2015. Positive factors such as a low inflation rate and a slowly improving level of industrial investments are likely to support these positive developments.

Tips:

Any effort made toward better energy efficiency means improved competitiveness for exporters from developing countries. A poorly fitting belt, for example, can lead to a 10% reduction in energy efficiency.

Improved endurance and thermal conductivity, extreme tolerances, use of lightweight materials, more durable and better surface accuracy, and reduced noise and vibration are all unique selling points for producers of pulleys and flywheels.

There are opportunities for producers of developing countries who are able to supply advanced pulleys and flywheels. At the same time, many opportunities remain for cost-effective power transmission products.

Competitive pricing is vital if exporters from developing countries are to enter European markets with unbranded products. If competitive pricing is difficult for exporters from developing countries, they should differentiate toward specialities, because competition for specialities is likely to be less fierce. Another option is to look for cooperation with European distributors that want to introduce their own label.

4. What requirements should pulleys and flywheels comply with to

be allowed on the European market?

Requirements can be divided into (1) legal requirements, which you must meet in order to enter the market and (2) non-legal requirements, which most of your competitors have already implemented; in other words, which you need to comply with in order to keep up with the market. See our study of [EU buyer requirements for motion control](#) for a general overview of requirements. Below are the requirements that apply specifically to pulleys and flywheels.

Legal requirements

For transmission parts in general (and therefore also pulleys and flywheels), no specific legal requirements apply. As soon as the transmission part becomes a component of a finished product, the exporter has the evident obligation to export a safe product to Europe.

Standards

For finished products, the directive on liability for defective products ([Directive 85/374/EEC](#)) applies. The Product Liability Directive states that the European importer is liable for the products put on the European market. The importer, however, can in principle pass on a claim to the producer/exporter.

Packaging

For wood packaging materials used for transport, including dunnage ([Directive 2000/29/EC](#)), Europe sets requirements for materials such as:

- Packing cases
- Boxes
- Crates
- Drums
- Pallets
- Box pallets
- Dunnage (wood used to wedge and support non-wood cargo)

Another packaging-related directive is the general directive about [packaging and packaging waste](#). This directive prescribes the marking of the kind of packaging material used and the maximum levels of heavy metals in the packaging material.

Duties

For pulleys and flywheels, a [2.7% duty](#) is levied on European imports from third countries. Several countries benefit from a preferential 0% tariff; for example, Indonesia, Pakistan, Vietnam, the Philippines, Bosnia and Egypt. The [TARIC database](#) shows more details for these products in Chapter 8483. Note that it is only possible to claim a preferential tariff treatment with a Certificate of Origin.

Tips:

The importance of customer satisfaction should not be underestimated. Of course, customers consider a good quality of the products important, but they also attach great value to compliance with delivery times and delivery volumes.

Make sure that your wood packaging material qualifies for the European market. If you are unsure, ask your wood packaging materials supplier for clarity. Your wood packaging material 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.

Exporters from a country with a preferential 0% tariff have a small competitive advantage over competitors from countries without such a preferential tariff.

You can use the [EU Export Helpdesk](#), the [ITC Market Access Map](#) and the [ITC Standards Map](#) for more

information on gaining access to the European market.

Non-legal requirements

The customer's main requirements will be related to the technical aspects of the pulley or flywheel, but the design, material, dimensions and finishing must also meet the customer's specifications.

Design and dimension requirements

the standards in Europe are intended to create unity in design and dimensional specifications. Such standards mostly apply to specific types of pulleys or flywheels, such as synchronous pulleys. Standards that European buyers request can be provided by several organisations such as ISO - International Standards Organization, ANSI - American National Standards Institute, DIN - Deutsches Institut für Normung, or BSI - British Standards Institution.

Material requirements

For material requirements, the following can be said in general: The metal that is used must be covered by a national or international standard and approved by a certificate. The material must meet the material standard, which can be stated in an EN10204 - type 3.1 certificate. This type of certificate is internationally accepted. The quality of the pulleys and flywheels is often determined by the quality of the casting. Manufacturers from developing countries should be aware that there will be a number of foundry requirements. Elements scrutinised by potential buyers include the material, hardness specification, mechanical properties, chemical properties, microstructure, surface finish, surface preparation, inspection, packaging, written certification, and so on. An understanding of the foundry processes as well as an appreciation of the machinery used are most likely to be required by the buyer, who may wish to know the melting process, moulding process, sand type, cores, patterns origins, and so on. Foundries usually require First Article Test Documents, also called "First Article Inspection Report" or FAIR.

Testing requirements

In addition, the customer may also have testing requirements such as non-destructive testing (NDT) surface (magnetic testing or MTI, penetrant testing or PT) and section (ultrasonic testing or UT, X-ray testing or RT) tests.

Tips:

More details can be found on the following websites:

- [ISO Catalogue](#) - Click on "TC 41" (Pulleys and belts) for an overview of ISO standards.
- The [online shop of the British Standards Institution](#) - search for "EN norms".

In fact, these issues are key in the sample phase. If the customer accepts 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.

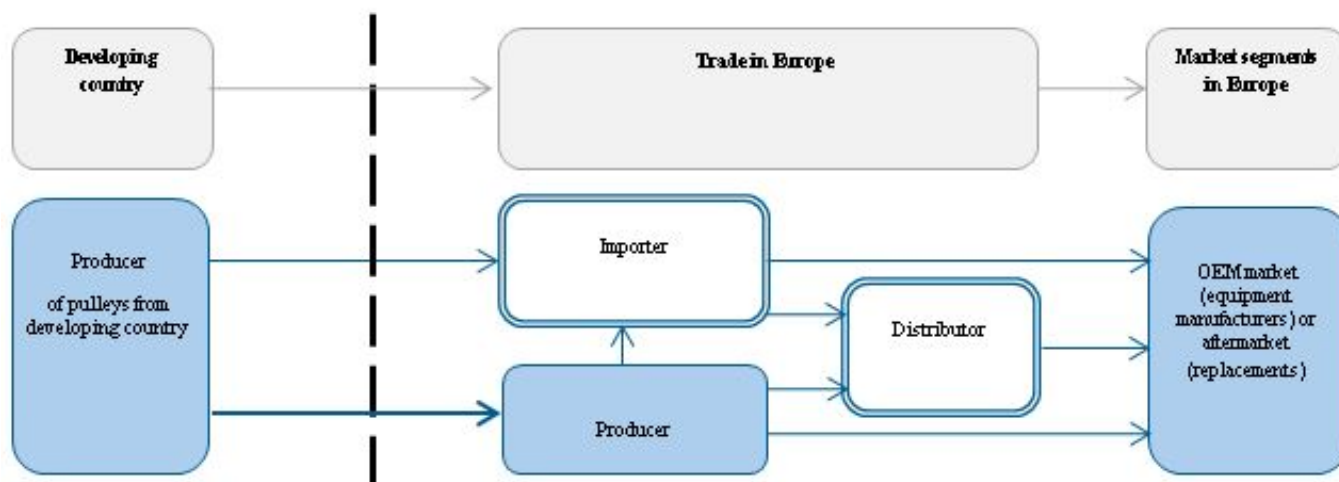
See our [10 tips for doing business with European buyers of motion, drives, control and automation](#) and our [10 tips for finding buyers in the motion control sector](#). These tips also offer more information on which topics are decisive for European buyers when searching for (new) suppliers.

5. Through what channels can you get pulleys and flywheels on

the European market?

Producers of pulleys from developing countries have two main options for entering the European market: through importers and pulley manufacturers.

Figure 5: Trade structure for pulleys in Europe



Europe is home to several interesting players. As each company is unique in terms of its own customers, market segments and products, the profile of the potential partner is very important. You are very likely, however, to find a match.

Producers

There are a few producers in Europe who have specialised in pulleys. Unsurprisingly, such specialisation is especially possible in large markets such as Germany and Italy. Examples of specialised manufacturers are [Bönisch](#) and [Optibelt](#) (Germany); [SIT](#) and [Poggi](#) (Italy); and [Cross + Morse](#) (the United Kingdom).

Most companies in Europe, however, are producing or at least offering a range of power transmission parts. In several cases, such generalists do not produce the whole range themselves, but they include products from other manufacturers in order to offer a complete range of transmission parts and products to their customers. Examples of such generalists in the European focus countries are:

- [Desch Antriebstechnik](#) - German producer of transmission elements;
- [Gambini Meccanica](#) - Italian producer of power transmission parts;
- [IPH](#) - French producer of and service provider for transmission and pneumatics products;
- [Groupe Fair](#) - French producer and service provider for power transmission;
- [Itafran](#) - French producer of pulleys and other mechanical transmission products;
- [Dunlop](#) - UK producer and distributor of mechanical transmission components;
- [PZM](#) - Polish producer of engine parts including pulleys;
- [Famalen](#) - Polish producer and distributor of industrial metal spare parts;
- [Pegas](#) - Polish producer of various industrial metal spare parts;
- [Martin](#) - Belgian producer of power transmission parts including pulleys;
- [Vermiere Belting](#) - Belgian producer of a wide range of power transmission parts;
- [Bierens](#) - Belgian producer of metal power transmission components.

Importers and distributors

The group of importers can be classified as generalists, as the majority of these sell a very broad range of power transmission parts and products. Examples of such importers in the European focus countries are the following:

- Germany: [HEPA Wälzlager](#), [A. Schererer](#) and [Carl Geisen](#);

- Italy: De Filipo Luigi, [Petean](#), [CDC group](#), [GMM](#) and [Trasmecam](#);
- France: [Michaud Chailly](#), [Tima](#), [Samie](#) and [SDC Imports](#);
- The United Kingdom: [Hayley](#), [Acorn](#), [Brammer](#), [NBC Group](#) and [LMB](#);
- Poland: [Prema](#), [TLC](#), [Wilhelm Herm. Müller](#), [Archimedes](#) and [OM](#);
- Belgium: [Dassy](#), [Peleman](#), [Imes](#), [Bogaert Transmission](#) and [Gallon](#).

6. What are the end-market prices for pulleys and flywheels?

To establish an export price, you need to consider many of the factors involved in pricing for the domestic market:

- Aim to charge the price that the market will bear, and keep in mind the quality-price ratio of your products. This ratio should be in line with competitor prices.
- Pricing is a mix of knowing your domestic costs and calculating costs that you will incur in delivering and supporting your activities in a foreign market.
- Use contracts with variable material costs. It is important to set the reference index for the fluctuations in agreement with the buyer. You can use, for example, the steel index of the [London Metal Exchange](#).
- Bear in mind that it is not easy to increase prices once you have agreed to deliver at a certain price. The negotiated price should never be below your cost price (except for the first order; in this case, you may accept a loss if larger quantities and thus lower costs are expected for the following orders). No European buyer will accept an unreasonable/unexpected price increase after the first order.
- The negotiated price depends on the delivery conditions, the means of payment, credit terms and currency risks, quantities and the means of transport.
- Exchange rates fluctuate. You can cover this risk by including the currency risk in the contract. This practice has been accepted in international business transactions for a few years.

Another very important issue is the responsibilities and rights relating to the pattern and tooling. The following pattern and tooling issues should all be covered in the contract: financing of manufacturing and possible repairs, guaranteed lifetime, ownership and storage.

Tips:


Use contracts with variable material costs.

Include the currency risk in the contract.


Include the responsibility and rights related to the pattern and tooling in the contract.

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