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# An introduction to CBI's market intelligence for pipes and process equipment

This document profiles the pipes and process equipment market in the EU.

## Product selection

The selected products can roughly be divided into four groups. These comprise the equipment necessary to:

- Store the medium (solid and liquid products or gas): storage vessels and tanks.
- Transport/move the medium: pipes, fittings and pumps.
- Process the medium into a final or intermediary product: heat exchangers, scrubbers, mixers, vaporisers and condensers.
- Measurement and control of the process: process instruments, safety devices and valves.

The main focus of the market intelligence related to pipes and process equipment is on its application in the water, oil and gas industries. Other industries of relevance to pipes and process equipment are the food, drink and pharmaceuticals processing industry, the chemical industry, the power generation industry and the construction industry.

Six main subsectors will be discussed: process instruments, process equipment, metal pipes and fittings, valves and plastic pipes and fittings. The first five subsectors are the major subsectors of the pipes and process equipment industry. The plastic pipes and fittings subsector has been chosen instead of the sixth subsector storage equipment, since storage equipment has a large volume-value ratio, and thus, offers few opportunities for developing countries (DCs). Instead, plastic pipes and fittings may offer better opportunities. The subsectors will briefly be discussed below. Table 1 explains the relationship of the chosen subsectors and products with the modules. Table 2 lists the indicated product groups as derived from the official Eurostat datasets, including all relevant Combined Nomenclature and Prodcod codes.

**Table 1 Selected subsectors, including selected product groups and/or products, and accessory market intelligence on EU and country level.**

Sector/subsector/product group/product	Market intelligence - EU level	Market intelligence - country level
Sector: Pipes and process equipment	All EU modules with the exception of 'Promising EU export markets' and 'Prices and price developments'	-
Subsector: Process instruments	'Promising EU export markets' and 'Prices and price developments'	-
Product: Level indicators	-	Czech Republic, Denmark, UK, Belgium, Germany, Netherlands
Subsector: Process equipment	'Promising EU export markets' and 'Prices and price developments'	-
Product group: Food processing equipment	-	Slovakia, Sweden, UK, France, Italy, Germany, the Netherlands.
Subsector: Metal pipes and fittings	'Promising EU export markets' and 'Prices and price developments'	-
Product group: Seamless pipes	-	Bulgaria, Romania, UK, Italy, Spain, Belgium, France, the Netherlands.
Subsector: Pumps	'Promising EU export markets' and 'Prices and price developments'	-
Product group: Submersible pumps	-	Poland, Romania, Sweden, UK, Italy, Spain, Belgium, Germany.
Subsector: Valves	'Promising EU export markets' and 'Prices and price developments'	-
Product group: Quarter-turn rotary valves	-	Czech Republic, Poland, Denmark, Sweden, Italy, Spain, Germany, the Netherlands, France
Subsector: Plastic pipes and fittings	'Promising EU export markets', 'Trends and segments', 'Trade structure and channels' and 'Prices and price developments'	Bulgaria, Czech Republic, Italy, Portugal, Spain, Austria, France.

#### *Process instruments*

This product group includes only those instruments that are in direct contact with the medium. Instruments can be used to measure the process variables and to control the medium and process; one example is level or temperature indicators.

#### *Process equipment*

These are primarily heat exchangers, processing vessels and the like. Process equipment is used to process the medium into a final or intermediary product.

#### *Metal pipes and fittings*

Metal pipes are used to transport/move the medium, and fittings are used to connect pipes to each other. Since non-ferrous metal pipes and fittings are not applied in the industries under review, only ferrous-metal pipes and fittings are included.

#### *Pumps*

A wide variety of pumps is included: centrifugal, positive displacement pumps and other types of pumps. Pumps belong to the second group of products: to transport/move the medium.

#### *Valves*

Valves are all the devices designed to control, reduce or block the flow in a tube or pipe. Some types of valves and actuators are gate, globe, check, butterfly, ball, knife, plug,

diaphragm & pinch, safety or relief, pressure reducing, process control, pneumatic control, electro hydraulic valves, and electric actuators.

#### *Plastic pipes and fittings*

Plastic pipes and fittings are made of several types of polymers. Their major applications differ from the major applications mentioned above; this is because plastic pipes and fittings do not actually belong to the pipes and process equipment industry. Major applications are transport and distribution of water and gas, sewage, drainage, electro protection and irrigation.

**Table 2 Selected subsectors, including all product groups and selected products, based on CN and Prodcom nomenclature\***

Subsectors and product groups	CN code	Prodcom code	Description
<b>Process instruments</b>			
parts thereof	903290-00/10/90	33208400	parts and accessories for regulating or controlling instruments and apparatus
thermostats	90321010	-	thermostats
	903210-20/30	33207015	electronic thermostats
	903210-81,89,91,99	33207019	thermostats
manostats	903220-00/10/90	33207030	manostats
other instruments	903281-00/10/90	33207050	hydraulic or pneumatic regulating or controlling instruments and apparatus
	903289-00/10/90	33207090	regulating or controlling instruments and apparatus
electronic meters	90261021	33205235	electronic flow meters for measuring or checking the flow or level of liquids
	90261029	33205239	electronic instruments and apparatus for measuring or checking the flow or level of liquids
	90268020	33205283	electronic instruments or apparatus for measuring or checking variables of liquids or gases
	90268091	33205289	electronic instruments or apparatus for measuring or checking variables of liquids or gases.
electronic pressure meters	90262010	33205259	instruments and apparatus for measuring or checking pressure of liquids or gases, for civil aircraft
	90262020	33205271	electronic instruments and apparatus for measuring or checking pressure of liquids or gases
	90262030	33205271	electronic instruments and apparatus for measuring or checking pressure of liquids or gases
non-electronic meters	90261081	33205255	flow meters for measuring or checking the flow or level of liquids, non-electronic
	<u>90261089</u>	<u>33205259</u>	instruments and apparatus for measuring or checking the flow or level of liquids, non-electronic
	90262080	33205279	instruments and apparatus for measuring or checking pressure of liquids or gases, non-electronic
	90262090	33205279	instruments and apparatus for measuring or checking pressure of liquids or gases, non-electronic
	90268080	33205289	non-electronic instruments or apparatus for measuring or checking variables of liquids or gases.
	90268099	33205289	non-electronic instruments or apparatus for measuring or checking variables of liquids or gases.
<b>Process equipment</b>			
filtering equipment	842121-00/10/90	29241230	machinery and apparatus for filtering or purifying water
	84212200	29241250	machinery and apparatus for filtering or purifying beverages other than water
	842129-00/10	29241270	machinery and apparatus for filtering or purifying liquids beverages, oil



Subsectors and product groups	CN code	Prodcom code	Description
	84213910	29241350	machinery and apparatus for filtering or purifying gases
	842139-20/30	29231410	machinery and apparatus for filtering or purifying air
	842139-40/51	29231420	machinery and apparatus for filtering or purifying gases (other than air), by a liquid process
	84219900	29245250	parts of machinery and apparatus for filtering or purifying liquids or gases
process equipment using heat	841911, 841919	29721400	water heaters
	84193100	29531550	dryers for agricultural products
	84193200	29562230	dryers for wood, paper pulp, paper or paperboard
	841939-10/90	29562250	dryers
	84194000	29241150	distilling or rectifying plant
	841950-00/10/90	29231130	heat-exchange units
	84198110	29231150	machinery, plant or laboratory equipment for cooking or heating food
	84198120	29531573	percolators and other appliances for making coffee and other hot drinks (excl. domestic appliances)
	841981-80/91/99	29531575	machinery, plant and equipment for cooking or heating food
	84198930	29244050	vacuum-vapour plant for the deposition of metal
	8419-8998/9010	29244090	other appliances and parts for treating materials using processes based on temperature change,
radiators and heaters (for central heating)	841990-80/85	29233080	parts of machinery, plant and laboratory equipment, for heating
	73221100	28221130	radiators for central heating, not electrically heated, and parts thereof, of iron or steel
	73221900	28221150	radiators for central heating, not electrically heated, and parts thereof, of iron other than cast iron or steel
refrigerating or freezing equipment	732290-00/10/90	29721300	air heaters and hot-air distributors
	841861-00/10/90	29231380	compression-type units whose condensers are heat-exchangers
	841869-00/10/80/99	29231390	refrigerating or freezing equipment and absorption heat pumps
	84189910	29233050	evaporators and condensers for refrigerating equipment (excl. household refrigerators)
boiler systems (vapour generating)	84189990	29233070	parts of refrigerating or freezing equipment and heat pumps
	84021100	28301110	watertube boilers
	84021200	28301130	watertube boilers
	84021910	28301150	firetube boilers
	84021990	28301150	vapour generating boilers, incl. hybrid boilers
	84022000	28301170	super-heated water boilers
	84029000	28301330	parts of vapour generating boilers and super-heated water boilers
	840310-10/90	28221200	central heating boilers, non-electric
	840390-10/90	28221300	parts of central heating boilers
	84041000	28301230	auxiliary plant for use with boilers
	84042000	28301250	condensers for steam or other vapour power units
84049000	28301350	parts of auxiliary plant and condensers for steam or other vapour power units	
other process equipment	84196000	29231150	machinery for liquefying air or other gases
	84198910	29244030	cooling towers and similar plant for direct cooling, without a separating wall
	84211910	29562100	centrifuges for civil aircraft (excl. isotope separators)
	842119-70/80/99	29243170	centrifuges, incl. centrifugal dryers
	842191-00/90	29245220	parts of centrifuges, including centrifugal dryers
<b>Food processing equipment (part of process equipment)</b>			

Subsectors and product groups	CN code	Prodcom code	Description
flour milling	84378000	29531300	machinery used in the milling industry or for the working of cereals or dried leguminous vegetables
bakery and confectionery	84379000	29532230	parts of machinery used in the milling industry or for the working of cereals or dried leguminous vegetables or machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables.
	84172010	29531533	tunnel bakery ovens, incl. biscuit ovens, non-electric
	84172090	29531535	bakery ovens, incl. biscuit ovens, non-electric
	84381010	29531613	bakery machinery
	84382000	29531620	machinery for the industrial preparation or manufacture of confectionery, cocoa or chocolate
fermentation and brewery	84384000	29531640	brewery machinery
	84351000	29531400	presses, crushers and similar machinery used in the manufacture of wine, cider, fruit juices or similar beverages
	84359000	29532150	parts of presses, crushers and similar machinery used in the manufacture of wine, cider, fruit juices or similar beverages.
dairy processing	84211100	29531100	centrifugal cream separators
	84342000	29531200	dairy machinery
	84349000	29532130	parts of milking machines and dairy machinery.
beverages	84198120	29531573	percolators and other appliances for making coffee and other hot drinks (excl. domestic appliances)
	84388091	29531670	machinery for the industrial preparation or manufacture of drink
	84388010	29531670	machinery for the industrial preparation of tea or coffee
meat processing	84385000	29531650	machinery for the industrial preparation of meat or poultry
agricultural products processing	84193100	29531550	dryers for agricultural products
food	84198180	29531575	machinery, plant and equipment for cooking or heating food (excl. percolators and other appliances for making hot drinks and domestic appliances)
	84381090	29531615	machinery for the industrial preparation or manufacture of macaroni, spaghetti or similar products
other food and drinks	84383000	29531630	machinery for sugar manufacture
	84388099	29531670	machinery for the industrial preparation or manufacture of food or drink.
fruit and nuts	84386000	29531660	machinery for the industrial preparation of fruits, nuts or vegetables
fat and oil	84792000	29531680	machinery for the extraction or preparation of animal or fixed vegetable fats or oils
parts thereof	84389000	29532250	parts of machinery for the industrial preparation or manufacture of food or drink.
<b>Pipes and fittings of metal</b>			
cast pipes	730300-10/90	27211000	tubes, pipes and hollow profiles, of cast iron
fittings and flanges	73071110	27212033	tube or pipe fittings of non-malleable cast iron, of a kind used in pressure systems
	73071190	27212035	tube or pipe fittings of non-malleable cast iron
	73071910	27212050	tube or pipe fittings of malleable cast iron
	73071990	27212070	tube or pipe fittings of iron or steel
	7307-21/91	27222010	flanges
	730722-10/90, 730729-10, 730792-10/90, 73079910	27222030	fittings, sleeves, elbows and bends, threaded
	7307-2310/9311/9391	27222073	butt welding elbows and bends

Subsectors and product groups	CN code	Prodcod code	Description
	73072390	27222075	butt welding tube or pipe fittings of stainless steel
	730729-30/90	27222050	tube or pipe fittings of stainless steel
	730793-19/99	27222075	butt welding fittings of iron or steel
	730799-30/90	27222050	tube or pipe fittings for welding
seamless pipes	7304	27221010 to 27221050	seamless pipes
welded pipes	7305 and 7306	27221061 to 27221098	welded pipes
<b>Pumps</b>			
parts of pumps	841391-00/10/90, 841392	29124200	parts of pumps and liquid elevators
other pumps	841319-00/10/90	29122130	pumps for liquids, fitted with a measuring device
	841381-00/10/90, 841382	29122480	pumps for liquids, power-driven, and liquid elevators
reciprocating positive displacement pumps	84135010	29122190	reciprocating positive displacement pumps
	841350-20/30	29122210	hydraulic units, with pumps
	841350-40/50	29122230	dosing and proportioning reciprocating positive displacement pumps, power-driven
	84135061	29122250	hydraulic fluid power piston pumps
	841350-69/71/79	29122270	piston pumps
	841350-80/90	29122290	reciprocating positive displacement pumps
	rotary positive displacement pumps	84136010	29122290
841360-20/30		29122310	hydraulic units, with pumps
84136031		29122333	hydraulic fluid power gear pumps (excl. hydraulic units)
841360-39/41/49/51/59/60		29122335	gear, vane and screw pumps
84136061		29122353	hydraulic fluid power vane pumps
84136069		29122355	vane pumps, power-driven
84136070		29122373	screw pumps, power-driven
841360-80/90		29122375	rotary positive displacement pumps, power-driven
centrifugal pumps	84137010		centrifugal pumps, power-driven
	84137021	29122413	submersible pumps, single-stage
	84137029	29122415	submersible pumps, multi-stage
	84137030	29122417	glandless impeller pumps for heating systems and warm water supply (circulator pumps)
	841370-35/40	29122420	pumps, power-driven, with an outlet diameter <15 mm
	841370-45/50	29122430	channel impeller and side channel pumps
	84137051	29122451	radial flow centrifugal pumps
	841370-59/61	29122453	radial flow centrifugal pumps
	841370-65/69/70	29122455	radial flow centrifugal pumps, single-stage
	841370-75/80	29122460	radial flow centrifugal pumps, multi-stage
	84137081	29122471	single-stage centrifugal pumps, power-driven, with a discharge outlet diameter > 15 mm
	841370-89/91/99	29122475	centrifugal pumps, power-driven, with a discharge outlet diameter > 15 mm
	<b>Valves</b>		
check valves	848130-91/99	29131172	check valves
safety valves	848140-10/90	29131176	safety or relief valves
pressure-reducing valves	84811005	29131134	pressure-reducing valves combined with filters or lubricators
	84811019	29131135	pressure-reducing valves, of cast iron or steel
	84811099	29131139	pressure-reducing valves, of base metal
process control valves	84818051	29131313	thermostatically controlled process valves
	84818059	29131315	process control valves
gate valves	84818061	29131333	gate valves

Subsectors and product groups	CN code	Prodcom code	Description
	84818063	29131335	gate valves
	84818069	29131337	gate valves
globe valves	84818071	29131353	globe valves of cast iron
	84818073	29131355	globe valves of steel
	84818079	29131357	globe valves
diaphragm valves	84818087	29131377	diaphragm valves
other valves	84818099	29131380	valves not defined elsewhere
parts thereof	84819000	29132000	parts of valves
<u>Quarter-turn rotary valves</u>	<u>84818081</u>	<u>29131373</u>	<u>ball and plug valves</u>
<u>rotary valves</u>	<u>84818085</u>	<u>29131375</u>	<u>butterfly valves</u>
<b>Plastic pipes and fittings</b>			
fittings	391740-00/10/90	25212270	Fittings of plastics, for tubes, pipes and hoses
rigid, PE	391721-10/90/91/99	25212153	rigid tubes, pipes and hoses of polymers of ethylene
rigid, PP	391722-10/90/91/99	25212155	rigid tubes, pipes and hoses, of polymers of propylene
rigid, PVC	391723-10/90/91/99	25212157	rigid tubes, pipes and hoses of PVC
rigid, other	391729-12/15/19/90/91/99	25212170	rigid tubes, pipes and hoses, of condensation or rearrangement polymerisation products
flexible, reinforced	391731-00/10/90	25212220	flexible tubes, pipes and hoses, of plastics, burst pressure $\geq 27,6$ mpa
	391739-12/15/19/90	25212250	flexible tubes, pipes and hoses of condensation or rearrangement polymerisation products
	391739-91/99	-	flexible tubes, pipes and hoses of plastics, reinforced or otherwise combined with other materials
flexible (not reinforced)	391732-10/31/35/39/51/99	25212235	flexible tubes, pipes and hoses, not reinforced
	391733-00/10/90	25212237	flexible tubes, pipes and hoses of plastics, not reinforced, with fittings

Source: Eurostat (2011)

\*The selected products for the market intelligence on country level are underlined.

### Statistical product classification

#### Prodcom and Combined nomenclature (CN)

For this sector two different sets of statistical data are used. Both sets have been provided by Eurostat, the statistical body of the EU.

The first set is derived from Prodcom. The term Prodcom is derived from PRODUcts of the European COMmunity. This is a survey based on products whose definitions are standardised across the EU to allow comparability between member countries' data. Prodcom covers some 4,800 products which are assigned to some 250 industries as defined by the Standard Industrial Classification (SIC). Prodcom data contain production, imports and exports. For this sector Prodcom data are used to indicate production.

The second set is the trade data based on the Combined Nomenclature. The abbreviation CN stands for Combined Nomenclature. This Combined Nomenclature contains the goods classification prescribed by the EU for international trade statistics. The CN is an 8-digit classification consisting of a further specification of the 6-digit Harmonised System (HS). HS was developed by the World Customs Organisation (WCO). The system covers about 5,000 commodity groups, each identified by a six-digit code. More than 179 countries and economies use the system. For this sector CN data are used to indicate imports and exports.

Based on the above data, apparent industrial demand can be calculated as follows:  
apparent industrial demand = production + imports -/- exports. Variations in inventory are not taken into account. Two problems occur: sometimes negative consumption is calculated; this is the case when exports are higher than production and imports

combined, and in that case figures are treated as not available. Furthermore, figures sometimes show a discrepancy between years, for example, a large fall or extraordinary growth. For the decision-making process these figures are therefore not accurate enough and they should be used in conjunction with further market research.

#### *Statistical data: limitations*

Trade figures must be interpreted and used with extreme caution.

Prodcum data are less reliable than import and export statistics, as they are not part of the official data collection for Customs. Companies only have to send in their data on an annual or quarterly basis. Figures sometimes show a discrepancy between years, e.g., a large fall or extraordinary growth. These problems are caused by inaccurate, inconsistent and untimely reporting by companies. However, Prodcum data are the only official source for production and apparent consumption data, displaying numbers at product group level and describing the different EU markets in detail. Therefore, they are useful in gaining an indication of size and trends within those markets. For the decision-making process, however, these figures are not accurate enough and should be used in conjunction with further market research.

In the case of intra-EU trade, statistical surveying is only compulsory for exporting and importing firms whose trade exceeds a certain annual value. The threshold varies considerably from country to country, but it is typically about €100,000. As a consequence, although figures for trade between the EU and the rest of the world are accurately represented, trade within the EU is generally underestimated.

Furthermore, the information used is obtained from a variety of sources. Therefore, extreme care must be taken in the qualitative use and interpretation of quantitative data; it puts limitations on in-depth interpretation of relations between consumption, production and trade figures within one country and between different countries.

The HS classification given differs from the product groups and products mentioned in the preceding paragraphs, this puts limitations on in-depth interpretation and of the possible relations between import and export figures on the one hand and consumption and production figures on the other hand.

#### **Qualitative data: limitations**

CBI market intelligence is as detailed as possible. However, sometimes, when writing on subsectors or product(group)s, qualitative information on the subsector or product(group) concerned is not available and information on the sector is given.

#### **The importance of trends**

In addition to the most recent statistics, the CBI is of the opinion that the trends behind the figures are more significant. In many sectors, Germany is, for example, the largest EU market; the CBI believes it is more important to focus on the latest mid to long term trends and developments - how is this market developing, is it still growing, are imports from DCs growing, is Germany outsourcing production - instead of providing the very latest statistics.

#### **The importance of conducting further research**

The CBI's market intelligence should be used as a starting point when researching the EU market. Since CBI market intelligence focuses on sectors, sub sectors and product groups instead of products, exporters and BSOs are advised to conduct further research on their specific product. Furthermore, we ask our market researchers to cross-check their information (compare information from different sources) and we advise exporters and BSOs to do the same and not to make decisions based upon one source (CBI).

### **Introduction to the EU market**

The European Union (EU) is the current name for the former European Community. From January 1995 the EU consisted of 15 member states. Ten new countries joined the EU in May 2004. In January 2007 two more countries - Bulgaria and Romania - joined the EU. Negotiations are in progress with a number of other candidate member states. In this survey, the EU is referred to as the EU27, unless otherwise stated.

Cultural awareness is a critical skill in securing success as an exporter. The enlargement of the EU has increased the size of the EU, and also significantly increased its complexity. With more people from culturally diverse backgrounds, effective communication is necessary. Be aware of differences in relation to meeting and greeting people (use of names, body language etc.) and to building relationships. There are also differences in dealings with hierarchy, presentations, negotiating, decision-making and handling conflicts. More information on cultural differences can be found in chapter 3 of the CBI's export manual 'Exporting to the EU (2006)'.

General information on the EU can also be found on the official EU website: [http://europa.eu/abc/governments/index\\_en.htm](http://europa.eu/abc/governments/index_en.htm) or the free encyclopaedia Wikipedia: <http://en.wikipedia.org/wiki/Portal:Europe>.

### **Monetary unit: Euro**

On 1 January 1999, the Euro became the legal currency within eleven EU member states: Austria, Belgium, Finland, France, Germany, Italy, Ireland, Luxembourg, The Netherlands, Spain, and Portugal. Greece became the 12th member state to adopt the Euro on January 1, 2001. Slovenia adopted the Euro in 2007. Cyprus and Malta joined the euro-zone in January 2008; Slovakia in January 2009. Since 2002, Euro coins and banknotes have replaced the national currency in these countries. In CBI market surveys, the Euro (€) is the basic currency unit used to indicate value. For exchange rates of EU currencies in €, please visit <http://www.oanda.com>.

## List of developing countries

OECD DAC list - August 2009

When referring to developing countries in the CBI market surveys, reference is made to the group of countries on this OECD DAC list from August 2009.

Afghanistan	Eritrea	Mongolia	Timor-Leste
Albania	Ethiopia	Montenegro	Togo
Algeria	Fiji	Montserrat	Tokelau
Angola	Former Yugoslav Republic of Macedonia	Morocco	Tonga
Anguilla	Gabon	Mozambique	Trinidad & Tobago
Antigua and Barbuda	Gambia	Myanmar	Tunisia
Argentina	Georgia	Namibia	Turkey
Armenia	Ghana	Nauru	Turkmenistan
Azerbaijan	Grenada	Nepal	Tuvalu
Bangladesh	Guatemala	Nicaragua	Uganda
Barbados	Guinea	Niger	Ukraine
Belarus	Guinea-Bissau	Nigeria	Uruguay
Belize	Guyana	Niue	Uzbekistan
Benin	Haiti	Oman	Vanuatu
Bhutan	Honduras	Pakistan	Venezuela
Bolivia	India	Palau	Vietnam
Bosnia & Herzegovina	Indonesia	Palestinian Admin. Areas	Wallis & Futuna
Botswana	Iran	Panama	Yemen
Brazil	Iraq	Papua New Guinea	Zambia
Burkina Faso	Jamaica	Paraguay	Zimbabwe
Burundi	Jordan	Peru	
Cambodia	Kazakhstan	Philippines	
Cameroon	Kenya	Rwanda	
Cape Verde	Kiribati	Samoa	
Central African Rep.	Korea Dem. Rep.	Sao Tome & Principe	
Chad	Kosovo	Senegal	
Chile	Kyrgyz Rep.	Serbia	
China	Laos	Seychelles	
Colombia	Lebanon	Sierra Leone	
Comoros	Lesotho	Solomon Islands	
Congo Democratic Rep.	Liberia	Somalia	
Congo Rep.	Libya	South Africa	
Cook Islands	Madagascar	Sri Lanka	
Costa Rica	Malawi	St. Helena	
Cote d'Ivoire	Malaysia	St. Kitts Nevis	
Croatia	Maldives	St. Lucia	
Cuba	Mali	St. Vincent & Grenadines	
Djibouti	Marshall Islands	Sudan	
Dominica	Mauritania	Suriname	
Dominican Republic	Mauritius	Swaziland	
Ecuador	Mayotte	Syria	
Egypt	Mexico	Tajikistan	

Document

El Salvador	Micronesia, Fed. States	Tanzania	
Equatorial Guinea	Moldova	Thailand	





# Compliance with EU buyer requirements for pipes and process equipment

Buyer requirements are all the requirements you can expect from your EU buyer. They can be divided into two groups: legislation and additional non-legal requirements.

Legal requirements are the minimum requirements products marketed in the EU must meet. Products that fail to meet these requirements are not allowed to enter the EU market. EU legislation sets the basis for legal requirements in the EU, but there may be some differences in the implementation into national legislation in the member states. This information is also provided in Table 1 (starting on the next page), which presents an overview of legal requirements applicable to pipes and process equipment. For information on other relevant national legislation, check the related documents at <http://www.cbi.eu/marketinfo>.

Additional, non-legal requirements extend beyond legislation, as companies can go further in their requirements than legislation. The main categories related to additional requirements are organisational requirements (such as ISO 9001 or process control), environmental requirements and social (labour) requirements. For more information on non-legal requirements, check the related documents at <http://www.cbi.eu/marketinfo>.

**Table 1 Overview of legal EU requirements for pipes and process equipment, including information on how member states have implemented the requirements**

Legislation	Source	Brief description	More information	Member state implementation
CE-marking general: Instruction on implementing CE-marking	NA	Any product that comes under one of the so-called New Approach Directives of the EU and is going to be placed on the EU market has to bear CE-marking. In these instructions you can read about the main elements of CE marking, ranging from the New Approach policy, implementation of standards, conformity assessment and modules, risk assessment, technical documentation, user manual and declaration of conformity.	<a href="#">EU legislation on CE-marking: Instruction on implementing CE-marking</a>	NA
CE-marking: ATEX	Directive 94/9/EC	The EU legislation on CE-marking: ATEX document will guide you through the whole process of CE-marking.	<a href="#">EU legislation on CE-marking: ATEX</a>	See link EU legislation
CE-marking: Construction products	Directive 89/106/EEC	The EU legislation on CE-marking: Construction products document will guide you through the whole process of CE-marking.	<a href="#">EU legislation on CE-marking: Construction products</a>	See link EU legislation
CE-marking: Electromagnetic Compatibility	Directive 2004/108/EC	The EU legislation on CE-marking: Electromagnetic Compatibility document will guide you through the whole process of CE-marking.	<a href="#">EU legislation on CE-marking: Electromagnetic Compatibility</a>	See link EU legislation
CE-marking: Energy-using Products	Directive 2005/32/EC	The EU legislation on CE-marking: Energy-using Products Compatibility document will guide you through the whole process of CE-marking.	<a href="#">EU legislation on CE-marking: Energy-using Products</a>	See link EU legislation
CE-marking: Low Voltage Equipment	Directive 2006/95/EC	The EU legislation on CE-marking: Low Voltage Equipment Compatibility document will guide you through the whole process of CE-marking.	<a href="#">EU legislation on CE-marking: Low Voltage Equipment</a>	See link EU legislation
CE-marking: Machinery	2006/42/EC	The EU legislation on CE-marking: Machinery document will guide you	<a href="#">EU legislation on CE-marking: Machinery</a>	See link EU legislation

Legislation	Source	Brief description	More information	Member state implementation
		through the whole process of CE-marking.		
CASE: CE-marking: Electric pump	2006/42/EC	In this document you can see an example on how to go through the process of CE-marking an electric pump.	<a href="#">EU legislation on CE-marking: Electric pump (case)</a>	NA
CE-marking: Measuring Instruments	Directive 2004/22/EC	The EU legislation on CE-marking: Measuring Instruments document will guide you through the whole process of CE-marking.	<a href="#">EU legislation on CE-marking: Measuring Instruments</a>	See link EU legislation
CE-marking: Pressure Equipment	Directive 97/23/EC	The EU legislation on CE-marking: Pressure equipment document will guide you through the whole process of CE-marking.	<a href="#">EU legislation on CE-marking: Pressure Equipment</a>	See link EU legislation
CE-marking: Refrigerating appliances	Directive 96/57/EC	The EU legislation on CE-marking: Energy efficiency requirements document will guide you through the whole process of CE-marking.	<a href="#">EU legislation on CE-marking: Refrigerating appliances</a>	See link EU legislation
CE-marking: Simple Pressure Vessels	Directive 87/404/EEC	The EU legislation on CE-marking: Simple Pressure Vessels document will guide you through the whole process of CE-marking.	<a href="#">EU legislation on CE-marking: Simple Pressure Vessels</a>	See link EU legislation
Cadmium in several products	Regulation (EC) 1907/2006: REACH	Cadmium compounds are carcinogenic agents, which are used in different applications. EU legislation restricts the use of cadmium in the following three cases: (1) cadmium used as plastic pigment (2) cadmium used as stabiliser in plastics and (3) cadmium used as coating of metallic plates and surfaces.	<a href="#">EU legislation: Cadmium in several products</a>	NA
Liability for defective products	Directive 85/374/EEC	The Product Liability Directive states that the EU importer is liable for the products put on the European market. The EU importer, however, can in principle pass on a claim to the producer/exporter.	<a href="#">EU legislation: Liability for defective products</a>	See link EU legislation
Organotin compounds	Regulation (EC) 1907/2006:	If you are an exporter of, for example paints and coatings,	<a href="#">EU legislation: Organotin compounds</a>	NA

Legislation	Source	Brief description	More information	Member state implementation
	REACH	textiles, footwear, PVC pipelines or childcare articles, you have to make sure that your products meet the EU legislative requirements on organotin compounds, before you can place them on the EU market.		
Chemical REACH	Regulation (EC) 1907/2006	REACH is the chemical legislation of the EU that came into force on 1st June 2007. This document gives answers to the basic questions on REACH and the possible effects for exporters from developing countries. Furthermore, a clear outline of the legislation is given.	<a href="#">EU legislation: Chemicals REACH</a>	NA
<b>Packaging</b>				
Packaging and packaging waste	Directive 94/62/EC	EU packaging legislation restricts the use of certain heavy metals, among other requirements.	<a href="#">EU legislation: Packaging and packaging waste</a>	<a href="#">EU legislation: Packaging and packaging waste</a>
Wood packaging materials used for transport (including dunnage)	Directive 2000/29/EC	The EU sets requirements for wood packaging materials (WPM) such as packing cases, boxes, crates, drums, pallets, box pallets and dunnage (wood used to wedge and support non-wood cargo).	<a href="#">EU legislation: Wood packaging materials used in transport (dunnage)</a>	<a href="#">EU legislation: Wood packaging materials used in transport (dunnage)</a>
<b>National additional legislation</b>				
Denmark legislation: Industrial greenhouse gases in products (additional requirements)	Statutory Order No. 552 of 2002	In Denmark, the industrial greenhouse gases HFCs, PFCs and SF6, are prohibited in products.	<a href="#">Denmark legislation: Industrial greenhouse gases in products (additional requirements)</a>	NA
Denmark legislation: Lead in products (additional requirements)	Statutory Order No. 1082 of 2007	Denmark has introduced a general restriction on import and marketing of products containing lead.	<a href="#">Denmark legislation: Lead in products (additional requirements)</a>	NA
Denmark	Statutory	Denmark has set	<a href="#">Denmark legislation:</a>	NA

Compliance with EU buyer requirements for pipes and process equipment

Legislation	Source	Brief description	More information	Member state implementation
legislation: Mercury in products (additional requirements)	Order no. 627 of 2003	national legislation on mercury and mercury compounds in products.	<a href="#">Mercury in products (additional requirements)</a>	
The Netherlands legislation: Mercury in several products (additional requirements)	Decree on products containing mercury of the Environmental Protection Act	The Netherlands has additional legislation concerning the prohibition of mercury (compounds) in all products.	<a href="#">The Netherlands legislation: Mercury in several products (additional requirements)</a>	NA



# Promising EU export markets for metal pipes and fittings

## Country selection

The EU metal pipes and fittings market is an interesting market for developing country (DC) exporters. Virtually all EU countries offer opportunities for DC exporters. Of course, this depends on many factors: for example on the size of a market segment in a specific country, on the types of metal pipes and fittings demanded and on the local market circumstances.

The most promising markets in the different EU regions are:

- Central and Eastern Europe: Bulgaria, Romania.
- Northern Europe: United Kingdom.
- Southern Europe: Italy, Spain.
- Western Europe: Belgium, France, the Netherlands.

The selection of these countries is based on the opinion of a leading industry expert who is affiliated to the CBI Export Coaching Programme (ECP) of Pipes and Process equipment, and on the import data of seamless pipes and fittings (note: the data in Table 1 cover all metal pipes and fittings).

Some important notes on the country selection process are:

- The selection of these countries does not mean there are no opportunities in other EU countries. In general, virtually all EU countries offer opportunities for DC exporters.
- The countries selected might be the best choice for one specific DC exporter to focus on, but possibly not for another. To a very large extent, it depends on the type of product(s) a DC exporter produces. It may be a very specific type of product in terms of size, material, or application, for example.
- The attractiveness of a market largely depends on the local circumstances in each country. For example, a DC producer of stainless steel flanges aiming to export to the EU may discover that the largest and fastest growing markets are also the markets with strong competition from local and international suppliers. Alternatively, it might turn out that some small or medium-sized markets with low growth figures offer better opportunities.
- The prioritisation of EU export markets may depend on the country of origin. For example, an exporter from Colombia may prefer to start exploring opportunities in Spain, while an exporter from Tunisia may prefer France or a Southern European country.
- The selection of countries was done per EU region in order to focus on the whole EU area. At the same time, attention was paid to the spread of countries in the other subsectors of pipes and process equipment as well. This was done to prevent a selection of the same countries for each subsector. As a result, these factors have led to the exclusion of the large and promising market of Germany.

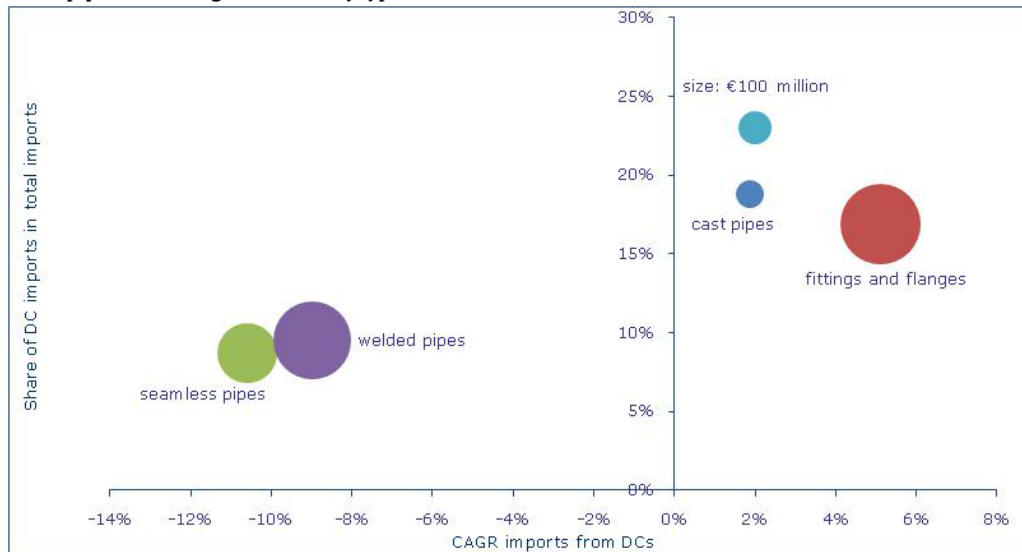
Refer to 'Selecting priority countries for pipes and process equipment' for a guideline on how to select your own EU priority countries.

## Product selection

Whereas last year the whole metal pipes and fittings market was covered, this time a focus has been made on seamless pipes, for the reason that several of the participants of the CBI ECP 'Pipes and Process Equipment' in the subsector metal pipes and fittings produce

seamless pipes. Nevertheless, it is worthwhile to have an in-depth look at the development of imports per type of pipes and fittings as far as data are available. For DC exporters, Figure 1 gives an interesting overview of EU imports of metal pipes and fittings from DCs by type. Look at the size and position of the types you make and determine which type of product(s) would most likely have the best opportunities on the EU market.

**Figure 1 EU imports: size, growth (Compound Annual Growth Rate) and share of metal pipes and fittings from DCs, by type, 2006-2010**



Source: Eurostat (2011)

Figure 1 shows that fittings and flanges was the largest imported group from DCs, followed by welded pipes. Furthermore, cast pipes had the highest share of DC imports in total imports, while fittings and flanges experienced the highest growth.

### Opportunities and threats

- ± After a peak in EU demand of €56 billion in 2007, demand dropped sharply due to the economic slowdown to a value of €22 billion in 2009. EU production showed a comparable development; it also peaked in 2007 (€72 billion). From 2010 onwards, demand has increased again. Despite the drop in demand/production, the EU market still offers opportunities, not only in terms of exporting, but also in terms of subcontracting activities.
- ± Total EU imports peaked in 2007 (€20 billion), but due to a drop in 2008 and a sharp drop in 2009, on average imports declined by 4.6% per year in the period 2006-2010. The year 2010 showed an increase again (6.7%). The same pattern was visible for DC supplies. As a result, the DC share remained virtually stable at 11%.
- + China accounted for 43% of all imports coming from DCs. China was followed by Turkey (21%), India (12%), Ukraine (5.3%), Belarus (3.1%), Macedonia (1.9%) and Bosnia and Herzegovina (1.8%). Of the main DC suppliers, Thailand experienced the highest growth (+12% per year), followed by Bosnia and Herzegovina (6.0%) and India (4.0%).
- + Germany was the largest import market in the EU, followed by France, the UK and Italy. Therefore (it goes without saying), DC exporters should do their best to find a way to enter these markets.
- ± Only few EU countries saw a growth in imports from DCs.

- + Germany, the UK, Italy, Spain, the Netherlands, Belgium and France were the largest importers of metal pipes and fittings from DCs.<sup>1</sup> Together, they accounted for 75% of total imports from DCs. Although these import data may also include intercompany sales of global players, this is an indication that companies from these countries already source many metal pipes and fittings in DCs. In absolute terms, the Czech Republic represented the highest growth in imports from DCs, followed by France, Austria, Germany, Denmark, the Netherlands and Sweden.
- + Relatively high shares in imports from DCs were registered by Cyprus, Bulgaria, Greece, Spain, Italy, Romania, the UK and Hungary.
- Growing demand for high-tech products, such as leak free flanges. Most DC manufacturers are not able to produce such products yet.
- There are only opportunities on the EU market for metal pipes and fittings that meet all relevant requirements and standards. So far, experience has shown that DC exporters face difficulties in meeting these EU standards.

A comparison of demand, production and imports from DCs for the EU and all individual EU countries is shown in Table 1.

**Table 1 Comparison of metal pipes and fittings demand, production and imports from DCs, by country, € million**

	Total demand		Total production		Total imports		DC imports		DC share of imports	Attractivity index**
	value 2009	CAGR* 05-09	value 2009	CAGR 05-09	value 2010	CAGR 06-10	value 2010	CAGR 06-10		
EU	22,234	-12.0%	29,041	-12.7%	13,772	-4.6%	1,575	-4.7%	11.4%	
Germany	3,662	-16.0%	6,254	-16.8%	2,566	-3.8%	286	1.3%	11.1%	+++
UK	2,446	-8.1%	2,484	-8.3%	1,353	-7.0%	251	-5.9%	18.5%	+++
Italy	3,965	-13.0%	8,323	-11.4%	1,032	-9.1%	196	-10.7%	19.0%	+++
Spain	1,646	-18.0%	2,053	-14.8%	637	-12.3%	125	-10.1%	19.6%	+++
Netherlands	843	-10.0%	1,052	-5.1%	967	-6.7%	122	1.2%	12.6%	++
Belgium	850	-7.1%	711	-1.3%	776	-5.6%	104	-15.2%	13.4%	+++
France	3,189	-3.7%	3,168	-8.3%	1,445	-4.5%	102	5.2%	7.0%	++
Romania	389	1.5%	267	-25.0%	287	5.1%	54	-0.9%	18.8%	+
Poland	874	-4.4%	614	-1.0%	650	-1.4%	49	-2.7%	7.5%	+
Czech Republic	680	-6.4%	816	-10.1%	566	0.8%	46	23.1%	8.1%	+
Austria	872	-7.3%	1,154	-16.2%	588	-5.0%	41	13.7%	7.0%	+
Hungary	221	-17.0%	60	-20.9%	223	-4.9%	37	2.5%	16.7%	+
Denmark	367	-16.0%	191	-13.7%	325	-10.3%	24	9.4%	7.3%	+
Sweden	549	-16.0%	1,026	-9.2%	792	5.2%	22	6.5%	2.8%	+
Bulgaria	106	-5.7%	93	11.6%	66	-10.9%	19	-17.0%	29.3%	+
Greece	148	-24.0%	68	-43.2%	65	-12.1%	17	-17.9%	25.9%	+
Portugal	306	-11.0%	71	-23.9%	203	-3.9%	15	0.3%	7.3%	+
Slovakia	201	-13.0%	200	-15.2%	206	-0.4%	12	-7.9%	5.6%	+
Slovenia	94	-14.0%	42	-18.2%	101	-2.4%	12	-6.7%	12.1%	+
Ireland	146	-17.0%	36	5.4%	92	-13.3%	11	-14.3%	12.2%	+
Finland	488	-22.0%	294	-26.1%	617	13.6%	8	12.4%	1.3%	+
Cyprus	17	-1.5%	0	-100.0%	16	3.2%	7	3.2%	46.6%	-
Estonia	47	-20.0%	14	2.2%	58	-8.5%	6	-16.6%	9.5%	+/-
Lithuania	34	-31.0%	13	9.8%	60	-10.3%	5	-30.1%	7.8%	+/-
Latvia	38	-22.0%	18	-12.5%	42	-8.1%	3	-17.4%	6.4%	+/-
Luxembourg	50	-5.8%	18	-2.3%	33	2.6%	2	54.2%	6.2%	-

<sup>1</sup> Transit trade doesn't play a large role in this subsector. Only Belgium and the Netherlands are transit trade countries of predominantly metal fittings for destination within the EU.



	Total demand		Total production		Total imports		DC imports		DC share of imports	Attractivity index**
	value 2009	CAGR* 05-09	value 2009	CAGR 05-09	value 2010	CAGR 06-10	value 2010	CAGR 06-10		
Malta	5	-23.0%	0	-100.0%	6	-4.5%	1	-13.2%	11.9%	-

Source: Eurostat (2011) and Eurostat Prodcum (2011)

\*Compound Annual Growth Rate

\*\*+++ and ++ means 'very attractive', + means 'attractive', - means 'unattractive', +/- means 'neutral'.



# Promising EU export markets for valves

## Country selection

The EU valves market is an interesting market for developing country (DC) exporters. Virtually all EU countries provide opportunities for DC exporters. Of course, this depends on many factors: for example, on the size of a market segment in a specific country, on the types of valves demanded and on the local market circumstances. The most promising markets in the different EU regions are:

- Central and Eastern Europe: Czech Republic and Poland.
- Southern Europe: Italy and Spain.
- Western Europe: Germany, France and the Netherlands.
- Northern Europe: Denmark and Sweden.

The selection of these countries is based on the opinion of a leading industry expert who is affiliated to the CBI Export Coaching Programme (ECP) of Pipes and Process equipment, and on the import data of quarter-turn rotary valves (note: the data in Table 1 cover all valves).

Some important notes on the country selection process are:

- The selection of these countries does not imply that there are no opportunities in other EU countries. In general, virtually all EU countries provide opportunities for DC exporters.
- The countries selected might be the best choice for one specific DC exporter to focus on, but possibly not for another. To a very large extent, it depends on the type of valve(s) a DC exporter produces. It may be a very specific type of valve in terms of size, material, or application, for example.
- The attractiveness of a market largely depends on the local circumstances in each country. For example, a DC producer of ball valves aiming to export to the EU may discover that the largest and fastest growing markets are also the markets with strong competition from local and international suppliers. Alternatively, it might turn out that some small or medium-sized markets with low growth figures offer better opportunities.
- The prioritisation of EU export markets may depend on the country of origin. For example, an exporter from Colombia may prefer to start exploring opportunities in Spain, while an exporter from Tunisia may prefer France or another Southern European country.
- The selection of countries was made per EU region in order to focus on the whole EU area. At the same time, attention was also paid to the spread of countries in the other subsectors of pipes and process equipment. This was done to prevent a selection of the same countries for each subsector. In this case, these factors have led to the exclusion of the large and promising market of the UK.

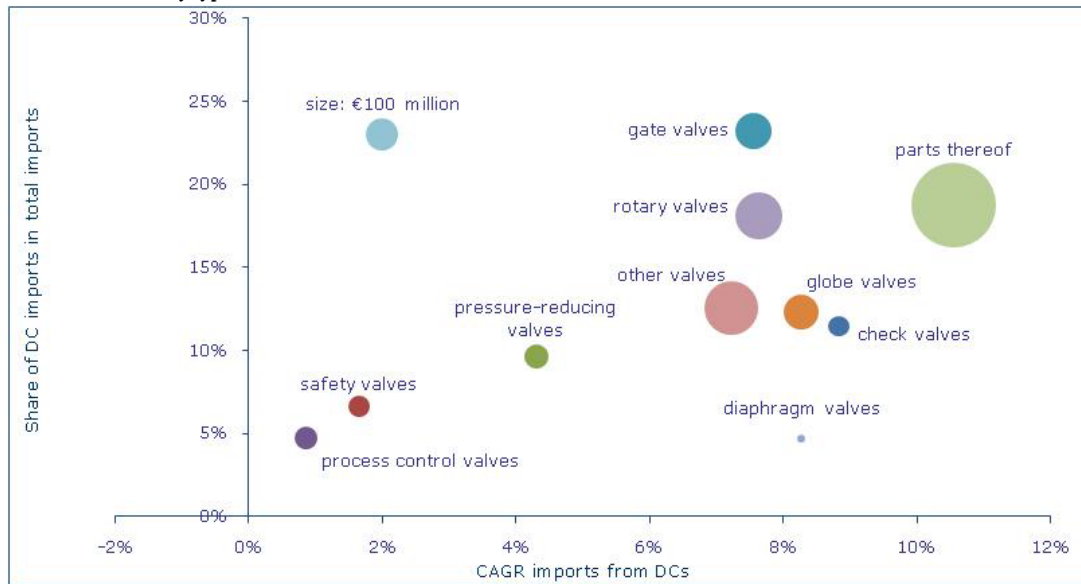
Refer to 'Selecting priority countries for pipes and process equipment' for a guideline on how to select your own EU priority countries.

## Product selection

Whereas last year the whole valves market was covered, this time a focus has been made on quarter-turn rotary valves, for the reason that several of the participants of the CBI ECP 'Pipes and Process Equipment' in the subsector valves produce quarter-turn rotary valves.

Nevertheless, it is worthwhile to have an in-depth look at the development of imports per type of valve, as far as data are available. For DC valves exporters, Figure 1 provides an interesting overview of EU imports of valves from DCs by type. Look at the size and position of the valve types you make, and determine which type of valve(s) would likely have the best opportunities on the EU market.

**Figure 1 EU imports: size, growth (Compound Annual Growth Rate) and share of valves from DCs, by type, 2006-2010**



Source: Eurostat (2011)

Figure 1 shows that ‘parts of valves’ was the largest imported group from DCs, followed by ‘other valves’ (covering a wide range of less commonly applied valves), (quarter-turn) rotary valves (ball, plug and butterfly valves) and gate valves. Furthermore, valve parts experienced the highest growth, while gate valves had the highest share of DC imports in total imports.

### Opportunities and threats

- ± After a peak in EU demand of €15 billion in 2008, demand dropped sharply in 2009, to a value of €11 billion. EU production showed a comparable development; it also peaked in 2008 (€20 billion), before it dropped to €16 billion in 2009. From 2010 onwards, demand has increased again. Despite the drop in demand/production, the EU market still offers opportunities, not only in terms of exporting, but also in terms of subcontracting activities.
- ± Total EU imports peaked in 2008 (€13 billion), but due to a sharp drop in 2009, on average imports grew by only 1.3% per year in the period 2006-2010. The year 2010 showed an increase again (11%). The same pattern was visible for DC supplies. However, as a result of sharp growth in 2007, the share of DC supplies in total imports increased from 11% in 2006 to 14% in 2010.
- + China accounted for 75% of all imports coming from DCs. China was followed by India (8.1%), Turkey (4%), Thailand (2%), Brazil (1.4%), Mexico (1.4%) and Malaysia (1.2%). Of the main DC suppliers, Oman experienced the highest growth (+121% per year), followed by Malaysia (43%), South Africa (26%), Tunisia (20%), China (9.0%), Vietnam (9.0%), Turkey (8.2%) and India (7.9%).
- + Germany was the largest import market in the EU, followed by the UK, France and Italy. Therefore, DC exporters should do their best to find a way to enter these markets.

- + Most EU countries saw a growth in imports from DCs.
- + Germany, the UK, Italy, Spain, France and Denmark were the largest importers of valves from DCs. Together, they accounted for almost 80% of total imports from DCs. Although these import data may also include intercompany sales of global players, this is an indication that companies from these countries already source many valves in DCs. In absolute terms, Germany represented the highest growth in imports from DCs, followed by the UK, Italy, France, Spain, the Netherlands, Denmark and Belgium.
- + Relatively high shares in imports from DCs were registered by Italy, Denmark, Spain, Cyprus, the UK, Slovenia, Greece and Portugal.
- + Most of the valves imported from DCs are parts of valves, (quarter-turn) rotary valves and gate valves.
- Growing demand for high-tech valves which require advanced techniques of casting, working and finishing. Most DC manufacturers are not able to produce such valves yet.
- There are only opportunities on the EU market for valves that meet all relevant requirements and standards. So far, experience has shown that DC exporters face difficulties in meeting these EU standards.

A comparison of demand, production and imports from DCs for the EU and all individual EU countries is shown in Table 1.

**Table 1 Comparison of valves demand, production and imports from DCs, by country, € million**

	Total demand		Total production		Total imports		DC imports		DC share of imports	Attractivity index**
	value 2009	CAGR* 05-09	value 2009	CAGR 05-09	value 2010	CAGR 06-10	value 2010	CAGR 06-10		
EU	10,768	0.3%	16,564	4.0%	11,498	1.3%	1,642	8.2%	14.3%	
Germany	2,298	-3.2%	4,400	1.6%	2,367	2.9%	308	10.8%	13.0%	+++
UK	966	-4.4%	1,084	0.4%	1,506	2.1%	268	8.3%	17.8%	+++
Italy	1,267	-4.1%	4,523	4.3%	918	0.8%	252	7.5%	27.4%	+++
Spain	696	1.7%	725	4.5%	759	-0.9%	195	3.5%	25.7%	+++
France	1,614	11.0%	1,998	11.8%	1,220	0.6%	156	13.3%	12.8%	+++
Denmark	286	-6.6%	403	-3.4%	367	-3.0%	99	5.9%	26.9%	+
Netherlands	529	10.0%	704	14.7%	585	0.5%	71	11.0%	12.2%	+
Poland	476	3.8%	337	-3.3%	500	0.8%	53	10.9%	10.6%	+
Belgium	490	5.4%	413	4.7%	572	5.4%	44	15.9%	7.7%	+
Czech Republic	287	-0.3%	388	10.4%	505	5.1%	39	13.7%	7.8%	+
Portugal	145	-1.0%	22	-18.4%	189	0.5%	27	6.5%	14.3%	+
Sweden	367	0.2%	371	5.4%	362	0.3%	21	9.2%	5.9%	+
Romania	100	-6.5%	85	6.2%	171	2.8%	15	10.2%	9.0%	+
Finland	215	-2.0%	322	6.4%	192	0.3%	14	4.3%	7.3%	+
Austria	305	-2.0%	267	-3.2%	460	4.5%	13	9.1%	2.9%	+
Greece	107	5.0%	11	-1.0%	87	-5.3%	13	-4.2%	14.9%	+
Hungary	158	5.8%	203	9.1%	177	-7.5%	11	-9.1%	6.4%	+
Ireland	117	1.4%	87	2.8%	98	-8.6%	10	1.9%	10.0%	+
Slovenia	62	1.8%	71	1.4%	64	-0.5%	10	14.4%	16.3%	+
Bulgaria	70	9.4%	17	5.3%	77	2.0%	9	0.7%	11.6%	+
Slovakia	120	13.0%	24	43.0%	159	9.3%	3	-17.2%	2.0%	+
Cyprus	7	2.4%	0	n.a.	9	2.9%	2	11.8%	24.8%	-
Latvia	11	-5.8%	5	14.3%	23	-3.2%	2	30.3%	8.1%	-
Lithuania	25	-12.0%	22	-6.4%	47	-4.6%	2	4.1%	4.1%	-
Luxembourg	36	-3.8%	80	-1.3%	56	-5.8%	2	10.6%	3.4%	-
Estonia	12	-9.5%	3	19.0%	23	-2.6%	1	18.6%	3.2%	-

	Total demand		Total production		Total imports		DC imports		DC share of imports	Attractivity index**
	value 2009	CAGR* 05-09	value 2009	CAGR 05-09	value 2010	CAGR 06-10	value 2010	CAGR 06-10		
Malta	2	-9.2%	0	n.a.	7	25.0%	0	11.1%	1.8%	-

Source: Eurostat (2011) and Eurostat Prodcum (2011)

\*Compound Annual Growth Rate

\*\*+++ and ++ means 'very attractive', + means 'attractive', - means 'unattractive', +/- means 'neutral'.



# Promising EU export markets for process instruments

## Country selection

The EU process instruments market is an interesting market for developing country (DC) exporters. Virtually all EU countries offer opportunities for DC exporters. Of course, this depends on many factors: for example on the size of a market segment in a specific country, on the types of process instruments demanded and on the local market circumstances. The most promising markets in the different EU regions are:

- Central and Eastern Europe: Czech Republic.
- Northern Europe: Denmark, United Kingdom.
- Southern Europe: Slovenia.
- Western Europe: Germany, Netherlands.

The selection of these countries is based on the opinion of a leading industry expert who is affiliated to the CBI Export Coaching Programme (ECP) of Pipes and Process equipment, and on the import data of level indicators (note: the data in Table 1 cover all process instruments).

Some important notes on the country selection process are:

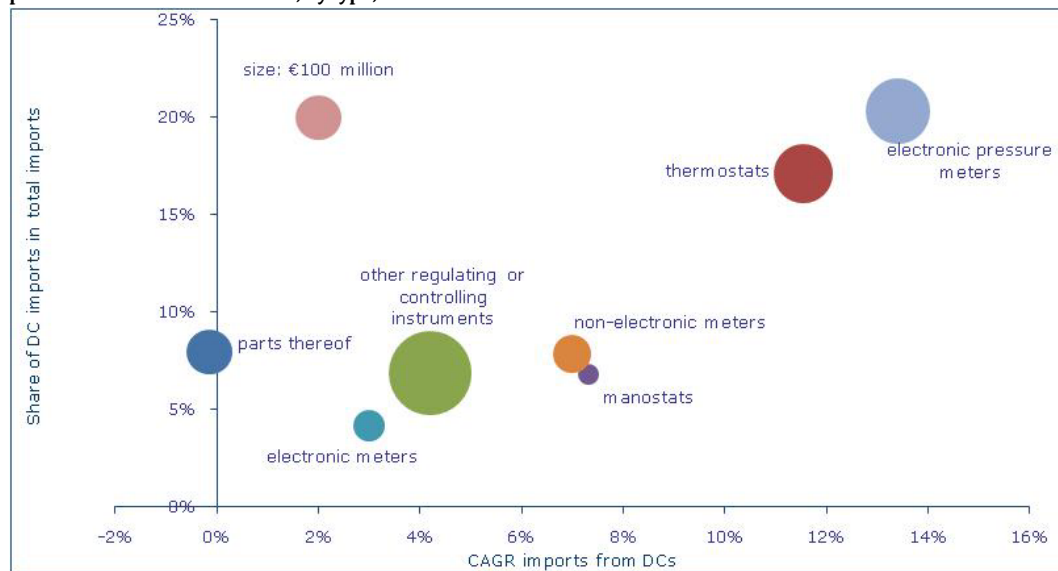
- The selection of these countries does not mean there are no opportunities in other EU countries. In general, virtually all EU countries provide opportunities for DC exporters.
- The countries selected might be the best choice for one specific DC exporter to focus on, but possibly not for another. To a very large extent, it depends on the type of product(s) a DC exporter produces. It may be a very specific type of product in terms of size, material, or application, for example.
- The attractiveness of a market largely depends on the local circumstances in each country. For example, a DC producer of manometers aiming to export to the EU may discover that the largest and fastest growing markets are also the markets with strong competition from local and international suppliers. Alternatively, it might turn out that some small or medium-sized markets with low growth figures offer better opportunities.
- The prioritisation of EU export markets may depend on the country of origin. For example, an exporter from Colombia may prefer to start exploring opportunities in Spain, while an exporter from Tunisia may prefer France or another Southern European country.
- The selection of countries was done per EU region in order to focus on the whole EU area. At the same time, attention was also paid to the spread of countries in the other subsectors of pipes and process equipment. This was done to prevent a selection of the same countries for each subsector. As a result, these factors have led to the exclusion of the large and promising markets of France and Italy.

Refer to 'Selecting priority countries for pipes and process equipment' for a guideline on how to select your own EU priority countries.

### Product selection

In order to serve as many DC exporters as possible, it was decided to cover the whole process instruments market. Nevertheless, it is worthwhile to have an in-depth look at the development of imports per type of instrument, as far as data are available. For DC exporters, Figure 1 gives an interesting overview of EU imports of process instruments from DCs by type. Look at the size and position of the instrument types you are making, and determine which type would likely have the best opportunities on the EU market.

**Figure 1 EU imports: size, growth (Compound Annual Growth Rate) and share of process instruments from DCs, by type, 2006-2010**



Source: Eurostat (2011)

Figure 1 shows that 'other regulating or controlling instruments' was the largest imported group from DCs, followed by electronic pressure meters and thermostats. Furthermore, electronic pressure meters experienced the highest growth and also had the highest share of DC imports in total imports.

### Opportunities and threats

- ± After a peak in EU demand of €14 billion in 2007, demand dropped sharply to a value of €10 billion in 2009. EU production showed a comparable development; it also peaked in 2007 (€16 billion). From 2010 onwards, demand has increased again. Despite the drop in demand/production, the EU market still offers opportunities, not only in terms of exporting, but also in terms of subcontracting activities.
- ± Total EU imports peaked in 2007 (€12 billion), but due to a drop in 2008 and a sharp drop in 2009, on average imports grew by only 2.5% per year in the period 2006-2010. The year 2010 showed a large increase again (22%). Although DC supplies also dropped in 2009, on average they performed better than total imports. As a result, DCs realised an increasing share in EU imports, reaching 9.0% in 2009.
- + China accounted for 35% of all imports coming from DCs. China was followed by Malaysia (14%), Mexico (13%), Philippines (11%), Tunisia (7.0%), Thailand (4.2%) and India (3.4%). Of the main DC suppliers, Tunisia experienced the highest growth (+19% per year), followed by China (15%), Thailand (10%), India (7.1%) and Turkey (6.7%).
- + Germany was the largest import market in the EU, followed by France, the UK and Italy. Therefore, DC exporters should do their best to find a way to enter these markets.

- + Most EU countries saw a growth in imports from DCs.
- + Germany, the Netherlands, the UK, France and Italy were the largest importers of process instruments from DCs. Together, they accounted for 80% of total imports from DCs. Although these import data may also include intercompany sales of global players, this is an indication that companies from these countries already source many process instruments in DCs. In absolute terms, Germany represented the highest growth in imports from DCs, followed by France, the UK, Denmark, the Czech Republic and the Netherlands.
- + Relatively high shares in imports from DCs were registered by the Netherlands, Denmark, Germany, Slovenia, Cyprus, the UK and Italy.
- Growing demand for high-tech instruments which require advanced research and development activities and high-tech production methods. Most DC manufacturers are not able to fulfil all the wishes of EU customers yet.

A comparison of demand, production and imports from DCs for the EU and all individual EU countries is shown in Table 1.

**Table 1 Comparison of process instruments demand, production and imports from DCs, by country, € million**

	Total demand		Total production		Total imports		DC imports		DC share of imports	Attractivity index**
	value 2009	CAGR* 05-09	value 2009	CAGR 05-09	value 2010	CAGR 06-10	value 2010	CAGR 06-10		
EU	10,375	-1.5%	12,503	-0.9%	11,691	2.5%	1,055	6.5%	9.0%	
Germany	3,233	5.5%	5,788	-0.8%	2,983	4.8%	377	6.4%	12.6%	+++
Netherlands	582	-3.5%	720	-4.8%	685	1.5%	190	2.5%	27.7%	+++
the UK	1,183	-4.7%	1,242	-5.9%	1,444	4.1%	108	8.2%	7.5%	++
France	1,046	-10.0%	1,133	-9.3%	1,471	1.8%	99	14.8%	6.7%	+++
Italy	720	-1.7%	716	-3.9%	903	1.9%	65	6.7%	7.2%	++
Denmark	363	16.0%	490	9.0%	250	6.1%	46	21.0%	18.5%	++
Belgium	351	-7.7%	181	-4.4%	447	-1.3%	30	-17.5%	6.6%	+
Czech Republic	306	-0.4%	92	-4.7%	480	10.8%	29	34.9%	6.1%	+
Spain	640	0.1%	307	0.0%	559	-2.3%	22	10.0%	3.9%	+
Sweden	385	-11.0%	217	-1.8%	518	-4.2%	21	7.1%	4.1%	+
Poland	398	8.8%	77	-17.6%	507	10.5%	17	37.4%	3.4%	+
Hungary	187	-4.5%	844	104.8%	215	1.7%	13	80.7%	5.9%	+
Austria	258	-5.9%	175	25.9%	415	-4.3%	10	13.0%	2.3%	+
Slovenia	63	-5.1%	71	5.3%	73	-0.1%	8	-5.6%	10.8%	+
Romania	134	-0.5%	79	59.5%	144	2.9%	6	-3.2%	3.9%	+/-
Ireland	55	-16.0%	69	-17.4%	58	-2.9%	3	59.0%	6.0%	+
Slovakia	134	0.9%	33	18.5%	189	7.0%	3	-14.9%	1.6%	+/-
Finland	111	-7.0%	120	-5.7%	124	-4.8%	2	8.6%	1.4%	+
Portugal	92	-2.9%	57	3.9%	75	1.3%	2	-6.7%	2.4%	+/-
Bulgaria	14	-20.0%	16	3.6%	28	-9.0%	1	-23.1%	2.6%	+/-
Cyprus	6	5.3%	0	n.a.	6	6.1%	1	27.2%	8.6%	+/-
Greece	33	-1.8%	1	-45.3%	33	-4.4%	1	7.9%	4.4%	-
Lithuania	19	0.9%	18	16.8%	28	3.7%	1	34.6%	4.2%	+/-
Estonia	25	4.8%	26	10.4%	21	4.5%	0	13.8%	1.5%	+/-
Latvia	8	-7.9%	2	17.0%	13	1.5%	0	34.7%	2.5%	+/-
Luxembourg	14	-16.0%	28	-3.3%	22	-5.4%	0	20.8%	0.4%	-
Malta	13	0.3%	0	n.a.	2	6.3%	0	27.9%	4.8%	-

Source: Eurostat (2011) and Eurostat Prodcom (2011)

\*Compound Annual Growth Rate



\*\*+++ and ++ means 'very attractive', + means 'attractive', - means 'unattractive', +/- means 'neutral'.



# Promising EU export markets for process equipment

## Country selection

The EU process equipment market is an interesting market for developing country (DC) exporters. Virtually all EU countries provide opportunities for DC exporters. Of course, this depends on many factors: for example on the size of a market segment in a specific country, on the types of process equipment demanded and on the local market circumstances. The most promising markets in the different EU regions are:

- Central and Eastern Europe: Slovakia.
- Northern Europe: Sweden, United Kingdom.
- Western Europe: France, Germany, the Netherlands.
- Southern Europe: Italy.

The selection of these countries is based on the opinion of a leading industry expert who is affiliated to the CBI Export Coaching Programme (ECP) of Pipes and Process equipment, and on the import data of food processing equipment (note: the data in Table 1 cover all process equipment).

Some important notes on the country selection process are:

The selection of these countries does not mean there are no opportunities in other EU countries. In general, virtually all EU countries provide opportunities for DC exporters.

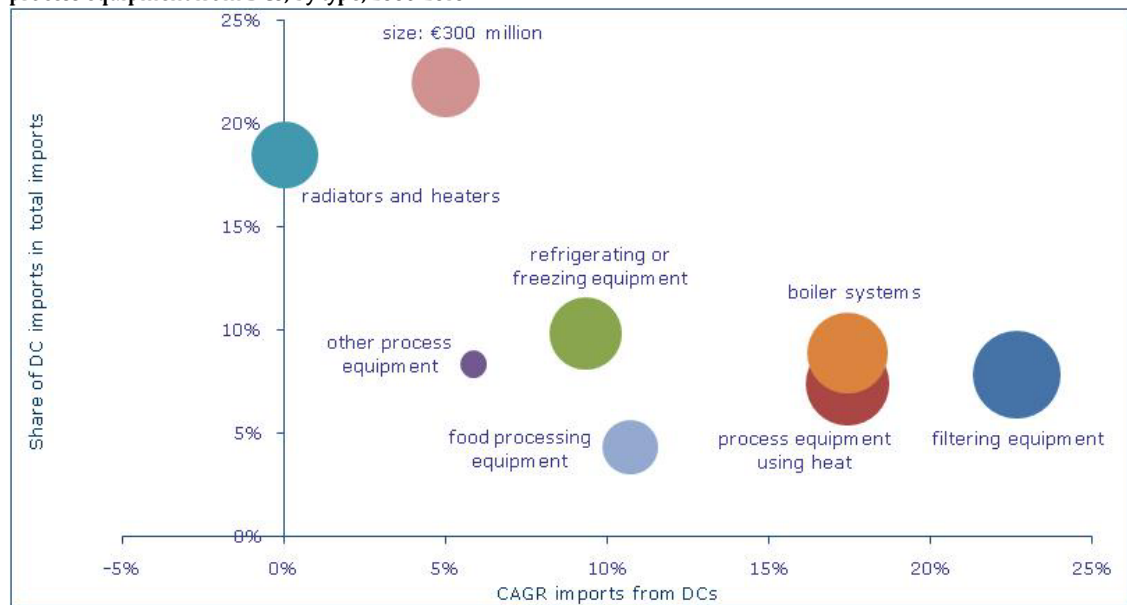
- The countries selected might be the best choice for one specific DC exporter to focus on, but possibly not for another. To a very large extent, it depends on the type of product(s) a DC exporter produces. It may be a very specific type of product in terms of size, material, or application, for example.
- The attractiveness of a market largely depends on the local circumstances in each country. For example, a DC producer of dryers aiming to export to the EU may discover that the largest and fastest growing markets are also the markets with strong competition from local and international producers of dryers. Alternatively, it might turn out that some small or medium-sized markets with low growth figures offer better opportunities.
- The prioritisation of EU export markets may depend on the country of origin. For example, an exporter from Colombia may prefer to start exploring opportunities in Spain, while an exporter from Tunisia may prefer France or another Southern European country.

Refer to 'Selecting priority countries for pipes and process equipment' for a guideline on how to select your own EU priority countries.

## Product selection

Since the subsector food process equipment offers is expected to offer good opportunities for DC exporters in the long term, it was decided to cover only the food processing equipment market. Nevertheless, it is worthwhile to have an in-depth look at the development of imports per type of equipment, as far as data are available. For DC exporters, Figure 1 gives an interesting overview of EU imports of process equipment from DCs by type. Look at the size and position of the type(s) you are making, and determine which type of equipment would likely have the best opportunities on the EU market.

**Figure 1 EU imports: size, growth (Compound Annual Growth Rate) and share of process equipment from DCs, by type, 2006-2010**



Source: Eurostat (2011)

Figure 1 shows that filtering equipment and ‘process equipment using heat’ were the largest imported groups from DCs, followed by boiler systems. Furthermore, filtering equipment experienced the highest growth, while radiators and heaters had the highest share of DC imports in total imports.

### Opportunities and threats

- ± After a peak in EU demand of €48 billion in 2007, demand dropped sharply to a value of €37 billion in 2009. EU production showed a comparable development; it also peaked in 2007 (€64 billion). From 2010 onwards, demand has increased again. Despite the drop in demand/production, the EU market still offers opportunities, not only in terms of exporting, but also in terms of subcontracting activities.
- ± Total EU imports peaked in 2008 (€32 billion), but due to a sharp drop in 2009, on average imports grew by only 0.5% per year in the period 2006-2010. The year 2010 showed an increase again (2.8%). Although DC supplies also dropped in 2009, on average they performed much better than total imports. As a result, DCs realised an increasing share in EU imports, reaching 8.2% in 2009 (compared to 5.1% in 2006).
- + China accounted for 44% of all imports coming from DCs. China was followed by Turkey (28%), India (4.3%), South Africa (4%), Thailand (3.5%), Croatia (3.2%) and Mexico (2.4%). Of the main DC suppliers, Indonesia experienced the highest growth (+46% per year), followed by South Africa (39%), Bosnia and Herzegovina (34%), China (21%), Thailand (19%), Tunisia (19%), Malaysia (19%), Croatia (15%), Mexico (9.0%) and India (6.0%).
- + Germany was the largest import market in the EU, followed by France, the UK and Italy. Therefore, DC exporters should do their best to find a way to enter these markets.
- + Most EU countries saw a growth in imports from DCs.
- + Germany, the UK, Italy, the Netherlands, France, Spain and Belgium were the largest importers of process equipment from DCs. Together, they accounted for more than 75% of total imports from DCs. Although these import data may also include intercompany sales of global players, this is an indication that companies from these countries already source a lot of process equipment in DCs. In absolute terms,

Germany represented the highest growth in imports from DCs, followed by the UK, the Netherlands, Italy, France, Austria and the Czech Republic.

- + Relatively high shares in imports from DCs were registered by the UK, Italy, Romania, the Netherlands, Greece, Bulgaria and Slovenia.
- There are only opportunities on the EU market for process equipment that meet all relevant requirements and standards. So far, experience has shown that DC exporters face difficulties in meeting these EU standards.

A comparison of demand, production and imports from DCs for the EU and all individual EU countries is shown in Table 1.

**Table 1 Comparison of process equipment demand, production and imports from DCs, by country, € million**

	Total demand		Total production		Total imports		DC imports		DC share of imports	Attractivity index**
	value 2009	CAGR* 05-09	value 2009	CAGR 05-09	value 2010	CAGR 06-10	value 2010	CAGR 06-10		
<b>EU</b>	<b>37,464</b>	<b>0.3%</b>	<b>51,369</b>	<b>2.9%</b>	<b>26,892</b>	<b>0.5%</b>	<b>2,213</b>	<b>13.0%</b>	<b>8.2%</b>	
Germany	7,379	4.7%	15,110	6.5%	4,986	1.0%	464	17.9%	9.3%	+++
UK	4,521	-4.0%	3,782	-4.7%	2,986	8.6%	372	13.4%	12.5%	+++
Italy	4,844	-7.7%	10,198	-1.3%	2,168	2.1%	257	7.8%	11.9%	+++
Netherlands	1,767	1.3%	3,058	2.8%	1,756	6.1%	204	27.6%	11.6%	+++
France	5,084	2.2%	6,184	4.6%	3,163	-0.2%	170	12.3%	5.4%	++
Spain	2,895	-1.4%	1,496	1.1%	1,909	-2.6%	134	7.3%	7.0%	++
Belgium	1,515	3.9%	1,087	-6.6%	1,803	3.5%	84	11.1%	4.7%	++
Romania	472	-0.5%	70	16.2%	574	-5.5%	67	0.5%	11.6%	+
Austria	983	6.7%	1,184	9.3%	1,302	2.4%	66	34.2%	5.1%	+
Poland	1,228	6.3%	958	7.2%	1,044	0.1%	62	14.0%	5.9%	+
Czech Republic	482	3.8%	784	6.1%	622	4.0%	57	45.4%	9.1%	+
Denmark	1,011	0.5%	1,994	2.2%	687	-1.7%	54	0.0%	7.8%	+
Greece	442	0.8%	90	-3.3%	369	-8.1%	42	-10.1%	11.3%	+
Sweden	1,019	7.4%	1,835	12.6%	864	-0.8%	42	20.8%	4.9%	+
Hungary	559	3.8%	469	8.6%	354	0.7%	34	19.7%	9.7%	+
Portugal	658	8.8%	428	3.6%	445	7.5%	22	49.5%	4.9%	+
Bulgaria	204	0.0%	25	-7.7%	157	-4.4%	18	-3.9%	11.3%	+
Slovenia	124	0.5%	128	9.1%	154	0.5%	16	16.6%	10.5%	+
Finland	1,181	2.2%	1,227	-0.2%	398	2.6%	10	25.4%	2.4%	+
Ireland	382	0.5%	495	14.5%	258	-6.4%	8	-12.1%	3.2%	+
Slovakia	339	9.8%	626	26.0%	410	4.3%	8	29.4%	2.0%	-
Lithuania	126	2.4%	68	15.0%	157	-5.7%	6	6.0%	3.8%	+
Cyprus	53	12.0%	2	202.7%	59	7.0%	5	10.4%	8.9%	+/-
Latvia	52	-11.0%	26	21.8%	76	-17.1%	5	0.9%	6.0%	+/-
Estonia	56	-5.0%	41	12.4%	79	1.7%	4	18.7%	4.7%	+/-
Malta	13	-12.0%	2	-39.3%	16	-9.6%	1	-10.8%	4.9%	-
Luxembourg	74	8.2%	2	-22.0%	94	6.8%	0	72.5%	0.3%	-

Source: Eurostat (2011) and Eurostat Prodcum (2011)

\*Compound Annual Growth Rate

\*\*+++ and ++ means 'very attractive', + means 'attractive', - means 'unattractive', +/- means 'neutral'.



# Promising EU export markets for pumps

## Country selection

The EU pumps market is an interesting market for developing country (DC) exporters. Virtually all EU countries provide opportunities for DC exporters. Of course, this depends on many factors: for example on the size of a market segment in a specific country, on the types of pumps demanded and on the local market circumstances. The most promising markets in the different EU regions are:

- Central and Eastern Europe: Poland, Romania.
- Northern Europe: Sweden, United Kingdom.
- Southern Europe: Italy, Spain.
- Western Europe: Belgium, Germany.

The selection of these countries is based on the opinion of a leading industry expert who is affiliated to the CBI Export Coaching Programme of Pipes and Process equipment, and on the import data of submersible pumps (note: the data in Table 1 cover all pumps).

Some important notes on the country selection process are:

- The selection of these countries does not mean there are no opportunities in other EU countries. In general, virtually all EU countries provide opportunities for DC exporters.
- The countries selected might be the best choice for one specific DC exporter to focus on, but possibly not for another. To a very large extent, it depends on the type of pump(s) a DC exporter produces. It may be a very specific type of pump in terms of size, material, or application, for example.
- The attractiveness of a market largely depends on the local circumstances in each country. For example, a DC producer of piston pumps aiming to export to the EU may discover that the largest and fastest growing markets are also the markets with strong competition from local and international suppliers. Alternatively, it might turn out that some small or medium-sized markets with low growth figures offer better opportunities.
- The prioritisation of EU export markets may depend on the country of origin. For example, an exporter from Colombia may prefer to start exploring opportunities in Spain, while an exporter from Tunisia may prefer France or another Southern European country.
- The selection of countries was made per EU region in order to cover the whole EU area. At the same time, attention was paid to the spread of countries in the other subsectors of pipes and process equipment as well. This was done to prevent a selection of the same countries for each subsector. In this case, these factors have led to the exclusion of the large and promising market of France.

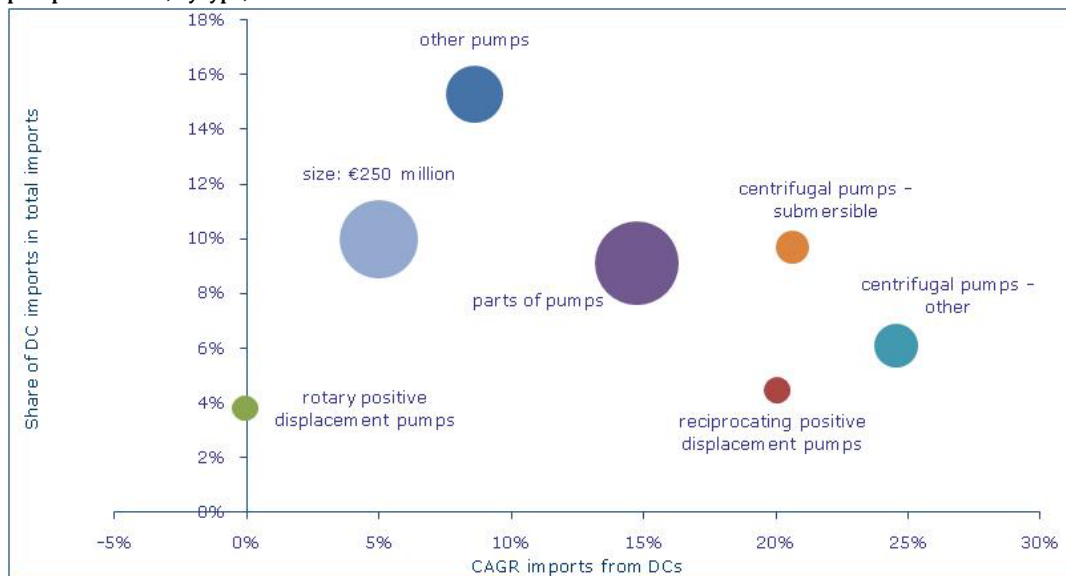
Refer to 'Selecting priority countries for pipes and process equipment' for a guideline on how to select your own EU priority countries.

## Product selection

Since several of the participants of the CBI ECP 'Pipes and Process Equipment' in the subsector pumps produce submersible pumps, it was decided to cover only the submersible pumps market. Nevertheless, it is worthwhile to have an in-depth look at the development of imports per type of pumps, as far as data are available. For DC exporters, Figure 1 gives an interesting overview of EU imports of pumps from DCs by type. Look at the size and

position of the type(s) you make, and determine which type of pump would likely have the best opportunities on the EU market.

**Figure 1 EU imports: size, growth (Compound Annual Growth Rate) and share of pumps from DCs, by type, 2006-2010**



Source: Eurostat (2011)

Figure 1 shows that ‘parts of pumps’ was the largest imported group from DCs, followed by ‘other pumps’ (covering a wide range of less commonly applied pumps) and centrifugal pumps. Furthermore, ‘other pumps’ and submersible pumps had the highest share of DC imports in total imports.

### Opportunities and threats

- ± After a peak in EU demand of €12 billion in 2008, demand dropped sharply in 2009, to a value of €9.4 billion. EU production showed a comparable development; it also peaked in 2008 (€18 billion), before it dropped to €15 billion in 2009. From 2010 onwards, demand has increased again. Despite the drop in demand/production, the EU market still offers opportunities, not only in terms of exporting, but also in terms of subcontracting activities.
- ± Total EU imports peaked in 2008 (€11 billion), but due to a sharp drop in 2009, on average imports grew by only 2.3% per year in the period 2006-2010. The year 2010 showed an increase again (18%). The same pattern was visible for DC supplies. However, as a result of sharp growth in 2007, the share of DC supplies in total imports increased from 5.5% in 2006 to 8.4% in 2010.
- + China accounted for 60% of all imports coming from DCs. China was followed by Turkey (11%), India (10%), Brazil (5.8%), Thailand (3.2%), Mexico (1.9%) and Malaysia (0.9%). Of the main DC suppliers, Vietnam experienced the highest growth (+80% per year), followed by Thailand (28%), Mexico (24%), Turkey (16%), China (16%), India (15%) and Malaysia (8.2%).
- + Germany was the largest import market in the EU, followed by France, the UK and Italy. Therefore, DC exporters should do their best to find a way to enter these markets.
- + Most EU countries saw a growth in imports from DCs.

- + Germany, Italy, the UK, France, Spain and the Netherlands were the largest importers of pumps from DCs. Together, they accounted for 75% of total imports from DCs. Although these import data may also include intercompany sales of global players, this is an indication that companies from these countries already source many pumps in DCs. In absolute terms, Germany represented the highest growth in imports from DCs, followed by Italy, Spain, France, Poland and the Netherlands.
- + Relatively high shares in imports from DCs were registered by Slovenia, Greece, Italy, Germany, Cyprus, Ireland, the UK and Poland.
- Growing demand for pumps that are highly energy-efficient and have low maintenance needs. This requires advanced development capabilities and manufacturing techniques. Most DC manufacturers are not able to produce such pumps yet.
- There are only opportunities on the EU market for pumps that meet all relevant requirements and standards. So far, experience has shown that DC exporters face difficulties in meeting these EU standards.

A comparison of demand, production and imports from DCs for the EU and all individual EU countries is shown in Table 1.

**Table 1 Comparison of pumps demand, production and imports from DCs, by country, € million**

	Total demand		Total production		Total imports		DC imports		DC share of imports	Attractiveness index**
	value 2009	CAGR* 05-09	value 2009	CAGR 05-09	value 2010	CAGR 06-10	value 2010	CAGR 06-10		
<b>EU</b>	<b>9,365</b>	<b>-1.5%</b>	<b>14,670</b>	<b>1.9%</b>	<b>9,975</b>	<b>2.3%</b>	<b>840</b>	<b>13.9%</b>	<b>8.4%</b>	
Germany	1,952	0.7%	5,047	-0.1%	2,028	4.0%	258	16.9%	12.7%	+++
Italy	1,458	-2.8%	2,842	0.8%	911	-0.3%	117	20.5%	12.9%	+++
the UK	1,076	-0.5%	1,188	-0.8%	1,167	4.3%	105	2.7%	9.0%	+++
France	975	-5.4%	1,249	1.4%	1,230	-0.5%	66	9.3%	5.4%	+++
Spain	637	0.0%	537	6.6%	555	1.5%	42	18.8%	7.5%	++
Netherlands	488	15.0%	939	29.1%	513	0.2%	41	12.8%	8.1%	+
Poland	389	-5.3%	114	19.1%	416	4.4%	36	20.5%	8.6%	+
Belgium	391	13.0%	317	27.8%	496	3.2%	26	15.8%	5.3%	+
Denmark	298	-15.0%	724	-7.2%	279	-4.1%	21	6.1%	7.5%	+
Sweden	238	-10.0%	466	-2.0%	387	3.8%	21	21.9%	5.4%	+
Austria	299	0.0%	354	3.1%	414	3.5%	17	1.6%	4.1%	+
Hungary	101	-14.0%	206	18.7%	204	0.4%	16	25.2%	7.8%	+
Romania	129	5.6%	33	3.2%	228	17.2%	16	11.9%	7.1%	+
Greece	91	2.8%	13	-5.6%	70	-3.9%	11	19.8%	16.2%	+
Czech Republic	230	-2.2%	133	3.9%	430	5.4%	10	30.7%	2.4%	+
Slovenia	32	1.9%	41	6.3%	42	5.7%	8	32.8%	18.6%	+
Finland	156	-0.6%	164	-0.7%	157	0.2%	7	16.4%	4.3%	+
Ireland	87	-6.0%	117	1.9%	67	-8.0%	6	36.1%	9.2%	+/-
Portugal	106	1.5%	24	1.7%	100	5.4%	3	12.6%	3.3%	+
Bulgaria	32	1.4%	12	-4.6%	33	-2.4%	2	-3.6%	6.3%	+
Lithuania	19	-2.4%	13	62.6%	34	-3.1%	2	-4.2%	5.6%	-
Luxembourg	53	7.3%	54	10.0%	64	8.7%	2	46.7%	3.7%	+/-
Slovakia	89	17.0%	77	65.6%	102	9.2%	2	13.9%	2.3%	+
Cyprus	16	11.0%	2	3.5%	15	-0.5%	1	32.7%	9.3%	+/-
Latvia	9	-5.0%	3	14.0%	18	1.7%	1	-1.4%	5.2%	+/-
Estonia	10	-4.5%	1	12.1%	13	-3.1%	0	-1.7%	3.8%	-
Malta	4	8.3%	1	n.a.	3	-14.4%	0	-8.3%	4.7%	-

Source: Eurostat (2011) and Eurostat Prodcom (2011)

\*Compound Annual Growth Rate

\*\*+++ and ++ means 'very attractive', + means 'attractive', - means 'unattractive', +/- means 'neutral'.





# Promising EU export markets for plastic pipes and fittings

## Country selection

The EU plastic pipes and fittings market is an interesting market for developing country (DC) exporters. Virtually all EU countries offer opportunities for DC exporters. Of course, this depends on many factors: for example on the size of a market segment in a specific country, on the types of plastic pipes and fittings demanded and on the local market circumstances. The most promising markets in the different EU regions are:

- Central and Eastern Europe: Bulgaria, Czech Republic.
- Southern Europe: Italy, Portugal, Spain.
- Western Europe: Austria, France.

The selection of these countries is based on the opinion of a leading industry expert who is affiliated to the CBI Export Coaching Programme (ECP) of Pipes and Process equipment, and on the import data presented in Table 1.

Some important notes on the country selection process are:

- The selection of these countries does not mean there are no opportunities in other EU countries. In general, virtually all EU countries offer chances to DC exporters.
- The countries selected might be the best choice for one specific DC exporter to focus on, but possibly not for another. To a very large extent, it depends on the type of product(s) a DC exporter produces. It may be a very specific type of product in terms of size, material, or application, for example.
- The attractiveness of a market largely depends on the local circumstances in each country. For example, a DC producer of PVC fittings aiming to export to the EU may discover that the largest and fastest growing markets are also the markets with strong competition from local and international suppliers. Alternatively, it might turn out that some small or medium-sized markets with low growth figures offer better opportunities.
- The prioritisation of EU export markets may depend on the country of origin. For example, an exporter from Colombia may prefer to start exploring opportunities in Spain, while an exporter from Tunisia may prefer France or another Southern European country.
- The selection of countries was done per EU region in order to cover the whole EU area. At the same time, attention was also paid to the spread of countries in the other subsectors of pipes and process equipment. This was done to prevent a selection of the same countries for each subsector. As a result, these factors have led to the exclusion of the large and promising market of Germany.

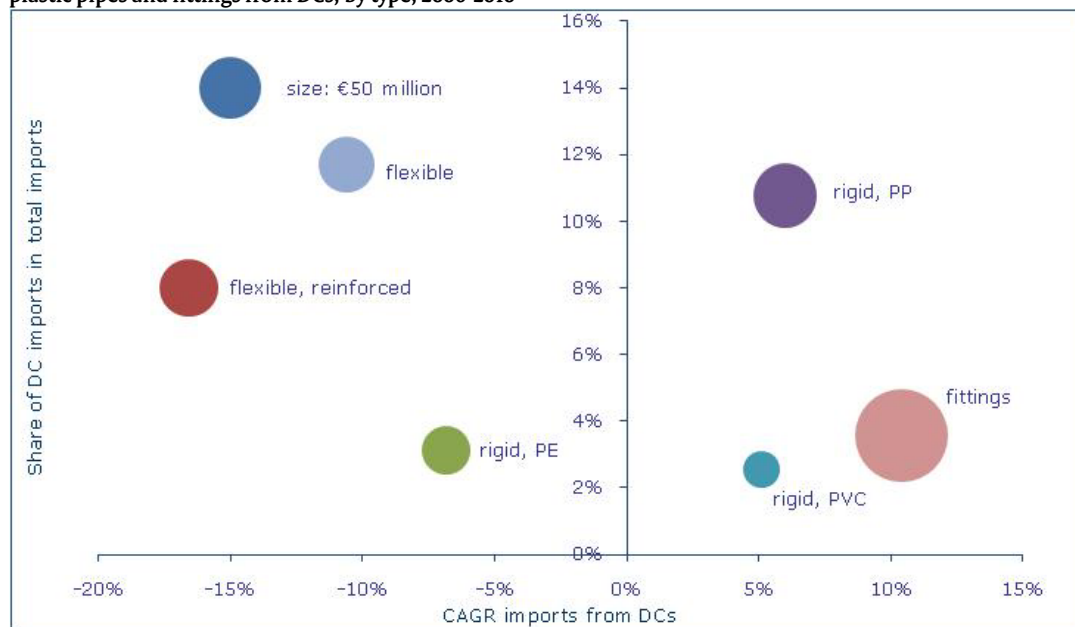
Refer to 'Selecting priority countries for pipes and process equipment' for a guideline on how to select your own EU priority countries.

## Product selection

In order to serve as many DC exporters as possible, it was decided to cover the whole plastic pipes and fittings market. Although the market intelligence covers the whole market, it is also very worthwhile to have an in-depth look at the development of imports per type of plastic pipe or fitting. For DC exporters, Figure 1 gives an interesting overview of EU imports of plastic pipes and fittings from DCs by type. Look at the size and position of the types you

make, and determine which type of product(s) would likely have the best opportunities on the EU market.

**Figure 1 EU imports: size, growth (Compound Annual Growth Rate) and share of plastic pipes and fittings from DCs, by type, 2006-2010**



Source: Eurostat (2011)

Figure 1 shows that fittings was the largest imported group from DCs, followed by rigid pipes of PP, 'flexible, reinforced' (plastic pipes) and 'flexible' (plastic pipes, not reinforced). Furthermore, fittings experienced the highest growth, while 'flexible' and 'rigid, PP' had the highest share of DC imports in total imports.

### Opportunities and threats

- ± After a peak in EU demand of €13 billion in 2007 and 2008, demand dropped sharply in 2009 to a value of €10 billion. EU production showed a comparable development; it also peaked in 2007 and 2008 (€14 billion). From 2010 onwards, demand has increased again. Despite the drop in demand/production, the EU market still offers opportunities, not only in terms of exporting, but also in terms of subcontracting activities.
- ± Total EU imports peaked in 2007 and 2008 (€5.6 billion each year), but due to sharp drops in 2009 and 2010 (-19% and -33% respectively), on average imports declined by 12% per year in the period 2006-2010. The same pattern was visible for DC supplies. However, as a result of sharp growth in 2007 the share of DC supplies in total imports increased from 3.6% in 2006 to 4.8% in 2010.
- + China accounted for 39% of all imports coming from DCs. China was followed by Turkey (24%), Serbia (8.9%), India (5.2%) and Croatia (3.7%). Of the main DC suppliers, Serbia experienced the highest growth (+40% per year), followed by India (8.0%) and Croatia (3.0%).
- + Germany was the largest import market in the EU, followed by France, Italy and the UK. Therefore, DC exporters should do their best to find a way to enter these markets.
- + A few EU countries saw a growth in imports from DCs.
- + Germany, Romania, the UK, France, Italy, Bulgaria and Poland were the largest importers of plastic pipes and fittings from DCs. Together, they accounted for almost

70% of total imports from DCs. Although these import data may also include intercompany sales of global players, this is an indication that companies from these countries already source many plastic pipes and fittings in DCs. In absolute terms, Germany represented the highest growth in imports from DCs, followed at a distance by Poland, Czech Republic, Belgium, Romania, France and the Netherlands.

- + Relatively high shares in imports from DCs were registered by Bulgaria, Romania, Malta, Greece and Slovenia.
- + Most of the products imported from DCs are plastic fittings.
- There are only opportunities on the EU market for plastic pipes and fittings that meet all relevant requirements and standards.

A comparison of demand, production and imports from DCs for the EU and all individual EU countries is shown in Table 1.

**Table 1 Comparison of plastic pipes and fittings demand, production and imports from DCs, by country, € million**

	Total demand		Total production		Total imports		DC imports		DC share of imports	Attrac-tivity index**
	value 2009	CAGR* 05-09	value 2009	CAGR 05-09	value 2010	CAGR 06-10	value 2010	CAGR 06-10		
<b>EU</b>	<b>10,245</b>	<b>0.5%</b>	<b>11,409</b>	<b>1.3%</b>	<b>3,069</b>	<b>-11.4%</b>	<b>148</b>	<b>-5.0%</b>	<b>4.8%</b>	
Germany	1,527	2.6%	2,660	3.9%	550	-12.3%	29	5.1%	5.3%	+++
Romania	219	13.0%	124	21.6%	73	-12.0%	19	-1.1%	25.6%	++
France	971	0.4%	728	-0.6%	391	-9.8%	12	-7.8%	3.0%	++
UK	1,228	-1.7%	1,366	-3.1%	196	-13.3%	12	-10.1%	6.3%	++
Bulgaria	77	3.3%	27	-2.8%	32	-10.8%	10	1.4%	32.0%	++
Italy	1,568	3.1%	2,029	4.1%	217	-11.8%	10	-11.8%	4.7%	++
Poland	533	7.3%	581	7.8%	171	-8.2%	9	-4.4%	5.5%	++
Spain	1,035	-7.1%	1,032	-5.0%	153	-17.6%	8	-14.5%	5.2%	++
Netherlands	468	2.4%	561	1.5%	153	-10.1%	8	2.0%	4.9%	++
Belgium	323	2.3%	245	3.9%	191	-9.5%	6	-10.5%	2.9%	+/-
Austria	295	5.0%	318	2.6%	149	-9.2%	4	2.2%	2.9%	+/-
Greece	173	-0.1%	157	-1.2%	25	-17.1%	3	-18.9%	11.7%	+/-
Slovenia	56	6.0%	33	7.8%	25	-11.0%	3	-4.5%	10.7%	+
Sweden	226	-1.1%	245	-1.6%	114	-10.2%	3	7.7%	2.9%	+
Czech Republic	254	13.0%	226	17.9%	146	-10.1%	3	-12.5%	2.1%	+
Hungary	157	-9.9%	87	-14.6%	63	-15.0%	2	-4.8%	2.4%	+
Portugal	166	-8.1%	180	-4.8%	43	-9.2%	2	19.2%	3.9%	+
Cyprus	12	7.6%	5	n.a.	9	-3.3%	1	-13.3%	9.9%	-
Denmark	367	5.1%	372	5.0%	104	-10.6%	1	-18.8%	0.6%	+
Ireland	123	-13.0%	73	-12.7%	46	-23.9%	1	-23.0%	1.6%	+
Latvia	14	-13.0%	1	-16.3%	17	-18.4%	1	-5.7%	3.7%	+
Lithuania	25	-6.6%	8	-4.4%	30	-7.9%	1	-7.1%	2.0%	+
Malta	7	1.0%	0	n.a.	4	-10.5%	1	4.9%	19.0%	-
Slovakia	97	4.9%	56	16.7%	71	-2.3%	1	4.2%	1.0%	+
Estonia	23	-2.7%	16	13.2%	22	-8.4%	0	-21.0%	1.8%	-
Finland	274	1.1%	267	0.7%	51	-10.6%	0	-33.3%	0.7%	-
Luxembourg	27	9.5%	11	-6.9%	23	6.0%	0	-60.7%	0.0%	-

Source: Eurostat (2011) and Eurostat Prodcom (2011)

\*Compound Annual Growth Rate

\*\*+++ and ++ means 'very attractive', + means 'attractive', - means 'unattractive', +/- means 'neutral'.



# Trends and segments for pipes and process equipment

Below, you can find more information on opportunities and threats in the pipes and process equipment market in the EU and its main market segments and trends.

## Opportunities and threats

Trends and market developments offer opportunities and threats to exporters. A given trend can be a threat to some and an opportunity to others at the same time. The following trends should, therefore, always be analysed in relation to your specific circumstances. The main opportunities and threats for DC exporters are the following:

- + The production of pipes and process equipment will increasingly be outsourced to low-cost countries and also to DCs. Strong global competition has made room for increased sourcing in DCs. At the same time, several producers want to have a foothold abroad, which provides DC producers with the opportunity for co-operation.
- + Labour intensive products have good chances in the EU, due to low labour costs in DCs.
- + Some market segments will show above average development in the years to come. In the water and sewerage industry, clean water shortages, environmental legislation and flood protection will result in several investments in infrastructure and water treatment equipment. This is also the segment that offers the best opportunities since it mainly consists of standard/low value-added products.
- + In the natural gas market, the search for secure gas supply and increasing investments in natural gas are the main growth drivers.
- + Growing demand for energy efficient products, such as energy efficient pumps, continues for several end-user industries.
- + The influence of the crisis on EU demand has been (partly) compensated for by relatively stable investments in Central and Eastern European (CEE) countries with the help of EU funding, the increasing demand for energy and the need to comply with EU Water Directives.
- + The growing demand for duplex steel and nickel-free stainless steel provides opportunities for DC producers who are able to supply products made of this material.
- The increase in raw material costs in late 2010 and in 2011 has put a lot of pressure on the price of pipe and process equipment and on trade margins. The slow moving market means it will take a longer time for producers to correct their prices.
- The continuing low level of output of the EU construction sector means limited market demand for pipes and equipment in that segment.
- In various market segments, the requirements for valves used are very high, which makes it more difficult for manufacturers in DCs to comply with these demands.

### Main market segments and trends

Firstly, the main characteristics, requirements and materials for the major market segments will be discussed (refer to Table 1). After that, the most important segments will be discussed in more detail.

There are four main application areas of pipes and process equipment: oil, gas and refining industries, water and sewerage industries, food and beverage industries and chemical and power generation industries. In the water and sewerage industries, the majority of products are relatively standard. In most cases governments own the network and the product/quality standards are, therefore, sector-related. This is in contrast to the chemical and power generation industry, where each company has its own individual quality demands. In the food and beverage industry, most equipment is made of stainless steel, due to stringent legislation in these industries. This legislation forbids, for example, the contents of lead in beverages. Although 50% of equipment is identical in the oil, gas and refining industries, companies like Shell generally use their own company-specific standards.

**Table 1 Characteristics and requirements pipes and process equipment, by application**

Market segment	Product characteristics	Quality requirements	Materials
Oil, gas and refining industries	According to company standards. 50% are standard products.	Very high	Steel, stainless steel and cast nodular iron
Water and sewerage industries	80% are standard products.	High	Nodular cast iron or alloy nodular cast iron
Food and beverage industries	70-80% are standard products.	Very high	Stainless steel
Chemical and power generation industries	Only 20% are standard products.	Very high	Major part stainless and/or heat resistant steel

Source: industry experts (2010)

From a geographical point of view, it is interesting to mention that the quality standards in CEE countries are generally (still) somewhat lower than in Western Europe, making market access easier. The major opportunities in the three important end-user segments are listed below.

#### *Oil, gas and refining industries*

The market for pipes and process equipment in the oil, gas and refining industries in Western European countries is relatively mature. This means that most of the demand involves the replacement of equipment, particularly in relation to maintenance activities. This is in contrast to the markets in CEE countries, where a relatively large share of demand is related to construction of new pipelines and installations.

Another trend in the EU is that sources in and surrounding the EU, such as the North Sea, are becoming exhausted. This is forcing the EU to buy more energy from distant countries and to store this close to home. As a result, a growing number of investments are needed for the transport and storage of energy. In large oil and gas consuming countries, such as Germany, the Netherlands and the UK, many investments will be aimed at building new storage facilities. According to official forecasts, the EU will import almost 65% of its energy by 2030, compared to 50% in 2007.

#### *Natural gas*

More than 70% of EU gas production is located in two countries, namely the Netherlands (40%) and the UK (33%). Germany has the largest network of pipelines with 420 thousand km, followed by France (230 thousand km). The total pipeline length in CEE countries is 350 thousand km, of which about one third is in Poland. Since gas consumption in Europe is increasing, and European domestic gas production is in decline, Europe is becoming more and more dependent on natural gas imports, mainly from Russia, Norway, the Middle East

and North and West Africa. Therefore, in the EU, some €200 billion have to be invested in exploration, transport, storage and distribution until 2030.

#### *Oil*

For the last decade oil production in the EU has been in decline and this trend is expected to continue in the years to come. Other than the UK and Denmark, there are no countries with a significant contribution to supply; however, most of them are certainly home to an oil processing industry. The largest refinery capacities in Europe can be found in Germany, followed by Italy and France.

#### *Water and waste water industries*

The market for water and waste water treatment plants in Europe has developed into a market of importance in recent years. In total, Europe represents about one-third of the world's water and waste water market. The very strict environmental directives and expected (drinking) water shortages will result in many investments in infrastructure to secure future water quality and supply in the EU. In Western Europe, investments are mainly aimed at maintaining the current infrastructure (including leakage control), while in CEE countries and in Southern Europe (Spain, Portugal, parts of Italy and France) renovation of sewage, purification and distribution systems has top priority. A similar trend is noticeable in parts of Germany and the UK.

According to the EU Water Directive, all communities with more than 2,000 inhabitants should be connected to a water sewage installation by the year 2015. This has resulted in the construction of many small wastewater treatment plants in CEE countries and Southern Europe. As a result, investments in water treatment in these countries have outpaced growth in the rest of the EU.

The water and wastewater treatment equipment market in CEE countries is - generally speaking - very price-sensitive. The choice of treatment processes is often based on price and made to meet the stipulated legislative guidelines rather than on taking advantage of the long-term benefits of advanced treatment systems. Hence, low-price equipment vendors in these countries are offering stiff competition to suppliers from the mature Western European municipal market.

#### *Food and beverage industry*

The food and beverage industry is the largest manufacturing industry in the EU. It is a major employer and exporter and considered to be one of the most regulated industries in Europe. As a result, there is a considerable demand for pipes and process equipment in this industry. The five largest markets in the EU (Germany, Italy, France, the UK and Spain) account for more than 65% of demand. The largest producing countries were Germany and Italy, together accounting for half of EU production.

## Trends

### *Cautious economic climate*

The EU market for pipes and process equipment is expected to remain cautious in 2011 and the near future. Although EU economies are expected to grow slightly in 2011, many factors are likely to negatively impact the market. Such factors mainly include high oil prices, a low level of construction activities, an expected increase in raw material prices and the dollar value against the euro. As a consequence, market demand is expected to remain without significant improvement, while increased energy and raw material prices will put pressure on price and affect producers' profitability. Such a cautious market climate is expected to continue for the upcoming years.

It can be assumed that distributors, agents, subcontractors and system suppliers will continue to keep on looking for opportunities to reduce sourcing costs, especially when it comes to standard products. EU producers will continue to implement new technologies in order to reduce production costs and to secure their competitive edge. In addition, the search for low-priced pipes and process equipment around the world will continue.

➔ In this situation, demand for innovative products will be the least affected and is likely to have a relatively high growth.

### *Low construction activities*

The level of construction activities in the EU declined in 2010 for the third consecutive year, although signs of recovery were eventually observed that year. In both Western and Eastern European regions, residential construction activity declined significantly, especially the new residential construction market. The residential repair, maintenance and improvement market was stable. In addition, the non-residential market remained weak. Despite cutbacks in government spending throughout the EU in the second half of 2010, the civil engineering market was relatively positive, supported by infrastructure investments in some CEE markets. This trend indicates slow market movement, which negatively affects demand, including demand for products from DCs.

### *The Green trend*

Increasing energy prices as well as environmental legislations have played an influential role in several end-user industries of pipes and process equipment. Players in end-user industries are seeking pipes and process equipment that enable them to save (energy) costs by reducing/optimising energy consumption. Stringent environmental legislations in the EU have also forced them to perform cleaner operations (such as limitation of CO<sub>2</sub> and NO<sub>x</sub> emissions) and generate less waste. This ongoing trend creates significant demand for more energy-efficient products, such as highly efficient pumps, lighter and higher quality pipes, and leak free flanges. This trend will continue as more companies will keep replacing or upgrading their old process equipment by new and more energy-efficient installations.

Focus has also shifted from costs for initial investment to the total costs during the product's lifecycle, taking into account downtime, energy consumption, repair and maintenance.

➔ DC exporters who are able to respond to the green trend clearly have many opportunities on the EU market.

### *Rationalisation in end-user industries*

Rationalisation can be defined as the restructuring of production processes in industries in order to reduce overall costs. One aim is to enhance labour productivity by choosing better, more modern and economic ways of manufacturing. An example of this is the adoption of more highly technical or automated equipment. This results in a decrease in downtime, wasted raw material, labour and human error. Altogether, rationalisation increases

operational efficiency and profitability. In Western Europe, the rationalisation process has been in place for many years now and many plants have achieved a good level of operational efficiency. On the other hand, in CEE countries the rationalisation process is still in full progress.

Reduction of maintenance costs is another important focus and trend in the EU processing industry. Plant owners have made tremendous efforts to operate their factories with minimum staff due to the high wages. In some cases, new investments are not only aimed at reducing operational costs, but are focused on avoiding costly maintenance as well. This trend has become even more important at a time of economic downturn.

*Industry benefits from the accession of CEE countries*

The EU market has opened up opportunities for pan-European co-operation. Several pipes and process equipment manufacturers have been busy in cross-border mergers and acquisitions. This development not only contributes to more intense competition among EU producers, but also enables companies to utilise comparative advantages in different regions to increase overall efficiency.

*Growing demand for duplex steel*

The use of duplex steel in pipes and process equipment has marked an impressive growth, and is expected to continue in the next few years. Duplex steel has many advantages over austenitic stainless steel, including lighter weight, better corrosion resistance, and higher strength. These characteristics make duplex steel suitable for applications, such as offshore/deep-sea operations and desalination. Not surprisingly, typical end-users for duplex steel pipes and process equipment include the oil and gas and chemicals sectors.

Duplex steel is regarded as a type of high-tech material since it enables lower installation costs and maintenance. The fact that duplex steel is more expensive is compensated for by their longer working life. The demand for this kind of steel is growing as, for example, it already accounts for about 15% of stainless steel demand in the EU.

→ Opportunities arise for those DC companies able to supply duplex steel products.

*Impact of energy prices*

Metals production and processing is highly energy intensive. Therefore, the rapid increase in electricity prices in the period 2006-2010 (in line with the rapid increase in oil prices) in virtually all EU countries affected the competitiveness of the EU industry as far as those price increases were higher than in other regions. Please note however, that the price of energy differs from country to country. In the Netherlands and in Germany for example, the supply costs of energy are among the highest in the EU, higher than in France and Spain, for example. Commodity production in particular was badly hit by the high energy costs. These prices are set globally, and as a result, rising energy costs in the EU cannot be passed on to customers without significant losses in market share. As electricity prices are also influenced by climate change policies related to the EU's Emission Trading Scheme (ETS), electricity prices may rise even more in the coming years.

*Price gains in importance*

In the last few years, price has become very important, especially for standard or low value-added products. Due to increased competition among EU suppliers (the result of ongoing rationalisation previously mentioned above) and from suppliers from low-cost countries (LCCs), such as China, Turkey, India and Brazil, price levels have demonstrated a declining trend. In the next 5-10 years, suppliers from China are expected to become even stronger competitors in some subsectors (for example in the pumps, fittings and valves market) than they are now.

→ Although this seems to provide opportunities for DC exporters, they should carefully consider which strategy to choose since competing merely on price is not advisable.



### Useful sources

Some useful sources for further research include:

- BP - <http://www.bp.com> - statistics on oil and energy production and consumption.
- Engineer Talk News - <http://www.engineeringtalk.com>.
- Eurogas - <http://www.euogas.org> - annual report 2010. Contains statistics on, for example, gas storages, the natural gas market and gas consumption and production.
- Europump - <http://www.europump.org>.
- German Steel Tube Trade Association - <http://www.wv-stahlrohre.de>.



# Trends and segments for plastic pipes and fittings

Below, you can find more information on opportunities and threats in the plastic pipes and fittings market in the EU and its main market segments and trends.

## Opportunities and threats

Trends and market developments offer opportunities and threats to exporters. A given trend can be a threat to some and an opportunity to others at the same time. The following trends should, therefore, always be analysed in relation to your specific circumstances. The main opportunities and threats for developing country (DC) exporters are the following:

- + On average, prospects for plastic pipes and fittings in the EU are relatively good. One of the major reasons is that it is increasingly used as a substitution product for (in particular) copper pipes in hot and cold applications.
- + Some sub segments have shown continuous high growth in recent years, such as underfloor heating.
- ± Transport of plastic pipes is relatively costly; transport for distances exceeding 300-400 km is not economically efficient. This situation is different for plastic fittings; transport up to thousands of kilometres can still be economically efficient.
- ± The key to success is the building of strong partnerships with installers, specification organisations and distributors. Building an export market in the EU needs strong commitment from the DC company, both in terms of time and money. It is the major reason why a DC exporter needs a distributor in EU target market(s). Another option would be to opt for sub-contracting; in that case the EU producer is responsible for the sales and marketing activities.
- Increasing consolidation in the industry which is expected to accelerate as a result of the period of economic difficulties in the EU. The situation will lead to even stiffer competition.
- Most EU countries have their own quality marks for plastic pipes.
- The level of construction activities in the EU showed the first signs of improvement in 2010 after having declined for three years. The sector is expected to be cautious with limited growth, which indicates limited demand for plastic pipes and fittings.

## Main market segments and trends

The market for plastic pipes and fittings can be divided into segments in two major ways: segmentation by material and segmentation by application. Both segmentations are described in more detail below.

### *Segmentation by material*

The plastic pipes and fittings market in the EU mainly consists of rigid pipes. Flexible pipes (note that this segment also includes hoses) took second position, followed by fittings. Within the rigid pipes segment, one trend is clearly visible from Table 1: PE pipes have gained market share at the cost of PVC pipes. The rising share of PE can be explained by the fact that it has several advantages over PVC pipes, mainly in its use in water and wastewater applications. Refer to the section on trends below for more information on this issue.

**Table 1 Apparent plastic pipes and fittings demand in the EU, by material and product group, 2005-2009, € million**

	2005	2006	2007	2008	2009	CAGR*
<b>Total</b>	<b>10,052</b>	<b>11,989</b>	<b>12,753</b>	<b>12,690</b>	<b>10,245</b>	<b>0.5%</b>
of which						
Rigid pipes	5,605	6,481	6,988	6,820	5,466	-0.6%
PE	1,942	2,443	2,700	2,576	1,925	-0.2%
PVC	2,463	2,702	2,722	2,605	2,144	-3.4%
PP	571	629	757	681	519	-2.3%
other	630	707	809	957	877	8.6%
Flexible pipes	2,814	3,446	3,479	3,654	2,906	0.8%
Not reinforced	1,336	1,820	1,827	1,984	1,555	3.9%
Reinforced	1,478	1,626	1,653	1,669	1,351	-2.2%
Fittings	1,633	2,062	2,286	2,217	1,874	3.5%

Source: Eurostat Prodcom (2011)

\*Compound Annual Growth Rate

*Segmentation by application***Building & installation and civil and infrastructure applications**

There are several main applications for plastic pipes and fittings. Refer to Figure 1 for an overview.

**Figure 1 Market segmentation of plastic pipes and fittings, by application**

Building & Installation			Civil & Infrastructure			
Soil & Waste	Other	Hot & Cold	Foul and Waste water Systems	Water Management	Cable Ducting	Water & Gas
€5.5 billion*			€4.0 billion*		€3.0 billion*	

Source: Facts Figures Future (2011)

\*estimated value in 2008. Values by 2010 have reduced by 20% on average compared to 2008. The highest declines were recorded in segments related to the construction sector (Foul and Wastewater and Building & Installation).

**Pressure and non-pressure applications**

Plastic pipes and fittings can be found in a wide range of applications which can be divided into non-pressure and pressure applications. Non-pressure applications comprise drain, waste and vent pipes and sewers and drains, whereas pressure applications comprise water service pipes and hot and cold water distribution pipes. Applications which do not really fit into the classification are fire sprinkler pipes, swimming pool pipes, chilled water systems, irrigation, and radiant floor heating.

**Trends and characteristics***Low construction activities*

The level of construction activities in the EU declined in 2010 for the third consecutive year, although signs of recovery were eventually observed that year. In both Western and Eastern European regions, residential construction activity declined significantly, especially the new residential construction market. The residential repair, maintenance and improvement market was stable. In addition, the non-residential market remained weak. Despite cutbacks in government spending throughout the EU in the second half of 2010, the civil engineering market was relatively positive, supported by infrastructure investments in some CEE markets. This trend indicates slow market movement, which negatively affects demand, including demand for exports from DCs.

➔ In this situation, demand for innovative, complex and high value-added products will be the least affected and are likely to have better growth and offer better margins.

#### *Increasing consolidation*

Since the eighties of the last century, consolidation has been a major issue in this sector. It has resulted in a situation in which national or regional markets are dominated by a few suppliers, all with local production bases in that country or region. On an EU level, Wavin leads in terms of sales (€1.5 billion in 2008), followed by Aliaxis (€1.1 billion), Pipelife (€0.8 billion), Uponor (€0.7 billion) and Geberit Pipes (€0.4 billion). As a rule of thumb, since plastic pipes are voluminous and relatively low-added value products, they are produced in the country or region of end-use. Transport of plastic pipes is relatively costly; transport for distances exceeding 300-400 km is not economically efficient. This situation is different for plastic fittings; of which transport up to thousands of kilometres can still be economically efficient. Some leading players have also gained a foothold in large/promising DC markets by establishing their production facilities or acquiring local producers.

➔ Best opportunities for DC exporters are in the range of plastic fittings. Of course, if your plastic pipes have distinguishing features, this will improve your opportunities on the EU market. In addition, as many EU companies try to establish a base in DCs, this can offer co-operation opportunities.

#### *HDPE is growing fast*

Although HDPE (high density polyethylene; belonging to the product group rigid PE pipes) and PVC look rather similar in terms of product features, they are significantly different. In recent years, the use of HDPE in water and wastewater applications has grown quickly. This is the result of the following features of HDPE:

- Lower costs of installation. HDPE can be installed fast, efficiently and cost-effectively. Industry experts even believe that in the future, pipe systems in the drinking water and gas supply network can be laid without using sand beds.
- Higher leak resistance due to leak free joints. This feature has won in importance in recent years. Both an increased concern for the environment as well as more stringent regulations to prevent water losses in the distribution network have contributed to that development.
- Better abrasion and chemical resistance than PVC pipes.

➔ DC companies able to produce products according to customer needs definitely have a competitive edge on the EU market.

#### *Underfloor heating is showing continuous growth*

Hydronic underfloor heating is still showing growth in the relatively mature markets in Western Europe, while several other EU markets are still in a phase of high growth. In the whole EU, the average annual growth in the length of underfloor heating pipes (PEX pipe, belonging to the product group of rigid PE pipes) sold was about 2-5%. This is a relatively high growth, taking into account the (on average) increasing prices of raw materials. The highest penetration of this kind of plastic pipe is in single-family homes and in the Nordic and Western European countries: Sweden, Finland, Denmark, Germany, the Netherlands and Belgium.

Major drivers of growth remain the increasing consumer focus on comfort and air quality, increasing environmental standards (better application possibilities of renewable energy) and an increasing emphasis on design. Although this particular market segment may offer good opportunities, the relatively low market entry barriers have resulted in fragmented national markets. In Germany, for example, there are more than 20 suppliers in this market.

The key to success is building up strong partnerships with installers, specification organisations and distributors. Most players in this market merely focus on their home market; only few companies sell underfloor heating pipes in a wide range of EU countries (Uponor, Rehau and Roth).

#### *Plastic penetration continues*

Growing copper prices and more recognition of benefits of plastic pipe systems has led to a steady growth of plastic penetration in the EU market for hot and cold water applications. In the EU, plastic pipes and fittings are particularly popular in the sanitary, construction and civil engineering sectors. In comparison to concrete, copper and steel pipes, plastic pipes have a lower leakage and corrosion rate and require lower installation costs.

Users are showing more confidence in plastic pipes than years ago, and at present, the share of plastic pipes is roughly 50%, which is likely to increase further as a result of the increased scarcity and price of copper. Both PEX and multilayer plastic pipes have increased in popularity, but it has been multilayer pipes that have shown the highest increase of both types. Demand for plastic pipes is expected to increase further in the years to come, even if construction markets shrink.

On a final note: in this market segment, to distinguish yourself from other companies based only on product differentiation is becoming increasingly difficult, even for the leading EU companies. In recent years, their experience is that building up strong partnerships with installers, specification organisations and distributors is essential.

➔ Building an export market in the EU needs strong commitment from the DC company, both in terms of time and money. It is the major reason why a DC exporter needs a distributor in the EU target market(s). Another option would be to opt for sub-contracting; in that case the EU producer is responsible for the sales and marketing activities. Refer to 'Trade structure and channels for plastic pipes and fittings' for more information.

#### *Trends in Civil & Infrastructure*

The market segment of Civil & Infrastructure is influenced by a range of trends:

- **Environmental regulations are becoming increasingly stringent.** This benefits the application of plastic (HDPE) pipes, since these pipes have very high leak resistance.
- **Cost leadership of suppliers is gaining importance.** The trends of privatisation of water utilities in several EU countries and the growing regulation of public procurement have increased the importance of cost in procurement decisions. Recently, the trend of reduced government budgets has made this issue even more important.
- **Increasing age of water and gas networks.** In several EU countries there are problems with the current pipeline networks. For example, one water distribution company in the UK is replacing leaking pipes as a way to reduce the 900 million litres of drinkable water which is lost daily in the pipeline network.
- **Increasing consolidation.** The market segment of Civil & Infrastructure is increasingly dominated by a small number of players. As an illustration, the Nordic region is dominated by Uponor, KWH, Pipelife and Wavin, while the UK and Ireland are dominated by Uponor, Aliaxis, Polypipe and Wavin.
- **Increasing market penetration of plastics.** Nowadays, about 50% of all installed pipes are made of plastic. Other pipe systems used in Civil & Infrastructure are made of concrete, steel or cast iron.

#### *Increasing raw material prices*

As a result of high oil prices in the period 2006-2010, plastic pipe producers had to cope with growing raw material prices. This was particularly the case for polypropylene (PP) and polyethylene (PE) primary products. It was only to some extent that suppliers were able to pass on the higher raw material prices to customers. In 2009, raw material prices decreased to normal levels; however, this was only a temporary situation, since prices increased again in 2010. Also note that the movements in the US Dollar - Euro exchange rate (especially in 2010) have affected real raw material price levels for EU companies. Oil prices are expected to remain high in the years to come, driven by increasing demand for energy in the global market.

#### *Impact of the recession*

In recent years, the economic recession has led plastic pipe companies to adjust their growth expectations into the short to middle term. In the first instance, the decline in the construction industry in several EU countries mainly resulted in a decline in the foul and wastewater sub-segment and some decline in Building & Installation. Because - on average - results from other sub-segments remained relatively strong (cable ducting, water management), the final result of the leading EU plastic pipe companies was still good in 2008. However, the year 2009 saw a considerable change. The leading plastic pipe companies in the EU wrote red figures with overall declines of 25% in some cases. The market situation was particularly difficult in the first half of 2009. Not only did the construction industry experience a dip in activities, large infrastructure projects, such as broadband projects, were also postponed. Although 2010 saw a small improvement (2-3% on average), the market has continued to be under pressure because of limited demand from the construction sector.

#### *Many quality marks are still in use*

Many quality marks are used for plastic pipes. Not only do they differ from application type to type, they also differ from country to country or region to region. Although a list of harmonised ENs for quality marks for plastic pipes is available, in practice national quality marks are still necessary to sell plastic pipes and fittings in individual EU countries. This is because a harmonised standard is not a quality mark in itself, but the basis for the quality mark. In the Netherlands, examples of such quality marks are KIWA and KOMO for water applications and GASTEC for gas applications. Also note that the harmonisation of EU standards for plastic pipes is an ongoing process.

→ To keep up with recent developments it is advisable to regularly visit the site of the European Plastic Pipes and Fittings Association (link is below).

#### **Useful sources**

Some useful sources for further research include:

- Annual reports of the leading EU companies, for example Wavin - <http://www.wavin.com> or Uponor - <http://www.uponor.com>.
- European Plastic Pipes and Fittings Association - <http://www.teppfa.com>.
- Impianti Building - <http://www.tecneeditedizioni.it/english/Plastic-Pipes-Fitting.asp?News=PP> - trade magazine focused on plastic application in the construction industry.
- Tube products international - <http://www.read-tpi.com> - international magazine.

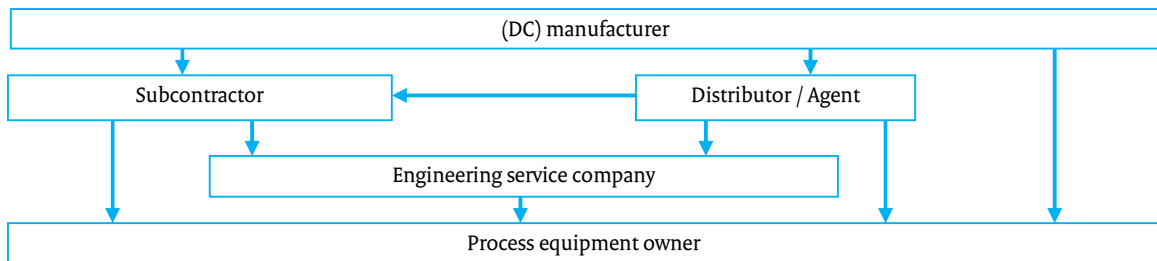


# Trade structure and channels for pipes and process equipment

## Trade channels

The end-users of pipes and process equipment are companies that use machinery and/or plants with pipes and process equipment products as a component. These companies can be in several market segments, such as water and sewerage or oil and gas. The trade channel for DC exporters in the EU is generally the same as for EU companies. Figure 1 displays the most common trade channels in the industry and these channels generally apply to all EU-countries. Subsequently, important characteristics of each trade channel will be discussed.

Figure 1 Trade channels for pipes and process equipment in the EU



### Subcontractor

Subcontractors (also called system suppliers) are manufacturers of process equipment. They can manufacture the products covered by this survey (for example, pumps or valves), or other process equipment such as food process equipment. Subcontractors are almost always EU-based. So far, final assembly usually takes place in the EU to ensure product liability. Products must meet stringent requirements and the supplier can be held liable should errors occur.

The DC exporter could act as a supplier of parts and (semi- or completely) finished products for the EU subcontractor or system supplier. So far, this mostly concerns labour intensive production, while the EU manufacturer will take care of design, research and development.

### Distributor

A distributor could be the link between the DC exporter and the engineering service company or the subcontractor. Usually, the distributor also adopts the role of importer. They have several suppliers, who do not know the distributor's customers. In practice, distributors are one of the most important channels for DC exporters as they have a thorough knowledge of local markets and an extensive network in the EU target market.

Sometimes, distributors are regarded by the customer as their preferred house supplier and are located near to the customer's plant.

Distributors often have their own stock, which is the reason they are also called 'stockists'. Products need to be kept in stock as they have to be available to end-users in the event of an urgent delivery.

#### *Agent*

Agents mostly sell products that do not have to be available from stock, usually tailor-made products. In general, the agent can be of service to both engineering service companies and process equipment owners. In return, they receive a commission, which depends on variables, such as the character of the product and the size of the order. Another channel worth mentioning is 'sourcing agents'. These agents specialise in matching supply in DCs with demand in Europe.

Use an agent if:

- It is the accepted distribution method in the country you have chosen to export to.
- It is not necessary to maintain an inventory in the EU country.
- You want to maintain direct control over overseas sales. Since agents sell the product on behalf of the exporter, they must sell it at the exporter's price, under specified conditions.
- You have to be willing to bear the credit risks of all sales.

#### **Engineering service companies and process equipment owners explained**

Engineering service companies build and/or maintain and repair machinery and/or plants that contain pipes and process equipment. They are also called 'contractors', as they close the main contract with the process equipment owners. The customers of these companies are the process equipment owners such as petrochemical companies, refineries and water distribution and sewage companies. Note that these process equipment owners may own installations all over the world and can award installation or maintenance projects for any of these installations to the EU engineering service company. A major part of the activities, engineering, procurement, and commissioning of the service company take place in the EU, while actual installation takes place directly at the end location, anywhere in the world. An example of a site that offers information on engineering contracts is Pump Engineer - <http://www.pumpengineer.net>.

Some examples of engineering service companies are Linde KCA (<http://www.linde-kca.com>) from Germany, Technip (<http://www.technip.com>; France), Veolia (<http://www.veoliawater.com>; France), Saipem (<http://www.saipem.eni.it>; Italy), GE Water (<http://www.gewater.com>; EU headquarters are in Belgium), ABB (<http://www.abb.com>; Sweden), Lurgi (<http://www.lurgi.pl>; Poland) and Alstom (<http://www.alstom.com>; France). While some of these companies specialise in one segment, such as Veolia (water), others, such as ABB, offer their services to a wide range of segments.

Some examples of process equipment owners are Shell (<http://www.shell.com>; UK and the Netherlands), RWE (<http://www.rwe.de>; Germany), Hamburger Wasserwerke (<http://www.hww-hamburg.de>; Germany) and Friesland Campina (<http://www.frieslandcampina.com>; the Netherlands).

#### *Direct sales*

Very occasionally, EU customers buy their pipes and process equipment directly from the manufacturer. This is the case where large quantities are concerned, the products are standard and when demand can be predicted in advance. Manufacturing and supply might be handled by one DC supplier or sometimes by a combination of several DC suppliers. The



increasing use of E-catalogues on manufacturers' websites has made it easier for end-users to work without an intermediary.

In general, most of the SMEs in DCs are not able to meet the high quantities demanded by European customers. The most significant risk of supplying directly to end users is that it may jeopardise future trade and relations with distributors or agents as, in most cases, prices are relatively low when supplying directly (as there are no intermediaries who increase the costs).

### Price structure

It is very difficult to give a general idea of the price structure in this industry, as prices and margins differ to a great extent. Firstly, the margin depends on the type of product. For one thing, standard products have lower margins than complex products. This has a lot to do with the technical specifications, the kind of finishing and materials concerned. For example, standard valves have small margins, 3-5% for the DC exporter and 2-3% for the EU agent. For distributors in the EU this share is higher (approximately 15%). In contrast to that, margins for complex valves are higher, for example 20% for a European distributor.

Furthermore, important factors will be the price agreement made, the size of the order, and the terms of delivery. Bearing this in mind, some rough indications of margins in the chain can be given. As a rule of thumb, distributors must mark up their landed cost price by 10-35% in order to be able to sell a product. The mark up of agents generally varies between 1% (for high volume/low value) and 8% (added value products). Engineering service companies charge approximately 10% to the end-users, and in general, tend to keep these margins within proportion by spreading their orders over a larger number of suppliers.



# Trade structure and channels for plastic pipes and fittings

## Trade channels

The market for plastic pipes and fittings consists of a wide range of customers, among which are, for example:

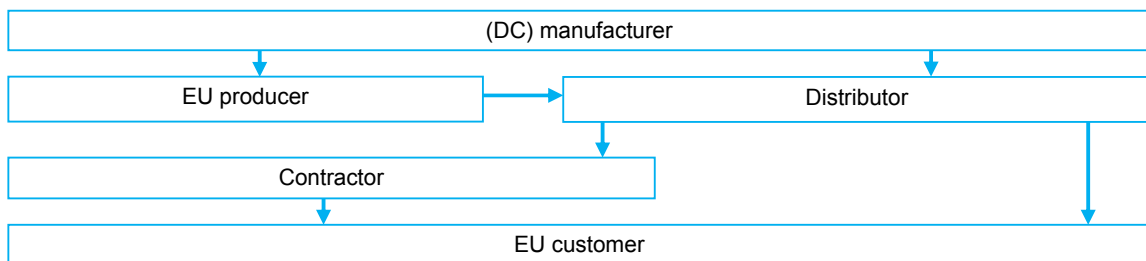
- Contractors;
- Municipalities;
- Utility companies;
- Plumbing companies.

These companies can be in several market segments, such as gas or water and sewerage. They tend to buy plastic pipes and fittings from broad construction wholesalers (also called 'builders merchants'; further called 'construction distributors') or specialised wholesalers/distributors of plumbing and installation materials and accessories (further called 'specialised distributors').

Besides the professional market (which has been described above in effect) there is also a small private market for plastic pipes and fittings. Consumers apply the products in their homes. They purchase mostly from the Do-It-Yourself (DIY) chain, and in a few cases from installer stores. The DIY chain and the few specialised stores also buy their plastic pipes and fittings from construction or specialised distributors.

The trade channel for DC exporters in the EU is generally the same as for EU companies. Figure 1 displays the most common trade channels in the industry and these channels generally apply to all EU-countries. Subsequently, the important characteristics of each trade channel will be discussed.

Figure 1 Trade channels for plastic pipes and fittings in the EU



## Distributor

Distributors are the most important trade channel for DC exporters by a long way. They supply the professional market directly and also supply the trade channels that supply the private market. Thus, customers can be contractors, EU customers (such as municipalities, utility companies and plumbing companies) and - additionally - DIY chains and installer stores. There are several types of distributors who supply plastic pipes and fittings. The two

most important types are construction distributors who supply a wide range of construction materials and specialised distributors who supply a wide range of plumbing and installation materials and accessories. In very rare cases, specialised distributors are specialised in plastic pipes and fittings only. The percentage of sales through distributors accounts for the lion's share of total sales of plastic pipes and fittings in the EU.

More details of the distributor are:

- Virtually all distributors also adopt the role of importer.
- Most distributors are supplied by one or more established EU manufacturers.
- Distributors prefer to do business with a limited number of suppliers, who do not know the distributor's customers.
- Distributors buy a wide range of products on their own account.
- Distributors may stipulate working on the basis of exclusivity, but they may handle other products competing with your products.
- Distributors have their own stock, which is the reason they are also called wholesaler.
- Often, distributors are regarded as the preferred house supplier of the customer.
- They know local markets thoroughly and have a very good network in the EU target market.

#### *Contractor*

Contractors build and/or maintain and repair equipment, pipelines or installations that contain plastic pipes and fittings. Their customers are the owners of the equipment, pipelines or installations, such as pipeline network owners and water distribution companies.

#### *Subcontracting / EU producer*

In addition to exporting by using distributors as described above, another opportunity for DC exporters is subcontracting. Subcontracting means that a DC exporter performs a full process for a European manufacturer. In practice, EU manufacturers may not be able to or not willing to produce all the products themselves, therefore opting for subcontracting. There are several options with regard to subcontracting:

- The European manufacturer discovers that a DC company produces an attractive product which fits into the manufacturers' product range. After product adaptations the DC company starts to produce the product under the brand of the manufacturer. An important reason for EU manufacturers to subcontract some products to other manufacturers is their market strategy of supplying full product lines.
- It may be the case, for example, that a European manufacturer has developed a new product and is looking for a producer able to produce that product.

The major difference between selling to a distributor or subcontracting to an EU manufacturer is: a distributor might (want to) buy a wide range of products, whereas a manufacturer in practice will subcontract a limited number of products to complete their assortment. Which option is the best one varies from DC company to DC company.

#### **Price structure**

It is very difficult to give a general idea of the price structure in this industry, as prices and margins differ to a great extent. As a starting point, the margin depends on the type of product. For one thing, standard products have lower margins than complex products. This has a great deal to do with the technical specifications and the kind of materials concerned. Compared to metal pipes and fittings, margins for plastic pipes and fittings are relatively high, since transport costs are more or less the same while unit costs of plastic pipes and fittings are much lower. Furthermore, important factors will be the price agreement made, the size of the order, and the terms of delivery. Bearing this in mind, a rough indication of

distributors' margins in the chain can be given: distributors must mark up their landed cost price by 25-100% in order to be able to sell a product.



# Prices and price developments for metal pipes and fittings

Prices of metal pipes and fittings rose slowly in the period 2005-2009, before they dropped in 2010. The strong rise in raw material prices was the major driver of the higher prices in 2005-2009. The economic crisis drove the price levels of raw materials down only temporarily in 2010.

## Market prices

The market prices of pipes and fittings are dictated by the large distributors and are influenced by e.g. steel price levels and nickel prices at the London Metal Exchange (LME). After a period of relatively stable prices, prices rose considerably in the period 2004-2009. This was mainly due to increasing raw material prices in that period. One clear reason for this growth was the strong increase in the international steel price index, which was mainly caused by an enormous demand from China and India. The prices of other raw materials, including nickel, also increased significantly.

As stated earlier, prices for metal pipes and fittings are highly influenced by developments in raw material prices. A very positive effect of the economic crisis is the fact that, nowadays, material costs all over the world are almost equal. This enables companies to use the material costs factor as a variable factor. At the same time, since nowadays virtually all companies accept variable material costs, it has become possible for them to quote variable material costs in their contracts.

Reliable historical records and forecasts of major raw materials prices are becoming more and more important in planning, controlling and pricing. An overview of prices for the main industrial raw materials is given in Table 2. These figures reflect the opinion of leading industry specialists of the Economist Intelligence Unit (EIU). The table clearly shows that for most raw materials, the economic crisis only had a temporarily dampening effect on price levels.

**Table 1 Industrial raw materials prices, 2005-2015**

Material	Indicator	2005	2007	2009	2011*	2013*	2015*
Iron ore	US cents/dry Mtu	65	83	114	121	125	130
Nickel	US\$/lb	7	17	7	10	10	10
Oil: Brent	US\$/barrel	54	73	62	90	78	76
Steel	US\$/tonne	504	555	489	710	570	625

Source: Economist Intelligence Unit (March 2011)

\*forecasts.

\*\*|b=pound

### Import prices

A quick analysis of import value and volume in the period 2006-2010 shows that the differences in import prices of metal pipes and fittings sourced from developing countries excluding China, from China and from within the EU differ a great deal from subgroup to subgroup (Table 2). For example, the price of welded pipes imported from DCs excluding China is lower than welded pipes imported from China. The other subgroups (excluding cast pipes) show a different picture; the import prices of seamless pipes and fittings and flanges from DCs excluding China are higher than the import prices of these products from China. Therefore, it can be concluded that in these product groups China is very competitive in terms of price.

As an individual DC exporter, take a look at the table below to analyse and to compare the prices and price developments for the specific type(s) of product you are making.

**Table 2 Prices and price developments of EU imports of metal pipes and fittings, 2006-2010**

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
<b>Total</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.5</b>	<b>1.4</b>	<b>7.0%</b>	<b>-2.5%</b>	<b>2.2%</b>
Intra-EU	1.4	1.5	1.6	1.5	1.4	6.2%	-4.8%	0.5%
DCs ex. China	0.8	0.9	1.0	0.9	0.9	14.3%	-2.7%	5.5%
China	1.1	1.0	1.2	1.5	1.7	3.4%	20.5%	11.6%
Of which...								
<b>welded pipes</b>	<b>0.9</b>	<b>1.0</b>	<b>1.0</b>	<b>1.1</b>	<b>1.0</b>	<b>6.0%</b>	<b>0.7%</b>	<b>3.3%</b>
Intra-EU	1.0	1.1	1.2	1.2	1.0	7.0%	-6.1%	0.2%
DCs ex. China	0.6	0.6	0.6	0.8	0.6	4.6%	0.9%	2.8%
China	0.7	0.7	0.6	0.9	1.1	-3.2%	29.0%	11.7%
<b>seamless pipes</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.6</b>	<b>1.7</b>	<b>8.9%</b>	<b>3.7%</b>	<b>6.3%</b>
Intra-EU	1.5	1.5	1.7	1.7	1.7	5.5%	0.8%	3.1%
DCs ex. China	1.0	1.1	1.6	1.6	1.4	27.3%	-6.3%	9.2%
China	1.5	1.0	0.9	1.0	1.3	-21.0%	15.8%	-4.4%
<b>fittings and flanges</b>	<b>3.4</b>	<b>3.7</b>	<b>3.9</b>	<b>3.9</b>	<b>4.0</b>	<b>6.0%</b>	<b>1.8%</b>	<b>3.9%</b>
Intra-EU	3.6	4.0	4.2	4.1	4.3	8.1%	1.5%	4.8%
DCs ex. China	2.7	2.8	3.1	3.2	3.2	7.5%	1.6%	4.6%
China	1.6	1.7	2.0	2.2	2.0	11.5%	0.8%	6.0%
<b>cast pipes</b>	<b>0.7</b>	<b>0.7</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>5.9%</b>	<b>3.7%</b>	<b>4.8%</b>
Intra-EU	0.7	0.7	0.8	0.8	0.8	8.8%	1.4%	5.0%
DCs ex. China	0.6	0.7	0.7	0.7	0.8	2.7%	6.1%	4.4%
China	0.6	0.7	0.6	0.6	0.8	-3.5%	15.5%	5.6%

Source: Eurostat (2011)

\*Compound Annual Growth Rate

### Useful sources

There are several ways to obtain information on prices and price levels in Europe:

- London Metal Exchange - <http://www.lme.co.uk> - prices of raw materials

- Price lists of suppliers<sup>1</sup>, such as
  - Edelstahl - <http://www.edelstahl.de> - click 'prices'.
  - Waffenschmidt - <http://www.waffenschmidt.de> - German importer. Click 'Preisliste'.
  - Rubinettere Bresciane - <http://www.rubinetteriebresciane.it> - Italian producer also with an import function. After registering, you have access to catalogues and prices.
  - FG Inox - <http://www.fginox.com> - click in the menu on the left on the market segment of your choice, then choose a product group to find an overview of product characteristics. At that point, it is also possible to ask for a quotation.
  - Van Leeuwen Buizen Online Price list - <http://vlbprijlijst.bict.nl/login.asp> - register for a login account to see price list.
- Information on price development can be found in the annual reports of leading EU producers, such as Tenaris - <http://ir.tenaris.com/reports.cfm>, Van Leeuwen Buizen - <http://www.vanleeuwen.com/en/about/publications> and Vallourec - <http://www.vallourec.com/en/finance/investor-relations>.
- Eurostat - official statistical office of the EU - <http://epp.eurostat.ec.europa.eu> - by comparing import value and volume, it is possible to get an idea of the development of import prices.
- German Steel Tube Association - <http://www.wv-stahlrohre.de/marktpreisauskunft.html> - information on price developments (in German).

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<sup>1</sup> Note that the prices mentioned have to be treated with extreme caution as they depend on different aspects such as the specifications, the volumes, and the application for which they are used.



# Prices and price developments for valves

**Prices of valves rose slowly in the period 2000-2007, mainly as a result of the strong rise in raw material prices.**

## Market prices

The market prices of valves are, to some extent, influenced by e.g. steel price levels and nickel prices at the London Metal Exchange (LME). After a period of heavy price pressure in the period 2000-2004, since then there has been some price pressure relief. Starting in 2004, prices rose considerably as a result of rising raw material prices. In general, valve manufacturers in the EU were able to pass on the higher prices to their customers, so that there was only limited pressure on margins. However, global competitive pressure remained very strong with regard to standard valves. Importers, agents, subcontractors and system suppliers have therefore continued their search for opportunities to reduce sourcing costs for standard valves.

Furthermore, raw material prices (steel, oil, nickel) peaked in 2007-2008, which had negative consequences for the profit margins of valves. Late in 2008, the first effects of the economic crisis were felt when the prices of raw materials started to decline and production levels also started to go down. This had the effect of easing profit margins (pressure) for producers of valves. At the same time, however, the lack of demand also resulted in some price decreases (in the range of 0-3%). Note that raw material prices started to increase again in the second half of 2009 and continued to increase in 2010.

As stated earlier, prices for valves are partly influenced by developments in raw material prices. A very positive effect of the economic crisis is the fact that, nowadays, material costs all over the world are almost equal. This enables companies to use the material costs factor as a variable factor. At the same time, since nowadays virtually all companies accept variable material costs, it has become possible for them to quote variable material costs in their contracts.

Reliable historical records and forecasts of major raw materials prices are becoming more and more important in planning, controlling and pricing. An overview of prices for the main industrial raw materials is given in Table 1. These figures reflect the opinion of leading industry specialists of the Economist Intelligence Unit (EIU). The table clearly shows that for most raw materials, the economic crisis only had a temporarily dampening effect on price levels.



**Table 1 Industrial raw materials prices, 2005-2015**

Material	Indicator	2005	2007	2009	2011*	2013*	2015*
Iron ore	US cents/dry Mtu	65	83	114	121	125	130
Nickel	US\$/lb	7	17	7	10	10	10
Oil: Brent	US\$/barrel	54	73	62	90	78	76
Steel	US\$/tonne	504	555	489	710	570	625

Source: Economist Intelligence Unit (March 2011)

\*forecasts.

\*\*|b=pound

### Import prices

A quick analysis of import value and volume in the period 2006-2010 shows that the import prices of valves sourced from developing countries (DCs) excluding China (€8.5 per kilogram) are much higher than the prices of valves sourced from China (€5.9 per kilogram). This is evidence of the strong competitiveness of Chinese valve suppliers in terms of price. In addition, the prices of valves from DCs excluding China are far below the import prices of valves sourced from within the EU (€15 per kilogram). This underlines the fact that, in general, the valves sourced in DCs are relatively standard and not as sophisticated as those sourced from developed countries. When looking at price development, one can see an upward trend, although 2008 saw a temporarily drop in prices. This underlines the long term continuous trend of increasing raw material prices.

As an individual DC valves exporter, take a look at the table below to analyse and to compare the prices and price developments for the specific type(s) of valves you are making.

**Table 2 Prices and price developments of EU imports of valves, 2006-2010**

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
<b>Total</b>	<b>10.3</b>	<b>12.2</b>	<b>11.8</b>	<b>12.8</b>	<b>13.4</b>	<b>7.3%</b>	<b>6.6%</b>	<b>6.9%</b>
Intra-EU	10.6	14.0	13.1	14.2	14.9	11.2%	6.5%	8.8%
DCs ex. China	7.6	8.0	7.6	8.0	8.5	0.1%	5.2%	2.6%
China	4.4	4.7	5.2	5.1	5.9	8.4%	6.0%	7.2%
Of which...								
<b>parts thereof</b>	<b>9.4</b>	<b>9.3</b>	<b>9.6</b>	<b>10.5</b>	<b>10.7</b>	<b>0.9%</b>	<b>5.5%</b>	<b>3.2%</b>
Intra-EU	10.2	9.5	10.2	11.8	11.9	-0.3%	8.2%	3.9%
DCs ex. China	6.1	6.7	6.3	6.1	6.3	1.9%	0.2%	1.1%
China	4.0	4.9	5.3	5.6	5.3	15.8%	-0.2%	7.5%
<b>other valves</b>	<b>13.4</b>	-	<b>15.7</b>	<b>15.5</b>	<b>14.9</b>	<b>8.3%</b>	<b>-2.7%</b>	<b>2.7%</b>
Intra-EU	14.1	-	18.0	17.6	16.2	13.0%	-5.1%	3.5%
DCs ex. China	12.6	12.4	13.5	13.3	10.8	3.5%	-10.4%	-3.7%
China	3.9	4.5	4.9	5.5	5.5	13.0%	5.4%	9.1%
<b>rotary valves</b>	<b>9.8</b>	<b>9.9</b>	<b>11.1</b>	-	<b>11.2</b>	<b>6.4%</b>	<b>0.6%</b>	<b>3.5%</b>
Intra-EU	11.9	12.0	13.6	-	13.4	6.7%	-0.6%	3.0%
DCs ex. China	5.4	6.5	6.3	7.2	7.4	8.0%	8.2%	8.1%
China	3.6	4.3	5.0	5.2	4.8	19.1%	-2.0%	8.0%

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
<b>process control valves</b>	<b>18.8</b>	-	<b>22.9</b>	<b>23.5</b>	<b>26.8</b>	<b>10.3%</b>	<b>8.4%</b>	<b>9.3%</b>
Intra-EU	21.4	-	24.0	24.5	27.6	5.9%	7.0%	6.5%
DCs ex. China	17.5	17.4	21.9	20.2	18.1	11.7%	-9.1%	0.7%
China	3.1	3.6	5.7	7.1	7.1	35.4%	11.5%	22.9%
<b>globe valves</b>	<b>16.9</b>	<b>16.4</b>	<b>17.7</b>	<b>17.5</b>	<b>11.7</b>	<b>2.4%</b>	<b>-18.7%</b>	<b>-8.8%</b>
Intra-EU	18.1	17.9	19.5	19.0	10.9	3.8%	-25.0%	-11.8%
DCs ex. China	9.5	9.3	14.9	13.9	13.7	25.3%	-3.9%	9.7%
China	5.4	6.2	7.1	7.2	6.6	14.8%	-3.6%	5.2%
<b>gate valves</b>	<b>6.0</b>	<b>6.0</b>	<b>6.1</b>	<b>7.0</b>	<b>7.6</b>	<b>0.9%</b>	<b>12.2%</b>	<b>6.4%</b>
Intra-EU	7.6	7.3	7.4	9.3	9.9	-1.7%	15.6%	6.6%
DCs ex. China	3.9	3.9	4.2	4.9	6.3	4.2%	21.4%	12.5%
China	2.4	2.7	3.0	3.3	3.3	11.9%	3.9%	7.8%
<b>pressure-reducing valves</b>	<b>22.8</b>	<b>20.1</b>	-	<b>20.9</b>	<b>21.6</b>	-	-	<b>-1.4%</b>
Intra-EU	25.2	23.4	24.7	23.8	23.0	-0.8%	-3.6%	-2.2%
DCs ex. China	9.7	10.3	13.7	13.1	14.6	18.7%	3.2%	10.7%
China	4.5	5.5	-	6.1	5.7	-	-	5.9%
<b>safety valves</b>	<b>21.4</b>	-	<b>20.8</b>	<b>19.2</b>	<b>20.1</b>	<b>-1.5%</b>	<b>-1.7%</b>	<b>-1.6%</b>
Intra-EU	23.5	-	23.3	19.6	19.6	-0.4%	-8.4%	-4.5%
DCs ex. China	13.6	-	12.0	12.8	13.7	-6.0%	6.7%	0.1%
China	3.5	4.4	5.1	5.3	5.7	19.6%	6.4%	12.8%
<b>check valves</b>	<b>11.9</b>	-	<b>12.9</b>	<b>12.7</b>	<b>13.4</b>	<b>4.0%</b>	<b>2.0%</b>	<b>3.0%</b>
Intra-EU	12.5	-	13.8	14.4	15.2	5.1%	4.9%	5.0%
DCs ex. China	6.3	6.8	6.7	7.0	7.5	3.1%	6.1%	4.6%
China	3.8	4.4	4.6	4.3	4.3	9.3%	-3.6%	2.6%
<b>diaphragm valves</b>	<b>20.6</b>	<b>20.0</b>	<b>19.6</b>	<b>18.9</b>	<b>19.9</b>	<b>-2.5%</b>	<b>0.8%</b>	<b>-0.9%</b>
Intra-EU	23.5	22.0	22.7	23.0	20.2	-1.7%	-5.6%	-3.7%
DCs ex. China	4.0	3.7	4.6	3.5	-	7.6%	-	-
China	5.1	6.7	4.4	3.9	5.5	-6.4%	11.2%	2.0%

Source: Eurostat (2011)

\*Compound Annual Growth Rate

### Useful sources

There are several ways to obtain information on prices and price levels in Europe:

- London Metal Exchange - <http://www.lme.co.uk> - prices of raw materials
- Price lists of suppliers, such as:
  - Edelstahl - <http://www.edelstahl.de> - click 'prices'.
  - FG Inox - <http://www.fginox.com> - click in the menu on the left on the market segment of your choice, then choose a product group to find an overview of product characteristics. At that point, it is also possible to ask for a quotation.
- Information on price can be found on online customer portal of some leading EU producers, such as KSB - <https://shop.ksb.com/esales/ksb/bzb/init.do?language=en&loginlang=en>.

- Eurostat - official statistical office of the EU - <http://epp.eurostat.ec.europa.eu> - by comparing import value and volume, it is possible to get an idea of the development of import prices.
- British Valve & Actuator Association - <http://www.bvaa.org.uk> - news and annual reports, available on the website.



# Prices and price developments for process instruments

Generally speaking, instruments made within the EU have a higher added value than instruments from DCs and these instruments are therefore more expensive than instruments from DCs.

In fact, it is difficult to make a comparison between the prices of process instruments from developed countries and those from developing countries (DCs). This is because the instruments produced in developed countries are mostly electronic, innovative and high-tech instruments, whereas those from DCs are mostly non-electronic and relatively simple instruments. This should be taken into account when looking at Table 1.

Furthermore, reliable price indices of process instruments are not available. This is because most instruments are relatively tailor-made by nature. Even an analysis of prices and price developments of EU imports does not show a clear picture. From that overview (see Table 1) a few conclusions can be drawn:

- China is very competitive in terms of price for most types of instruments.
- DCs other than China only seem to be competitive in terms of price for non-electronic meters and thermostats and manostats.

As an individual instruments exporter, take a look at the table below to analyse and to compare the prices and price developments for the specific type(s) of instruments you are making.

**Table 1 Prices and price developments of EU imports of process instruments, 2006-2010**

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
<b>total</b>	<b>45.6</b>	<b>49.2</b>	-	<b>47.3</b>	<b>46.1</b>	-	-	<b>0.3%</b>
Intra-EU	41.0	45.2	-	41.3	40.3	-	-	-0.4%
DCs ex. China	50.4	50.0	49.1	49.2	52.8	-1.3%	3.7%	1.2%
China	23.2	24.2	22.9	24.7	24.5	-0.7%	3.4%	1.3%
Of which...								
<b>other regulating or controlling instruments</b>	<b>61.6</b>	<b>54.9</b>	<b>56.6</b>	<b>61.1</b>	<b>56.8</b>	<b>-4.1%</b>	<b>0.1%</b>	<b>-2.0%</b>
Intra-EU	56.3	49.6	52.8	59.0	52.3	-3.1%	-0.5%	-1.8%
DCs ex. China	56.4	62.1	70.1	56.7	57.0	11.5%	-9.9%	0.3%
China	37.5	32.3	33.0	36.8	41.8	-6.2%	12.6%	2.7%

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
<b>parts thereof</b>	<b>33.2</b>	-	<b>32.4</b>	<b>31.4</b>	<b>37.3</b>	<b>-1.2%</b>	<b>7.2%</b>	<b>3.0%</b>
Intra-EU	28.2	-	27.6	27.8	32.7	-0.9%	8.7%	3.8%
DCs ex. China	47.5	39.3	37.2	38.0	35.2	-11.5%	-2.8%	-7.2%
China	10.3	19.8	22.5	18.6	18.5	47.9%	-9.3%	15.8%
<b>electronic meters</b>	-	<b>84.0</b>	<b>91.7</b>	<b>72.9</b>	<b>67.6</b>	-	<b>-14.1%</b>	-
Intra-EU	-	76.2	88.3	68.1	58.7	-	-18.5%	-
DCs ex. China	-	70.8	72.7	67.8	73.9	-	0.9%	-
China	-	23.2	20.5	18.3	22.4	-	4.5%	-
<b>thermostats</b>	<b>20.5</b>	<b>38.2</b>	<b>28.7</b>	-	<b>29.1</b>	<b>18.3%</b>	<b>0.7%</b>	<b>9.1%</b>
Intra-EU	25.0	40.4	28.0	-	28.1	6.0%	0.2%	3.0%
DCs ex. China	18.3	19.5	20.0	21.7	21.9	4.6%	4.6%	4.6%
China	26.2	24.5	26.1	25.9	28.6	-0.3%	4.8%	2.2%
<b>non-electronic meters</b>	-	<b>64.2</b>	<b>71.3</b>	<b>62.7</b>	<b>59.7</b>	-	<b>-8.5%</b>	-
Intra-EU	-	71.9	81.8	66.9	57.0	-	-16.5%	-
DCs ex. China	30.3	25.7	27.7	26.8	36.0	-4.5%	14.1%	4.4%
China	14.1	14.3	15.4	14.3	17.0	4.6%	4.9%	4.8%
<b>electronic pressure meters</b>	<b>150.0</b>	-	<b>87.5</b>	<b>184.1</b>	<b>181.1</b>	<b>-23.6%</b>	<b>43.9%</b>	<b>4.8%</b>
Intra-EU	116.9	82.4	96.4	174.8	165.3	-9.2%	30.9%	9.0%
DCs ex. China	-	-	-	-	-	-	-	-
China	30.0	58.2	55.5	57.7	37.1	36.0%	-18.3%	5.4%
<b>manostats</b>	<b>33.6</b>	<b>45.6</b>	<b>52.5</b>	<b>41.4</b>	-	<b>25.0%</b>	-	-
Intra-EU	32.5	47.7	57.5	43.4	-	33.0%	-	-
DCs ex. China	21.8	19.5	21.3	21.7	17.1	-1.0%	-10.5%	-5.9%
China	6.8	8.9	9.9	9.6	12.5	20.7%	12.0%	16.2%

Source: Eurostat (2011)

\*Compound Annual Growth Rate

### Useful sources

It is rather difficult to obtain information on prices and price levels in Europe. The best method is to build your own personal network in the EU to remain informed of price levels and developments. The above used method is by comparing import volume and value. Refer to Eurostat - official statistical office of the EU - <http://epp.eurostat.ec.europa.eu>. In addition, annual reports of leading EU producers also provide information on price development, such as Emerson Process Management - <http://www.emerson.com/en-US/about/investor-relations/annual-reports/Pages/default.aspx>.



# Prices and price developments for process equipment

A quick analysis of import value and volume in the period 2006-2010 shows that the differences in import prices of process equipment sourced from developing countries (DCs) excluding China, from China and from within the EU differ a great deal from subgroup to subgroup (Table 1). For example, the price of radiators and heaters for central heating imported from DCs excluding China is lower than the price of these systems imported from China. It should, however, be mentioned that in the subgroup of radiators and heaters, Turkey is a very competitive supplier with low transport costs for exports to the EU compared to China. The other subgroups show a different picture; the import prices of process equipment using heat, filtering equipment, food processing equipment, refrigerating or freezing equipment and other process equipment from DCs excluding China are higher than the import prices of these products from China. Therefore, it can be concluded that in these product groups China is very competitive in terms of price.

At the same time, it should be realised that it is difficult to make a comparison between the prices of process equipment from different regions and countries. This is because there may be large differences between the characteristics of the equipment. For example, the food processing equipment from China is generally less complex and technically advanced than food processing equipment from another main DC supplier of food processing equipment, South Africa. This should be taken into account when looking at Table 1.

When looking at the development in prices, one can see a sharp rise in the period 2006-2008, which was mainly caused by increasing raw material prices in that period. As an individual DC exporter, take a look at the table below to analyse and to compare the prices and price developments for the specific type(s) of product you are making.

**Table 1 Prices and price developments of EU imports of process equipment, 2006-2010**

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
<b>Total</b>	<b>7.8</b>	<b>8.2</b>	<b>8.6</b>	<b>8.9</b>	<b>8.8</b>	<b>4.8%</b>	<b>1.1%</b>	<b>2.9%</b>
Intra-EU	8.0	8.4	9.1	9.2	9.0	6.9%	-0.7%	3.0%
DCs ex. China	2.8	3.0	3.1	3.9	3.9	5.7%	11.5%	8.5%
China	4.8	4.7	4.8	5.2	5.3	0.3%	4.9%	2.6%
Of which...								
<b>process equipment using heat</b>	<b>10.7</b>	<b>9.3</b>	<b>10.1</b>	<b>10.1</b>	<b>10.2</b>	<b>-2.7%</b>	<b>0.2%</b>	<b>-1.3%</b>
Intra-EU	10.3	8.8	9.9	9.9	10.0	-2.0%	0.4%	-0.8%
DCs ex. China	6.7	7.2	7.3	8.0	7.5	4.6%	1.1%	2.8%
China	4.7	5.0	4.8	5.4	5.3	0.9%	5.0%	2.9%
<b>filtering equipment</b>	<b>11.1</b>	<b>9.4</b>	<b>11.1</b>	<b>11.5</b>	<b>12.3</b>	<b>0.1%</b>	<b>5.3%</b>	<b>2.7%</b>

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
Intra-EU	10.6	8.6	10.6	11.2	12.0	-0.2%	6.2%	3.0%
DCs ex. China	7.7	7.0	7.6	9.0	10.5	-0.5%	17.6%	8.2%
China	4.8	4.8	5.0	4.8	5.3	2.4%	2.5%	2.5%
<b>boiler systems</b>	<b>7.0</b>	<b>7.0</b>	<b>6.4</b>	<b>6.5</b>	<b>7.5</b>	<b>-4.0%</b>	<b>8.3%</b>	<b>1.9%</b>
Intra-EU	7.3	7.3	6.6	7.7	8.1	-4.8%	11.1%	2.8%
DCs ex. China	4.1	3.9	4.3	2.5	5.6	2.1%	14.9%	8.4%
China	3.0	4.0	3.4	3.2	4.3	5.8%	12.7%	9.2%
<b>food processing equipment</b>	<b>15.9</b>	<b>17.0</b>	<b>15.6</b>	<b>17.4</b>	<b>17.6</b>	<b>-1.0%</b>	<b>6.4%</b>	<b>2.6%</b>
Intra-EU	16.2	17.5	15.6	18.1	18.0	-2.0%	7.6%	2.7%
DCs ex. China	6.6	7.3	8.0	7.8	8.3	10.2%	1.5%	5.8%
China	4.5	4.8	6.0	5.7	6.3	15.0%	2.5%	8.5%
<b>refrigerating or freezing equipment</b>	<b>9.2</b>	<b>9.0</b>	<b>9.4</b>	<b>9.7</b>	<b>8.9</b>	<b>1.2%</b>	<b>-2.7%</b>	<b>-0.8%</b>
Intra-EU	9.3	9.2	9.7	10.1	9.2	2.0%	-2.4%	-0.2%
DCs ex. China	6.6	4.8	5.6	5.9	5.7	-8.3%	0.8%	-3.9%
China	5.6	5.3	4.7	4.9	5.0	-8.3%	3.4%	-2.6%
<b>radiators and heaters</b>	<b>2.3</b>	<b>2.3</b>	<b>2.3</b>	<b>2.5</b>	<b>2.4</b>	<b>0.3%</b>	<b>2.3%</b>	<b>1.3%</b>
Intra-EU	2.6	2.6	2.7	2.9	2.8	1.5%	2.4%	1.9%
DCs ex. China	1.2	1.3	1.4	1.4	1.4	4.5%	2.1%	3.3%
China	2.8	2.7	2.8	2.7	2.7	0.4%	-2.8%	-1.2%
<b>other process equipment</b>	<b>13.2</b>	<b>18.2</b>	<b>18.6</b>	<b>18.0</b>	<b>16.7</b>	<b>18.5%</b>	<b>-5.4%</b>	<b>5.9%</b>
Intra-EU	12.1	18.3	19.3	18.2	17.5	26.3%	-4.9%	9.6%
DCs ex. China	14.5	14.1	14.4	15.6	15.8	-0.5%	4.7%	2.1%
China	7.8	7.7	7.5	7.3	7.3	-1.7%	-1.4%	-1.5%

Source: Eurostat (2011)

\*Compound Annual Growth Rate

### Useful sources

The best method is to build your own personal network in the EU to remain informed of price levels and developments. Otherwise, there are a few ways to obtain information on prices and price levels in Europe:

- Annual reports of leading EU companies, for example, Marel - <http://www.marel.com/investors/Publications/Annual-Reports> and Bucher - <http://www.bucherind.com/html/de/i88.html>.
- London Metal Exchange - <http://www.lme.co.uk> - prices of raw materials.
- Eurostat - official statistical office of the EU - <http://epp.eurostat.ec.europa.eu> - by comparing import value and volume, it is possible to get an idea of the development of import prices.

It should be noted here that virtually all types of process equipment are tailor-made by nature. As a result, there are no price lists or indices available.



# Prices and price developments for pumps

## Market prices

The market prices of pumps are, to some extent, influenced by e.g. steel price levels and nickel prices at the London Metal Exchange (LME). After a period of heavy price pressure in the period 2000-2004, since then there has been some price pressure relief. Starting in 2004, prices rose considerably as a result of rising raw material prices. In general, pump manufacturers in the EU were able to pass on the higher prices to their customers, so that there was only limited pressure on margins. However, global competitive pressure remained very strong with regard to standard pumps. Importers, agents, subcontractors and system suppliers have therefore continued their search for opportunities to reduce sourcing costs for standard pumps.

Raw material prices (steel, oil, nickel) peaked in 2007-2008, which had negative consequences for profit margins of pumps. Late in 2008 the first effects of the economic crisis were felt when the prices of raw materials started to decline and also production levels started to go down. The effect was to ease profit margins for producers of pumps. At the same time, however, the lack of demand also resulted in some price decreases (in the range of 0-3%). Raw material prices started to increase again in the second half of 2009, and continued to increase in 2010.

As stated earlier, prices for pumps are partly influenced by developments in raw material prices. A very positive effect of the economic crisis is the fact that nowadays, material costs all over the world are almost equal. This enables companies to use the material costs factor as a variable factor. At the same time, since virtually all companies nowadays accept variable material costs, it has become possible for them to quote variable material costs in their contracts.

Reliable historical records and forecasts of major raw materials prices are becoming more and more important in planning, controlling and pricing. An overview of prices for the main industrial raw materials is given in Table 1. These figures reflect the opinion of leading industry specialists of the Economist Intelligence Unit (EIU). The table clearly shows that for most raw materials, the economic crisis only had a temporarily dampening effect on price levels.

**Table 1 Industrial raw materials prices, 2005-2015**

Material	Indicator	2005	2007	2009	2011*	2013*	2015*
Iron ore	US cents/dry Mtu	65	83	114	121	125	130
Nickel	US\$/lb	7	17	7	10	10	10
Oil: Brent	US\$/barrel	54	73	62	90	78	76
Steel	US\$/tonne	504	555	489	710	570	625

Source: Economist Intelligence Unit (March 2011)

\*forecasts.

\*\*|b=pound



### Import prices

A quick analysis of import value and volume in the period 2006-2010 shows that the import prices of pumps sourced from developing countries (DCs) excluding China (€9.3 per kilogram in 2010) are much higher than the prices of pumps sourced from China (€4.3 per kilogram). This is evidence of the strong competitiveness of Chinese pumps suppliers in terms of price. In addition, the prices of pumps from DCs excluding China are far below the import prices of pumps and parts sourced from within the EU (€12 per kilogram). This underlines the fact that, in general, the pumps and parts sourced in DCs are relatively standard and not as sophisticated as those sourced from developed countries.

Unfortunately, there is not a general trend visible in the development of import prices in the period under review.

As an individual DC pumps exporter, take a look at the table below to analyse and to compare the prices and price developments for the specific type(s) of pumps you are making.

**Table 1 Prices and price developments of EU imports of pumps, 2006-2010**

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
<b>Total</b>	<b>14.2</b>	<b>13.9</b>	<b>12.8</b>	<b>14.1</b>	<b>11.6</b>	<b>-5.0%</b>	<b>-4.8%</b>	<b>-4.9%</b>
Intra-EU	15.7	15.9	14.0	15.5	11.9	-5.5%	-8.0%	-6.8%
DCs ex. China	7.2	7.1	7.0	8.6	9.3	-1.4%	15.1%	6.5%
China	3.2	3.4	3.7	4.0	4.3	7.6%	8.6%	8.1%
Of which...								
<b>parts of pumps</b>	<b>10.1</b>	<b>10.4</b>	<b>10.9</b>	<b>11.2</b>	<b>12.3</b>	<b>3.5%</b>	<b>6.1%</b>	<b>4.8%</b>
Intra-EU	10.0	10.3	11.4	12.0	12.9	6.8%	6.5%	6.6%
DCs ex. China	5.9	6.1	6.4	6.1	7.7	3.6%	9.7%	6.6%
China	2.8	3.0	3.3	3.8	3.9	9.1%	9.1%	9.1%
<b>centrifugal pumps - other</b>	<b>-</b>	<b>17.3</b>	<b>15.6</b>	<b>16.6</b>	<b>15.4</b>	<b>-</b>	<b>-0.9%</b>	<b>-</b>
Intra-EU	-	19.2	17.6	19.1	17.4	-	-0.4%	-
DCs ex. China	11.7	9.2	10.3	12.1	13.1	-6.1%	12.7%	2.9%
China	3.3	3.4	3.3	3.5	3.7	0.7%	4.9%	2.7%
<b>other pumps</b>	<b>13.0</b>	<b>14.9</b>	<b>14.9</b>		<b>12.4</b>	<b>7.3%</b>	<b>-8.9%</b>	<b>-1.2%</b>
Intra-EU	15.4	-	-		14.9	-	-	-0.9%
DCs ex. China	11.0	11.1	8.9	9.3	9.1	-10.0%	1.3%	-4.5%
China	2.8	2.9	3.1	3.4	3.9	4.3%	12.3%	8.2%
<b>rotary positive displacement pumps</b>	<b>20.7</b>	<b>23.9</b>	<b>19.1</b>	<b>20.7</b>	<b>22.2</b>	<b>-3.9%</b>	<b>7.8%</b>	<b>1.8%</b>
Intra-EU	23.8	29.9	20.5	22.6	22.9	-7.2%	5.8%	-0.9%
DCs ex. China	11.8	11.9	10.7	10.8	13.5	-4.7%	12.6%	3.6%
China	3.4	3.9	4.3	4.5	5.4	12.6%	11.2%	11.9%
<b>reciprocating positive displacement pumps</b>	<b>-</b>	<b>33.9</b>	<b>32.0</b>	<b>32.3</b>	<b>28.5</b>	<b>-</b>	<b>-5.8%</b>	<b>-</b>
Intra-EU	-	45.1	43.9	41.1	30.4	-	-16.8%	-
DCs ex. China	11.3	12.4	11.5	16.7	14.8	0.7%	13.3%	6.8%
China	-	7.5	7.2	7.2	10.1	-	18.8%	-

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
<b>centrifugal pumps - submersible</b>	11.1	-	15.0	14.5	11.2	16.6%	-13.6%	0.4%
Intra-EU	12.5	-	20.5	19.4	13.6	27.9%	-18.7%	2.0%
DCs ex. China	4.7	5.0	5.3	5.4	6.2	6.9%	7.5%	7.2%
China	2.8	3.1	3.2	3.2	3.4	6.8%	2.5%	4.6%

Source: Eurostat (2011)

\*Compound Annual Growth Rate

### Useful sources

There are several ways to obtain information on prices and price levels in Europe:

- London Metal Exchange - <http://www.lme.co.uk> - prices of raw materials.
- Price lists of suppliers. It is not common to publish the price lists of pumps on the web, as opposed to 'stock products' such as valves or pipes. Nevertheless, a few examples of companies presenting prices can be found:
  - Biral - <http://nl.biral-ag.ch/home/produkte/preisliste.html> - click on 'Prijzlijst 2011';
  - BPH Pumps - <http://www.bphpumps.com> and;
  - DAB Pompen - <http://www.dab-pompen.nl/catalog>.
- Leading EU companies have an online customer portal, where product information including price is available. This includes KSB - <http://www.ksb.com> (click on 'Customer Portal').
- Eurostat - official statistical office of the EU - <http://epp.eurostat.ec.europa.eu> - by comparing import value and volume, it is possible to get an idea of the development of import prices.



# Prices and price developments for plastic pipes and fittings

The market prices of plastic pipes and fittings depend a lot on oil prices, as oil is the major ingredient for making plastics. This can be seen from the development of import prices in the period under review, showing a considerable increase in 2007 and 2008. The year 2011 is expected to experience a peak in the price level of plastic pipes and fittings.

Table 1 shows a clear difference between import price levels of rigid pipes and flexible pipes and fittings. The price difference between imports from within the EU and China is only marginal for rigid pipes, while it is considerable in the case of flexible pipes and fittings and flanges. Additionally, other developing countries (DCs) seem to be relatively competitive in terms of prices in the case of (all types of) rigid pipes, fittings and reinforced, flexible pipes.

The reason for China's limited role in EU imports for plastic pipes and fittings is obviously caused by the relatively high volume-weight ratio, making transport of these products relatively expensive. As an individual DC exporter, take a look at the table below to analyse and to compare the prices and price developments for the specific type(s) of product you are making.

**Table 1 Prices and price developments of EU imports of plastic pipes and fittings, 2006-2010**

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
<b>Total</b>	<b>3.2</b>	<b>3.6</b>	<b>3.8</b>	<b>3.4</b>	<b>3.6</b>	<b>7.6%</b>	<b>-2.0%</b>	<b>2.7%</b>
Intra-EU	3.0	3.4	3.6	3.2	3.4	9.1%	-3.5%	2.6%
DCs ex. China	2.6	2.7	2.4	2.5	2.9	-2.7%	8.9%	2.9%
China	2.9	3.1	3.2	3.3	4.0	5.9%	10.8%	8.3%
Of which...								
<b>Fittings</b>	<b>6.3</b>	<b>5.5</b>	<b>6.3</b>	<b>6.6</b>	<b>6.4</b>	<b>0.0%</b>	<b>1.0%</b>	<b>0.5%</b>
Intra-EU	5.8	4.9	5.8	6.2	5.9	0.0%	1.0%	0.5%
DCs ex. China	4.1	5.0	4.5	4.3	5.1	5.8%	5.8%	5.8%
China	3.4	3.9	4.0	4.4	4.8	8.9%	10.2%	9.6%
<b>flexible pipes</b>	<b>4.0</b>	<b>3.7</b>	<b>3.9</b>	<b>4.2</b>	<b>4.0</b>	<b>-2.0%</b>	<b>1.5%</b>	<b>-0.3%</b>
Intra-EU	3.9	3.5	3.8	4.1	3.8	-1.4%	0.5%	-0.5%

	Price per kilogram (€)					CAGR*		
	'06	'07	'08	'09	'10	'06-'08	'08-'10	'06-'10
DCs ex. China	3.3	3.5	3.4	3.5	3.8	1.4%	5.3%	3.3%
China	2.9	3.2	3.2	3.4	3.6	4.8%	5.7%	5.3%
<b>flexible pipes, reinforced</b>	<b>3.2</b>	<b>3.4</b>	<b>3.6</b>	<b>3.8</b>	<b>3.6</b>	<b>6.2%</b>	<b>0.9%</b>	<b>3.5%</b>
Intra-EU	3.0	3.2	3.4	3.7	3.4	7.8%	-0.9%	3.4%
DCs ex. China	2.4	2.7	2.4	2.6	2.7	0.6%	7.2%	3.8%
China	2.4	2.6	2.7	2.9	2.8	6.7%	0.9%	3.7%
<b>rigid pipes of PE</b>	<b>2.4</b>	<b>2.5</b>	<b>2.5</b>	<b>2.7</b>	<b>2.0</b>	<b>1.8%</b>	<b>-11.0%</b>	<b>-4.8%</b>
Intra-EU	2.4	2.5	2.5	2.7	1.9	2.6%	-11.9%	-5.0%
DCs ex. China	1.8	1.8	2.0	2.4	1.7	4.1%	-6.9%	-1.5%
China	2.9	2.7	3.0	2.8	2.6	1.8%	-6.4%	-2.4%
<b>rigid pipes, other</b>	<b>4.0</b>	<b>4.5</b>	<b>4.4</b>	<b>4.0</b>	<b>3.7</b>	<b>5.8%</b>	<b>-8.7%</b>	<b>-1.7%</b>
Intra-EU	4.1	4.5	4.3	4.1	3.6	2.8%	-8.0%	-2.8%
DCs ex. China	1.5	1.6	-	1.6	1.8	-	-	5.7%
China	3.0	3.5	3.9	4.0	3.5	13.7%	-6.1%	3.4%
<b>rigid pipes of PVC</b>	<b>1.7</b>	<b>1.9</b>	<b>1.8</b>	<b>1.8</b>	<b>1.6</b>	<b>2.2%</b>	<b>-5.3%</b>	<b>-1.6%</b>
Intra-EU	1.7	1.9	1.8	1.7	1.6	1.8%	-5.4%	-1.8%
DCs ex. China	1.7	2.2	1.6	1.5	1.3	-2.0%	-8.8%	-5.5%
China	1.5	1.7	2.0	1.8	2.1	15.2%	2.7%	8.8%
<b>rigid pipes of PP</b>	<b>2.3</b>	<b>-</b>	<b>2.8</b>	<b>2.7</b>	<b>2.3</b>	<b>10.8%</b>	<b>-9.4%</b>	<b>0.2%</b>
Intra-EU	2.2	-	2.8	2.7	2.3	12.5%	-9.2%	1.1%
DCs ex. China	2.3	2.5	2.5	2.4	2.0	4.3%	-9.8%	-3.0%
China	2.2	2.3	2.7	2.8	3.0	10.9%	5.5%	8.2%

Source: Eurostat (2011)

\*Compound Annual Growth Rate

Since the oil price is expected to peak in 2011, before dropping to lower levels in 2012-2015, so too is the price for plastic pipes and fittings expected to peak in 2011, before returning to the level of 2007 and 2010.

### Useful sources

It is important to have access to up-to-date price information. There are several ways to obtain information on prices and price levels in Europe:

- Annual reports of the leading EU companies, for example Wavin - <http://www.wavin.com>, Aliaxis - <http://www.aliaxis.com>, and Uponor - <http://www.uponor.com>.
- European Plastic Pipes and Fittings Association - <http://www.teppfa.com>.
- ICIS Price Information - [http://www.icis.com/v2/chemicals/polymers\\_rubbers\\_resins.aspx](http://www.icis.com/v2/chemicals/polymers_rubbers_resins.aspx).
- Eurostat - official statistical office of the EU - <http://epp.eurostat.ec.europa.eu> - by comparing import value and volume, it is possible to get an idea of the development of import prices.



# Selecting priority countries for pipes and process equipment

The EU is a group of countries, but it is not one market. The 27 countries that form the EU all have their own characteristics. Even within a specific member state there might be regional differences. Therefore, if you plan on exporting to the EU, it is advisable to select 2 or 3 priority countries.

The following criteria/suggestions can be used to perform the selection:

- **Legal requirements.** Products that fail to meet the legal requirements are not allowed on the EU market. It must also be noted that there may be some differences in the implementation of EU legislation into national legislation in the individual member states. Refer to 'Compliance with EU buyer requirements for pipes and process equipment' for more information.
- **Imports.** It is advisable not only to do an analysis of the size, but also of the development of:
  - EU-imports by product (which of your products are imported the most? which of your products have shown high growth rates?);
  - Imports by country (which country imports the most? what is imported?);
  - Share of developing countries in these imports (the higher the share of DCs in imports, the higher the acceptance of DCs as a supplier).
  - The share of China and your own country compared to other DCs (per EU country).

#### *More information I*

- CBI market intelligence: Promising EU export markets.
- EU Expanding Exports Helpdesk - <http://exporthelp.europa.eu> - go to 'trade statistics'.
- Eurostat - <http://epp.eurostat.ec.europa.eu/newxtweb> - statistical database of the EU. Several queries are possible. For trade, choose 'EU27 Trade Since 1995 By CN8'. Use the guide 'Understanding Eurostat: Quick guide to easy comext' ([http://epp.eurostat.ec.europa.eu/newxtweb/assets/User\\_guide\\_Easy\\_Comext\\_20090513.pdf](http://epp.eurostat.ec.europa.eu/newxtweb/assets/User_guide_Easy_Comext_20090513.pdf)) for instructions.
- International Trade Statistics - <http://www.trademap.org> – you have to register first.

- **Industrial demand.** It is advisable not only to do an analysis of the size, but also the development of:
  - Demand by country (which country shows the most demand and what is demanded?). Should there be no direct data on your product, you could try to answer this question by analysing the production of the product or equipment in which your product is applied.
  - In which countries are the most relevant market segments located?

- What are the most important trends and in what way do they fit your product?

*More information II*

- Industry associations and trade journals in EU countries. Refer to market intelligence for pipes and process equipment for more information.
- Eurostat - <http://epp.eurostat.ec.europa.eu/newxtweb> - Choose 'Production' and 'NACE Rev. 1.1.'. From this database, data on imports, exports and production can be extracted. With these data it is possible to calculate apparent industrial demand. Use the guide 'Understanding Eurostat: Quick guide to easy comext' for instructions, refer to the textbox 'More information I'.
- CBI market intelligence: Promising EU export markets.

Below an example of an EU country selection process is shown by an imaginary company, producing products A, B and C.

**Case - EU country selection process**

**Step 1 - Make an overview of EU demand and imports** (if relevant also production). An example is shown here:

**Table C.1 Analysis of EU demand and imports, of product A, B and C, 2006-2010, € million**

	EU demand		EU imports		EU imports from DCs			
	value 2010	CAGR	value 2010	CAGR	value 2010	CAGR	share in total imports	share of China
Product A	40,000	12.5%	4,000	11.2%	250	48.8%	6.3%	3.2%
Product B	50,000	6.0%	7,500	14.5%	195	18.2%	2.6%	8.4%
Product C	50,000	4.3%	24,514	4.3%	2,435	6.7%	9.9%	72.6%

**Step 2 - Analyse the collected data.** Product C is imported the most, and also the share of DC imports in total imports is the highest. However, the share of China in EU imports from DCs totals almost 75%. It is also in line with the fact that product C is more or less a mass-market product. Opportunities for the company to penetrate the EU market with this product and to gain some profit are rather limited. When looking at the other two products, one can see far better prospects. Of product A and B, product A offers the best opportunities, if following the information in Table 1.1. The import value from DCs in 2010 was the highest, as was growth in 2006-2010 and the share in total imports. Additionally, the share of China was the lowest and growth in local EU demand was the highest.

**Step 3 - Draw your final conclusion.** Of course, you can also use other - qualitative - information here. The final conclusion based on Table C.1 is: product A offers the best opportunities.

**Step 4 - Analysis of demand and imports by country, for the most promising product.** An example is shown in Table C.2.

**Table C.2 Analysis of imports of product A, by country, 2006-2010, € million**

	demand		imports		imports from DCs			
	value 2010	CAGR	value 2010	CAGR	value 2010	CAGR	share in total imports	share of China
Country 1	5,333	12.5%	600	11.2%	50	10.0%	8.3%	6.0%
Country 2	4,167	6.0%	500	14.5%	40	18.2%	8.0%	4.0%
Country 3	2,167	4.3%	200	4.3%	10	6.7%	5.0%	4.0%
Country 13	500	3.4%	97	4.0%	3	189.3%	3.1%	3.0%
Country 16	300	5.2%	43	3.0%	1	140.0%	2.3%	5.0%

**Conclusion:** Country 1 is the leading importer - both in terms of total imports and in terms of imports from DCs, followed by country 2. Imports from Country 3 are much lower, only €200 million in 2010. Of the fastest growing

importing countries, the first two countries (Country 13 and 16) are only small importers with €97 and €43 million imports in 2010 respectively. Number three on the list is Country 2, with imports also growing fast at 18.2% per year. The share of DC imports in total imports is the highest in country 1 and 2. The share of imports from China is irrelevant in this case as in all 5 countries only a small part of imports comes from China.

**Step 5 - Draw your final conclusion.** Of course, you can also use other - qualitative - information here. Final conclusion in this case: country 2 offers the best opportunities, as it is the second largest importer, both of total imports as well as imports from DCs. It also showed high growth in the period under review. In addition, country 1 could also be focused on for several reasons: this country is the leading importer of product A, it shows a high growth rate in demand and it imports a relatively large share from DCs.

Once you have identified your priority countries, it is time to identify your competitors. Refer to 'Performing a competitor analysis for pipes and process equipment' for more information.

Next you can consider variables such as: favourable trade relations, historical, cultural or geographic characteristics, affinity and proximity, market characteristics, supply chain characteristics, economic, and political and technological developments.

- **Primary research.** Besides internet research, you are advised to do your own primary research. The EU market is relatively transparent which should make it easier for you to research market opportunities. Talking to EU experts would be a good idea. They can provide you with extremely valuable first hand information, which you can use to make choices. Try to interview industry specialists, CBI consultants and other experts. This can be done at trade fairs or by phone, using Skype (<http://www.skype.com>). A good way to find EU experts is using social media such as Facebook and Linked-in.

*More information III*

- CBI's Export Manual 'your guide to market research';
- Industry associations in the EU or in the country of your choice. Refer to market intelligence for pipes and process equipment for more information.
- Trade fairs in Europe, refer to 'Developing a promoting strategy for pipes and process equipment' for more information.

Later on, when you are dealing with your market entry strategy, you will be doing more in-depth work to specify your single top-priority market and segment(s) within that market. Which of the priority countries will be your first priority country, and which will be second and third? In the process of making this decision, you will have to consider which segments are particularly attractive to you and why. Do not just look at the aforementioned criteria, such as market growth, competitor activity and so on; also look at specific segments and niches and the developments within those segments and niches.



# Performing a competitor analysis for pipes and process equipment

Look at your competition and learn from them. Try to identify your main competitors in your priority countries. What are their strengths and weaknesses? Which strategic moves are they likely to make in response to the opportunities and threats presented by the market?

## Determine your competitors' origin

Per priority country, it is not only advisable to do an analysis of the size, but also of the development of:

- Imports - which countries are the major suppliers?
- Local production - what is produced in the country itself, and how much of this production is destined for the home market?

Try to answer the following questions, based on the preceding analysis:

- Which supplying DC countries are the strongest competitors on this market, based on value and on growth?
- Which EU countries are the largest suppliers to this market? What is the role of transit trade in these EU countries? For example, in relation to some products, Belgium and the Netherlands are major re-exporters as a result of the transit function of the harbours of Antwerp and Rotterdam.
- How important is local production in this market?

## Identify your competitors

Once you have determined the origin of your major competitors in a priority country, try to locate them and to analyse them. Make use of the following sources to find your competitors:

- Company databases on the internet with global coverage and company databases of trade fairs. Refer to 'Finding buyers'.
- Company databases for the EU (such as Europages), or for a limited number of countries (for example ABC or Wer Liefert Was).
- Industry associations, look for member lists. For more information, refer to the CBI market intelligence for pipes and process equipment.

In addition, you can try to find your competitors with the help of a search engine. Limit your search by using a country extension (for example: "site:.de" when looking for German competitors). Additionally, it could be very helpful to translate the product definition into the language of the country in which your competitor is located. You could make use of Google Translate for translation purposes - <http://translate.google.com>.

Case Study - The country selection process has resulted in two target countries: Spain and France. Trade statistics show that Germany and China are the major suppliers to these two countries. Additionally, Spain also imports from some South American countries, while



Belgium is also a relatively important supplier to France. Further research of the trade statistics shows that Belgium is a transit country for these products from China (harbour of Antwerp). With this information, you decide to further focus on Spain. Information from the Spanish association shows that there are about 8-10 producers that supply to the local market (directly). In turn, the database of the German association shows that about 10 German companies produce these kinds of products, but only 5 export their products to Southern Europe (after a scan of their websites this has become clear). Other information gathered by talking to industry experts has shown that competition from China is only based on price; it is advisable not to compete with them but to focus on local and German competitors. Now scan these competitors extensively! (see below).

### Analyse your competitors

After you have identified your competitors, collect all available information on them. What can you find out about their strengths, success factors, price level, materials, finishing level of products and/or added value? For a competitor analysis you can make use of various sources:

- Website of your competitor, including the company profile and history, product information, news.
- Annual reports, financial reports (Form 20-K or 10-F). Often, these reports can be downloaded from the company website.
- News on the company, published online on news sites or on the company's own website.
- Product catalogues of your competitor at Direct Industry - <http://pdf.directindustry.com>.
- Industry experts (contact trade associations, for example).
- Social media, such as Facebook and Linked-in.

In addition to the above mentioned sources which can be used for desk research, you could also consider carrying out field research in the priority country or in the country of your competitor(s). You could for example visit a trade fair which your competitor(s) is (are) attending.



# Developing a product strategy for pipes and process equipment

How can you develop your product range in accordance with customer needs and prevailing market conditions (competition, market access requirements) in your priority countries? Can you use your existing product assortment or does it need adapting?

## Define your Unique Selling Proposition

When you have completed the analysis of priority countries (this should be done in combination with an analysis of priority products) and of your major competitors, ask yourself ‘What is it that my product (and/or service) offers that my competitors’ products (and/or services) don’t offer?’<sup>1</sup> Then ask yourself what specific benefit this provides to your potential customers. Consequently, use your Unique Selling Proposition (USP) in your advertising and promotional materials.

## Define your product range

In order to be competitive in the EU market, certainly when competing with Chinese producers, it is important that DC exporters add value to their product. If you are a starting exporter, you can focus best on a limited number of products for certain targeted market segments. Past experience has shown that this would be a very effective approach: focus on one or two products or core technologies or services which are truly unique and in which you have a competitive edge. Additionally, you should focus on one type of metal or plastic. Of course, the DC exporter must be able to supply quality which is in accordance with EU requirements, and quantities that also match demand in the EU. Once the customer is satisfied, the product range could be expanded, following their wishes.

In general, it can be said that the more common the product, the more competition there will be and the lower the margin. On the other hand, the more sophisticated the product, the higher the labour factor in the landed cost price and the larger the interest of EU companies to source in DCs.

Besides, as a manufacturer in a DC, you have a competitive edge in labour. This provides an opportunity for labour intensive products, as up to 50% of the cost price may consist of labour. See Table 1 for a comparison of labour costs in Europe and Asia.

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<sup>1</sup> If your product does not have any distinguishing characteristics, you could consider adapting it in such a way that it is really unique to potential customers.

**Table 1 Level of labour costs for technical products in Europe and Asia, in € per month**

	<b>Production employees</b>	<b>Office employees</b>
Western Europe	2,500-5,000	3,000-6,000
Central and Eastern Europe	350-1200	500-1500
China, Western and Central part	150	250
China, Eastern part	450-700	1000
India	15-20	30

Source: FFF in collaboration with Gietech (2011)

Last but not least, another possibility to gain a foothold on the EU market could be serial production of low added-value products. DC producers could take over this production from EU producers, as several countries in the EU are still home to relatively low added-value serial production. Although there are many opportunities for DC producers to take over this kind of production, it should only be a starting point, as DC producers should aim at added-value products.

### Professional packaging

Please remember that packaging is communication. Your product sample should be received by the prospect in professional packaging and in good condition. Buyers do not only have their own specific requirements concerning the product, they also tend to have specific wishes concerning the packaging. Therefore, it would be wise to ask your customer about their packaging requirements, their expectations and what they are used to, and then conform to those requirements. In most cases, the packaging and labelling requirements are included in the specifications.

Usually, blank metal parts are coated with a rust preventative before being packed and shipped. Oilpaper may be used to avoid the dispersion of the protective oil, or sometimes hermetically, vacuum-sealed synthetic pouches are applied. Depending on the product characteristics and customer wishes, metal products are packed in wood (steel), plastic or in containers. In the case of a heavy product, for example, the outer package may be a heavy box, and all empty space in the box must be filled up to prevent the product from moving. The package for ocean transportation may be wooden pallets or iron pallets wrapped with plastic sheeting and packed with metal strips. Another example is flanges; these are individually packed in sealed polyethylene bags, separated by corrugated carton and securely stuffed in wooden boxes. Large flanges are separated by wooden clamps.

Last but not least: packaging is always marked, not only in order to be identifiable during transport, but also to indicate the quantity, the weight, the products themselves and the producer's name.

#### *More information*

- CBI's Export marketing planner;
- CBI's Export Manual 'Your guide to market research';
- CBI's EMP Builder;
- Trade fairs; refer to 'Developing a promotion strategy for pipes and process equipment'.
- Additional information on packaging can be found on the ITC website under export packaging: <http://www.intracen.org/ep/packaging/packit.htm>



# Costing and pricing for pipes and process equipment

In many cases, you will not be able to dictate your own prices. Your market research should give you an insight into the prevailing prices, appropriate margins and competitor prices. Here are some considerations to keep in mind when determining a pricing strategy.

## Price setting

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

- Aim to charge the price the market will bear. Do not go above “price points”, the price set by the market for similar products, and keep in mind the quality-price ratio of your products. It should be in line with competitor prices;
- The price should reflect the company's quality levels, delivery and promotion;
- Pricing is a mix of knowing your domestic costs and calculating costs you will incur in delivering and supporting your activities in a foreign market;
- Use contracts with variable material costs. Recently, the cost of materials has been almost equal worldwide; this has enabled companies to use it as a variable factor. Since the financial crisis, virtually all companies accept variable material costs. It is important to set the reference-index for the fluctuations in agreement with the customer. It is common that fluctuations differ from country to country due to differences in import taxes (not yet complying with WTO regulations) and an EU customer will not pay extra because of fluctuations in one particular country;
- 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 (one exception is possible: for the first order you may accept a loss in case larger quantities and thus lower costs are expected for the following orders). No EU customer will accept an unreasonable/unexpected price increase after the first order (so far this is - unfortunately - a common practice for DC suppliers);
- 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 are fluctuating. Cover this risk by including the currency risk in the contract. Also as a result of the financial crisis, this practice has become increasingly accepted in international business.

## Drawing up an offer

Tailor-made offers are provided to clients who have requested a quotation from the exporter. A common price calculation is ‘pricing based on real costs’. The exporter adds all their costs for wage, raw materials and other expenses. Some other suggestions on converting an offer into an order: always treat the client as special, for instance by making a telephone call to ask whether the offer (and the brochures or samples, if applicable) has arrived and ask whether additional information is needed. This allows an extra contact

moment with the client. Always send a confirmation of receipt within 24 hours and also respond fast to enquiries (within 3-5 days). Most exporters quote to European clients in Euros.

#### **Method of payment**

Most transactions are executed with a Letter of Credit (L/C). One of the advantages of this method is that subsidies, if any, are only granted with L/Cs.

#### **Delivery conditions**

Common delivery conditions in the technical industries are the FOB (Free on Board) and CIF condition (Cost Insurance & Freight). CFR (Cost & Freight) occasionally occurs as well. On other occasions, it is possible for customers to arrange their own transport. Then, Ex Works would be the delivery condition.

In principle, customer wishes are decisive and supplier and customer are free to negotiate and agree whether quotations and subsequent trade are based on FOB, CIF, CFR or Ex Works prices.



# Selecting a market entry channel for pipes and process equipment

The first decision you have to make is whether to approach your new market directly or indirectly. An indirect approach means having all export activities taken care of by a dedicated exporter or agent, or having all import activities taken care of by an importer or agent. If you decide to enter the market directly, be aware of the fact that you will have to take care of in-market stocks, in-market promotion, in-market distribution and in-market sales. It may be very difficult to keep your investments in proportion to expected gains! At the same time, you have to realise that - in the case of an indirect approach - your trade partner's margin is related to the amount of promotional activities and other services your trade partner (agent or importer) can develop.

## **Type of product**

When formulating a distribution strategy, ask yourself whether your product is a standard or complex product. If your product is relatively standard (also referred to as 'catalogue items'), then the indirect approach is relatively important. This has to do with the fact that one of the most important criteria for a buyer of technical products is the reliability of the suppliers and quality of the products. Avoiding risks is a main criterion for EU buyers and standard products need to be available very fast. Importers can handle this very well, and customers, therefore, often use importers for standard products.

On the other hand, the role of indirect trade is less important in relation to complex or tailor-made products. This is because complex products are more tailored to the needs of the customer and are less suitable to hold in stock.

Note that subcontracting is not mentioned below. Subcontracting is always an interesting option, no matter if you produce complex or standard products.

## **Complex or tailor made products - direct approach**

In the case of complex or tailor-made products, the direct approach is most suitable. The direct approach also provides the best opportunities for a long-lasting relationship, and therefore, developing country (DC) exporters should put efforts into building up supplier relationships with end-users in the EU. A considerable number of (large) end-users have already developed a global sourcing management system in which the sourcing of parts in DCs is an important aspect. Such companies with experience in sourcing from DCs may be

good prospects, but there are still many more prospects in the EU, without experience in sourcing from DCs.

**Complex or tailor made product - indirect approach**

In some cases, it might turn out that an agent is the best way to sell your tailor-made products to a certain country. In such a case, the agent is a specialist in the products you aim to sell, and they know the destination country and its customers like no one else. Several agents have built up strong relationships with customers and are sometimes regarded as their preferred house supplier. These agents may act as a professional intermediary, also in the event of quality problems or when communication with the end-user is necessary. In contrast, other agents may only be focused on closing the deal and may not be willing to mediate should problems arise. DC exporters should be aware of this.

**Standard products - indirect approach**

The indirect approach mostly applies to so-called ‘catalogue items’, which are relatively standard products. In fact, catalogue items are the products that traditional importers find the most suitable for trading. Examples are valves, flanges, fittings and bearings. Importers often have their own stock, which is the reason they are also called ‘stockists’ in this industry. Products need to be kept in stock as they have to be available to end-users in the event of an urgent delivery. In practice, these importers are also responsible for the distribution of the product.

**Remember** - It should be underlined that a lot depends on each individual case when deciding which trade channel is the best one to choose. It is a combination of a good match of features between your company and products and your target customers.

Furthermore, always carefully consider the (dis)advantages of working with intermediaries. The table below shows the most important advantages and disadvantages of working with agents and importers, or of the subcontracting option.

	<b>Agent</b>	<b>Importer</b>	<b>Subcontracting</b>
Advantages	<ul style="list-style-type: none"> <li>- Usually have a good knowledge of distribution structures.</li> <li>- Little exporting experience is required from the exporter.</li> </ul>	<ul style="list-style-type: none"> <li>- Are familiar with local markets and can supply considerable information, assistance and guidance.</li> <li>- Have strong relationships with suppliers and buyers all over the world.</li> <li>- It is easier for an importer/wholesaler to introduce a new brand to the market than it would be for you.</li> <li>- Own design department is not required.</li> <li>- Often offer extensive product ranges of different brands.</li> <li>- Enable you to access international markets while avoiding logistics</li> </ul>	<ul style="list-style-type: none"> <li>- Little exporting experience is required from the exporter.</li> <li>- It is easier for an EU producer to sell a product in the market than it would be for you.</li> <li>- Own design department is not required.</li> </ul>

		issues and many trade-related risks.	
Disadvantages	<ul style="list-style-type: none"> <li>- Relatively high commission is involved.</li> <li>- You are totally dependent on the agent and have to trust the quality of the agent's knowledge, commitment and selling ability.</li> <li>- Under EU legislation, agents are very well protected. Once you are engaged with them, it will be very hard to bypass them and to deal directly with the clients with whom they have established a relationship.</li> </ul>	<ul style="list-style-type: none"> <li>- You may lose marketing control.</li> <li>- Importers often demand a long period of exclusivity, therefore you need to be sure that you choose one that has experience with selling your types of products and has customers for the kind of goods you sell.</li> </ul>	<ul style="list-style-type: none"> <li>- No marketing control.</li> <li>- Risk of becoming too dependent on one or a limited number of customers.</li> </ul>





# Finding buyers for pipes and process equipment

This section focuses on how to find trade partners in the pipes and process equipment industry. It provides information on where to look for trade partners and how to select and approach them.

## Finding potential trading partners

There are several ways to find potential trading partners in Europe. A good way to promote your company and your products to potential trading partners is to attend trade fairs. They are expensive, but worth the investment since many trade fair visitors are potential customers of engineering products from developing countries (DCs). Besides the option of meeting prospects at trade fairs, the Internet is a highly valuable source. Relevant sources to find prospects in Europe are:

- Association of European Pump Constructors - <http://www.europump.org> - click on 'Member associations' for an overview of national pump associations in the EU. Most national associations offer a list or a searchable database of their members.
- Offshore-Technology.com - <http://www.offshore-technology.com> - go to 'Company A-Z'.
- Pumps Directory - <http://www.pumps-directory.com> - it is possible to find a list of pump distributors/importers in Europe, and you can also make a selection of EU pump producers by market segment or by pump type.
- Subsea Oil and Gas Directory - <http://www.subsea.org> - directory of subcontractors and suppliers in the offshore oil and gas industry.
- TubeNet - <http://www.tubenet.org.uk/supplyu.shtml> - meeting place for, among others, EU distributors, agents and/or manufacturers in the tube and pipe industry.
- Buyers guide of Oil Gas Magazine - <http://www.oilgaspublisher.de/bgguide>.
- Company databases such as Europages - <http://www.europages.com>, KellySearch - <http://www.kellysearch.co.uk> and Kompas - <http://www.kompass.com>. For more details on how to search these databases, please refer to the CBI Export Manual 'Digging for Gold'.

## More information

- Websites of trade fairs - see the online exhibitor lists to find company details of participants. Also refer to 'Developing a promotion strategy for pipes and process equipment'.
- CBI's Export marketing planner.
- CBI's Export Manual 'Your guide to market research'.

## Selecting potential trading partners

The profile of the potential customer is very important. The size of the potential trade partner in terms of employees should preferably match by about 40-50% of the number of employees of your own company (based on lessons learnt). Furthermore, each company is unique, with its own customers, countries covered and products. There is a considerable chance that you will find one that matches your country, product and market selection. Refer to the CBI's Export marketing planner (Chapter 5) for more information.

### **Approaching potential trading partners**

If you are not in the position to exhibit or to attend trade fairs in the EU, you could contact potential trade partners by calling them or sending them an e-mail. It is important that the DC supplier has a good knowledge of the scope of work of the European company and can hand over qualified documentation on its own scope of work. Most European companies' websites are very informative and it is advisable to consult these websites before contacting them. Having references is always important, as trading partners may be unfamiliar with sourcing in DCs and are afraid of the risks involved.

Before deciding to exhibit at a fair, it is wise to experience the fair as a visitor first.



# Developing a promotion strategy for pipes and process equipment

Promotion boosts purchases! Defined narrowly, promotion means ways of creating awareness or inducing people to buy. The promotional mix is a range of techniques for initiating, increasing and maintaining awareness of what you offer to your customers in the most cost-effective way. For developing country (DC) exporters, trade press and trade fairs are among the most important promotional tools; they are briefly discussed below.

## Trade fairs

Attending trade fairs is highly recommended as one of the most efficient methods of testing market receptivity and finding prospective business partners in Europe and beyond. Visiting or exhibiting at one of the relevant fairs listed below will in most cases not immediately generate orders, especially when attending for the first time, but it could generate a lot of new contacts which can be followed up to create future business. The learning curve is tremendous: observe how your competitors present themselves, what quality they manufacture, what they supply exactly, what 'extras' they supply. After you have attended several times, some visitors will notice your presence and will start regarding you as a reliable partner. Selling pipes and process equipment takes time and needs personal contact and consistent follow up. The major EU trade fairs are:

- Achema - <http://www.achema.de> - process industry, triennially (May or June) in Frankfurt, Germany. The next edition is in June 2012.
- Anuga Foodtech - <http://www.anugafoodtec.com> - food processing equipment, triennially, Cologne, Germany. The next edition is in 2012.
- Aquatech - <http://www.aquatechtrade.com/amsterdam> - process, drinking and wastewater, biennially (uneven years in autumn) in Amsterdam, the Netherlands.
- ISH - <http://ish.messefrankfurt.com> - energy and air-conditioning technology, biennially (odd years in March) in Frankfurt, Germany.
- Gastech - <http://www.gastech.co.uk> - natural gas, annually at changing locations in Europe.
- Offshore Europe - <http://www.offshore-europe.co.uk> - oil and gas, biennially (odd years in September) in Aberdeen, the UK.
- Pumps & Valves - [http://www.easyfairs.com/pumps-nl\\_16132/](http://www.easyfairs.com/pumps-nl_16132/) - biennially (uneven years in October) in Rotterdam, the Netherlands.
- StocExpo - <http://www.stocexpo.com> - terminal operating equipment, annually (March), at changing locations (the 2012 edition will be held in Rotterdam, the Netherlands).

- Tube - <http://www.tube.de> - leading trade fair for the European pipes and process equipment industry. Held biennially (even years in March/April) in Düsseldorf, Germany.
- Valve World - <http://www.valveworldexpo.com> - valves, biennially (even years in November) in Düsseldorf, Germany.
- Wasser Berlin - <http://www.wasser-berlin.com> - water and gas technology, triennially (March/April/May) in Berlin, Germany. Next edition will be in 2011.

#### *More information*

- Trade fair sites: [http://www.auma.de/pages/start\\_e.aspx](http://www.auma.de/pages/start_e.aspx) and <http://www.eventseye.com>.
- CBI's interactive Export Manual 'Trade fair manager-Your expo coach' information on how to prepare for trade fairs.
- CBI Export Manual 'Your image builder - A guide for establishing and improving commercial images'. The CBI manuals can be downloaded from <http://www.cbi.eu>.

### **Advertising**

Nowadays, advertising on websites has increasingly become common practice. In many cases, it goes hand in hand with advertising in printed magazines. However, advertising in printed editions is probably still more effective than web-vertising. This section provides information on advertisements in trade magazines and on the internet (webvertising).

#### *Advertising in trade magazines*

An advertisement in a trade magazine, whether it is a printed or an online edition, could be an option to promote your company. Below is an overview of the most relevant international magazines for this industry. At the same time, these are also the best websites for your web-vertisements.

- Oil and Gas Journal - <http://www.ogj.com> - monthly, international oil and gas news.
- World Oil - <http://www.worldoil.com> - monthly, exploration, drilling, completion and production sectors of the offshore and onshore oil and gas industry.
- Process Engineer - [http://www.engineerlive.com/Process-Engineer/Process\\_Equipment](http://www.engineerlive.com/Process-Engineer/Process_Equipment) - digital magazine.
- Pump Engineer - <http://www.pumpengineer.net> - bimonthly, pumps. It is also possible to advertise in their Buyers' GuideOnline (<http://www.pumpengineer.net/cyberguide/index.aspx>).
- Stainless Steel World - <http://www.stainless-steel-world.net> - ten times per year, stainless steels and corrosion resistant alloys.
- Tube & Pipe Technology Magazine - <http://www.read-tpt.com> - six times per year, production, processing and utilisation of metal and composite tubes, pipes and hollows.
- Valve World - <http://www.valve-world.net> - ten times per year, valves, control valves, actuators and associated products with worldwide distribution.
- World Pumps online magazine - <http://www.worldpumps.com> - monthly, pumps.

Advertisements should be attractive and should motivate potential clients to buy your products. They should contain information about the performance as well as product features, focus on facts and promise some benefit to the potential client. Being honest in your advertisement is the best policy! Check the number of copies, periodicity and the most important target group before placing an ad. Afterwards, it is also useful to evaluate the effectiveness of your advertisements.

*More information*

- CBI Export Manual 'Your image builder - A guide for establishing and improving commercial images'. Information on how to prepare advertisements, go to <http://www.cbi.eu>.
- How to write a press release that gets noticed by the media - <http://www.prweb.com/pressreleasetips.php> - provides you with tips and guidelines.
- The care and feeding of the press - <http://www.netpress.org/careandfeeding.html>.
- Writing a press release & free publicity for your website - <http://www.internetbasedmoms.com/press-releases>.

*Webvertising*

Generally speaking, presence on the Internet is essential for exporters from DCs as it is necessary that EU customers can find your company easily. Research has shown that making use of search engine marketing and registering in directories is important in that respect. Register your company, for example, in the marketplace Alibaba (<http://www.alibaba.com>). Other opportunities of webvertising are offered by most trade magazines that are mentioned under 'Advertising in magazines'. One example is Stainless Steel World (<http://www.stainless-steel-world.net>, click on 'webvertising'). Another example is Tube & Pipe Technology Magazine (<http://www.read-tpt.com>), this magazine offers advertisements in their digital magazine and also a combination with video messages of your products.

*More information*

- CBI's 'Your image builder'
- CBI's 'Exploring e-business: much to g@in for exporters of pipes and process equipment'