The machinery sector in China

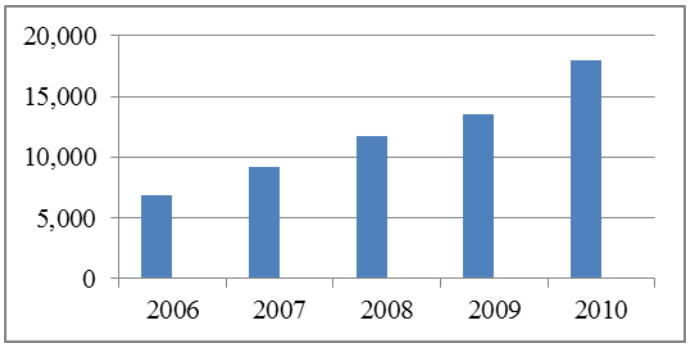
The Chinese machinery industry has been undergoing continuous rapid growth at a compound annual growth rate (CAGR) of around 25% in the last ten years. Benefiting from China's huge domestic demand driven by the industrialisation process and large investments, China has become the largest machinery producer in the world in terms of total output value. Recently, the sector has been undergoing economic re-structuring due to a slowdown in the pace of investment. Nonetheless, the ongoing industrialisation and urbanisation process will continue to be growth drivers in the future.

The machinery sector is one of the largest sectors in Europe, where most of the machinery enterprises are SMEs. Opportunities for EU SMEs fall within knowledge-intensive and high value-added areas requiring a high-level of innovation and customised solutions.

1.1 Market size

During the period of the Chinese 11th Five-Year Plan (2007-2011) the machinery industry had been strongly supported by the Chinese government, which greatly encouraged the development of the sector. China has now become one of the most important countries in the world ś machinery sector, with regard to the total output value, production capacity, number of enterprises, and the export volume. Chart 1 below presents the total output value of China's machinery industry from 2006 to 2010.

Chart 1: Total output value of China's machinery industry from 2006 to 2010 (billion Euro)[1].



In comparison with the fast growing industrialisation process and investment during the last ten years the development of the machinery sector slowed down in 2011. The total output value of the industry was around EUR 2 trillion in 2011, representing an increase of approx. 25% YOY (year-on-year). In the first five months of 2011, the total value of the export and import of machinery products reached USD 24.7 billion, an increase of 29.6% YOY. The growth in imports was higher than in exports, leading to a trade surplus for China and increased pressure on Chinese machinery manufacturers.

Overall, the Chinese machinery sector is moving to a stable growth stage. In the future, China will continue to make great efforts to enhance the ability of manufacturing high-end machinery equipment and to upgrade the industry as a whole in order to further expand the market share and compete with international players.

[1] Source: 2011 China Machinery Industry Yearbook

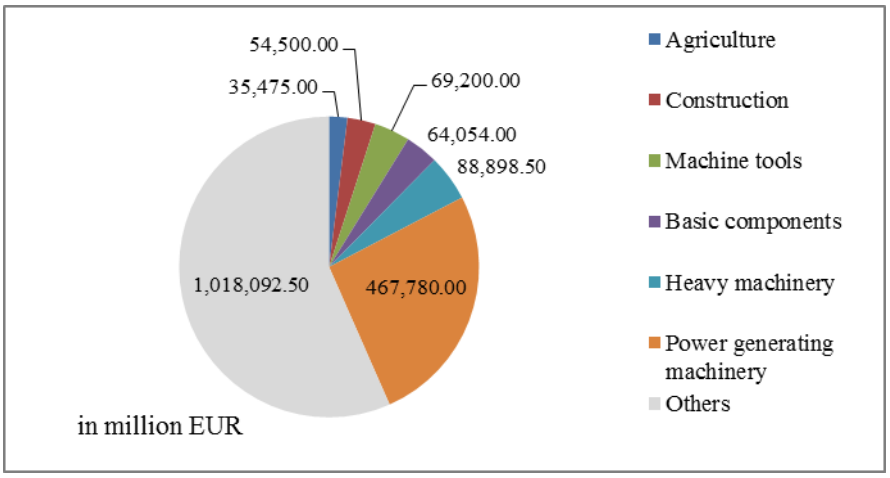
The machinery industry is a broad sector that includes many different types of machines. According to the National Bureau of Statistics of China and the China Machinery Federation Association, the machinery industry covers the following sub-sectors:

Table 1: Machinery sub-sectors in China

Machinery sectors	
Agricultural machinery	Diesel engines, tractors and implements such as combine harvesters, agricultural products processing machinery, animal husbandry equipment, irrigation and drainage pumps, and plant protection machinery.
Construction Machinery	Excavators, loaders, bulldozers, scrapers, graders, truck cranes, forklift and industrial vehicles, piling machinery, road surface compacting machinery, rock-drilling machinery, as well as pneumatic tools.
Machine tools	Metal-cutting & metal forming machine tools, foundry equipment, wood-working machines, abrasives and grinding tools, measuring & cutting tools, electric apparatuses for machine tools and machine tool attachments.
Basic components of machinery	General components, hydro-pneumatic components (hydraulic, hydrodynamics, pneumatics, rubber & plastics seals, rubber & plastics seals and stuffing static seals), moulds (plastic moulds, stamping moulds, casting moulds, rubber moulds), bearings.
Heavy machinery	Metallurgical equipment, mining equipment, cement fabrication equipment, crane machinery, transportation equipment, port equipment, loading machinery and water-conservancy equipment.
Power generating machinery	Hydro-power equipment, thermal power equipment, nuclear power equipment, wind-power generation equipment, power transformation.
Petrochemical general machinery	Equipment for petroleum & natural gas drilling, extracting, gathering and transportation, chemical equipment for oil refinery, industrial pumps, blowers and fans, valves, compressors, air separation equipment, refrigeration and air-conditioning equipment, gas separation and liquefaction equipment, vacuum acquisition and application equipment, printing machinery, plastics processing machinery, cycloid speed reducers, drying equipment and separators.
Auto machinery	Heavy-duty trucks, light vehicles, passenger cars, buses and coaches, refitting vehicles, jeeps, motorcycles, vehicles for industrial purposes, auto parts and components.
Instruments	Automatic instruments for industrial control, electric meters and instruments, optical instruments, analytic instruments, laboratory instruments, meteorological instruments, maritime instruments, film projectors, cameras and copiers.
Office supply machinery	Film machinery, projectors, cameras, printers.
Food and packaging machinery	Machinery for food-processing, packaging, packaging materials, packaging containers and packaging decorations.
Others	Internal combustion engine machinery, printing machinery, environmental protection machinery, plastic machinery, textile machinery, sewing machinery, light-industry machinery, railway machinery, bicycle machinery and watch machinery.

This report will mainly analyse the sub-sectors of agricultural machinery, construction machinery, machine tools, basic components of machinery, heavy machinery and power generating machinery, as we believe that EU SMEs have the most potential to achieve business success in these sub-sectors in China. The following chart, chart 2, shows the percentage of each sub-sector output value in 2010.

Chart 2: The percentage of analysed sub-sector output value in 2010



1.2 Market structure[2]

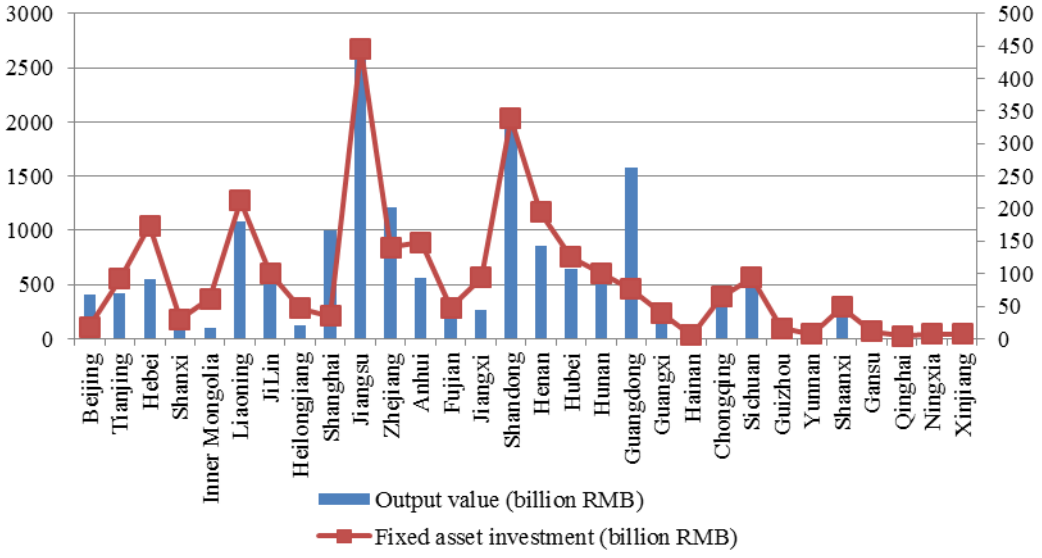
According to statistics from the China Machinery Industry Federation, the machinery industry is moving westward, in line with the Chinese government's policy to develop the western regions of the country.

Table 2: Output value in different regions in billion RMB (proportion)

	Eastern China	Central China	Western China
2010	10,040.50 (69.8%)	2,907.20 (20.21%)	1,436.90 (9.99)
2011	11,487.90 (68.03%)	3,665.80 (21.70%)	1,733.40 (10.26%)

Also included in the China Machinery Industry Yearbook are the output value and the fixed asset investments in different provinces and municipal cities. Jiangsu province heads the list with an output value of RMB 2767.6 billion and fixed asset investments of RMB 447 billion.

Chart 3: Regional structure of the machinery industry in 2011

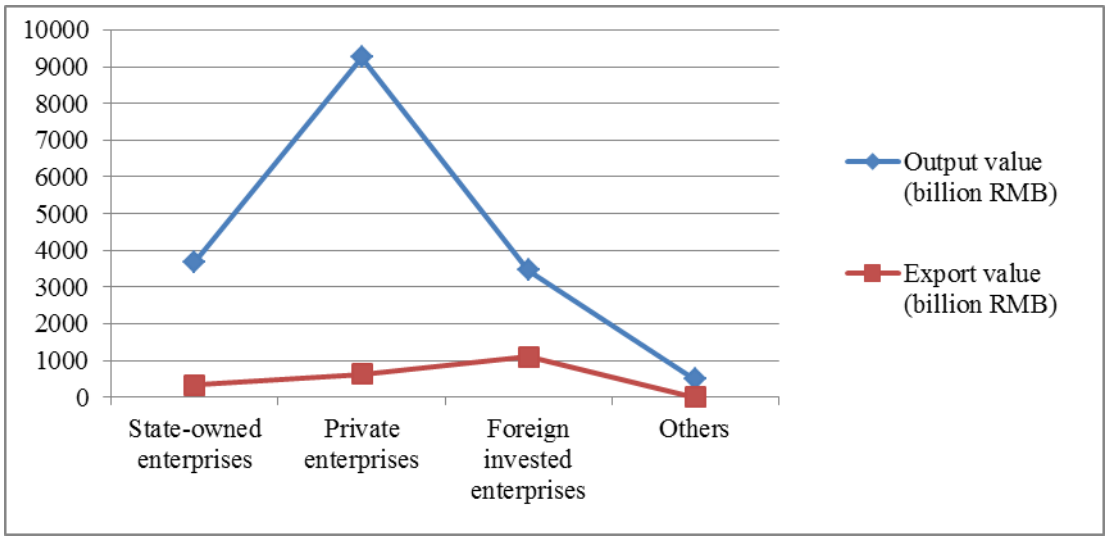


Private enterprises contributed RMB 9258.5 billion (54.83% of total output value) while state-owned enterprises reached RMB 3681.9 billion (21.80% of total output value) and foreign invested

[2] Source: 2011 China Machinery Industry Yearbook

enterprises reached RMB 3459.3 billion (20.48% of total output value). The total value of exported products was USD 321.8 billion in 2011. Foreign invested enterprises created 53.6% of the total export value, while stated-owned companies only accounted for 15.8% and private enterprises for 30.6% of total export value.

Chart 4: The output value and export value of enterprises with different company form



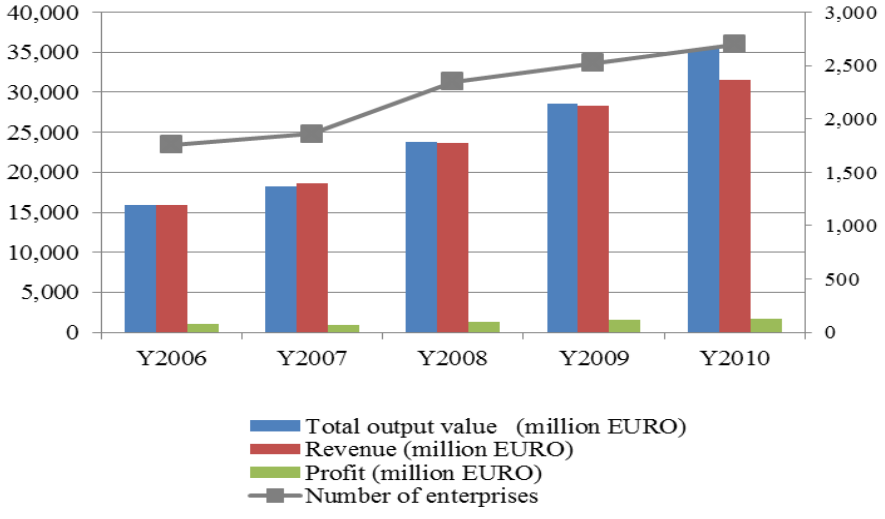
2.1 Market segments

2.1.1 Agricultural machinery

In the past ten years, with encouraging government policies, invested capital, tax reductions and improved research and development (R&D) capacities, the agricultural machinery industry in China has grown tremendously. The annual average total output value of the agricultural machinery increased by 15.5%. China has become one of the major manufacturing countries of agricultural machines.

Chart 5 below presents the major economic indicators of the agricultural machinery industry from 2006 to 2010. The number of enterprises increased from 1,757 in 2006 to 2,700 in 2010, an increase of 54%; the total output value doubled from EUR 15.916 million to EUR 35.475 million.

Chart 5: Major economic indicators of agricultural machinery industry (2006-2010)[3]



[3] Source: 2011 China Machinery Industry Yearbook

In general, the government subsidy policy plays an important role in the agricultural machinery sector as it stimulates potential demand and thus increases production. Products subsidised by the Chinese government, such as agricultural products processing machines and feed processing machines, generally achieve good sales because of lower prices.

Compared with the technology development in European countries, the Chinese agricultural machinery industry is less developed in terms of product mobility and intelligent and full solutions. For this reason China imports many high-end agricultural machines. For example, Chinese manufacturers mainly produce large tractors with 90 to 120 horsepower while most of the large tractors produced in developed countries can provide more than 500 horsepower.

The main points of the government subsidy policy concerning agricultural machinery are:

- Released on January 6th 2012 by the Ministry of Agriculture (MOA) and the Ministry of Finance (MOF).
- Covers 12 categories, 46 sub-categories, 180 products.
- The subsidy package totals roughly RMB 20 billion for the first half of 2012. As the total subsidies in 2011 amounted to RMB 17.5 billion, these numbers support the trend that subsidies for agricultural machinery keep increasing.
- Subsidy levels: 1) RMB 50,000 per unit, no more than 30% of the average sales price in the last 3 years. 2) Tractors with above 100 horsepower are allocated RMB 120,000 per unit. 3) Tractors with above 200 horsepower are allocated RMB 200,000 per unit. 4) Large cotton harvesting machines are allocated RMB 300,000 per unit.
- Distributors of the listed products have to be registered.

Key players

Table 3: Key players

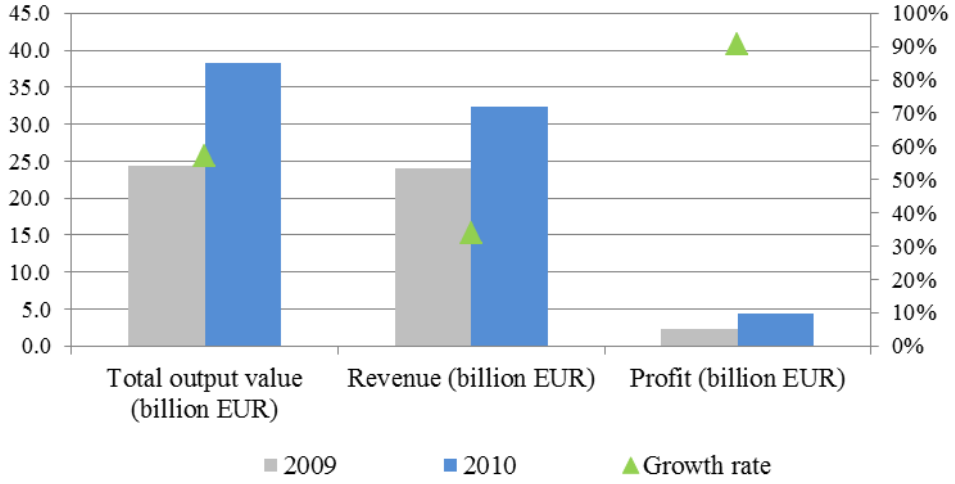
Domestic players	Yuchai Group Co., Ltd. Foton Lovol International Heavy Industry Co., Ltd Weichai Power Co., Ltd
Global players	John Deere (USA): The Chinese headquarters are located in Beijing and its financial leasing company is located in Tianjin. AGCO: Has an assembling factory in Shanghai, a trading company in Beijing and distributors in Daqing. CHN: New Holland (USA): has a joint venture in Shanghai with Shanghai Tractor & Internal Combustion Engine Co. Ltd., liaison offices in Beijing and Xinjiang, assembling factory in Harbin (wholly foreign-owned enterprise). CLAAS KGaA mbH (Germany): Representative office in Beijing, new company registered in 2012. Case Corp. (USA) Other European companies: NARDI (Italy), Tecomec (Italy), KUHN (France)

2.1.2 Construction machinery

According to the China Machinery Industry Report, during the period of the 11th Five-year Plan the total industry sales revenue increased from EUR 15.7 billion in 2005 to EUR 54.5 billion in 2010 and the total industry profit reached EUR 5.6 billion, with an average annual growth rate of 28.05%. Now there are more than 1,400 major enterprises with more than 330,000 employees in the construction machinery industry in China.[4] Chart 6 below presents the major economic indicators of the construction machinery industry in 2009 and 2010, years in which the profits almost doubled. For the construction machinery industry, China is first in the world in terms of the sales revenue.

[4] Source: 2011 China Machinery Industry Yearbook

Chart 6: Major economic indicators of construction machinery in 2009 and 2010[5]



The demand for construction machinery in China has continued to rise during the last years, attracting international construction machinery manufacturers to enter the Chinese market. From 2001 to 2009, investment by foreign enterprises increased by 200%. Product groups with the highest growth rates included earthwork machinery, piling machinery, construction cranes, rollers, pavement maintenance machinery, asphalt pavers and forklifts.

After more than ten years of development, China has gradually become an important player in the Chinese domestic as well as the international market for construction machinery. From 2009 to 2010, the combined trade volume of imports and exports reached EUR 14.8 billion, an increase of 45.7% YOY. Imports amounted to EUR 6.6 billion (plus 63.2%), while exports reached EUR 8.2 billion (plus 34.2%). It is also interesting to note that the three leading Chinese construction machinery manufacturers each acquired one of the three global leaders - Intermix GmbH, SCHWINEG and CIFA - recently. Nonetheless, China still needs to import large amounts of construction machinery, especially high pressure hydraulic components and sophisticated digging machines, due to missing know-how and a lack of the necessary technology. Even so, the 12th Five-year plan projects the sales revenue for construction machinery will reach RMB 900 billion by 2015.

Imported construction machinery

From chart 7, we can see that the growth in import value for construction machinery slowed down significantly in 2008 and 2009 due to the influence of the global economic crisis. By 2010 it had recovered again (with an increase of 63.2% YOY), due mainly to a large-scale investment programme in infrastructure construction sponsored by the Chinese government. Tellingly, the number dropped again in 2011.

[5] Source: 2011 China Machinery Industry Yearbook

Chart 7: Value of imported construction machinery

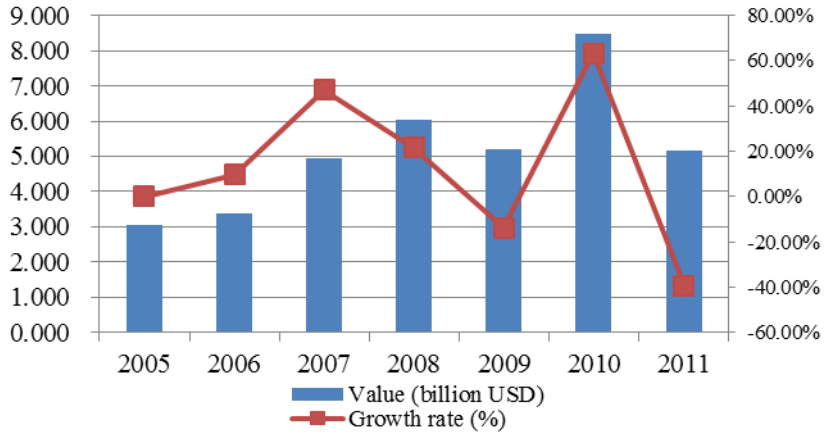
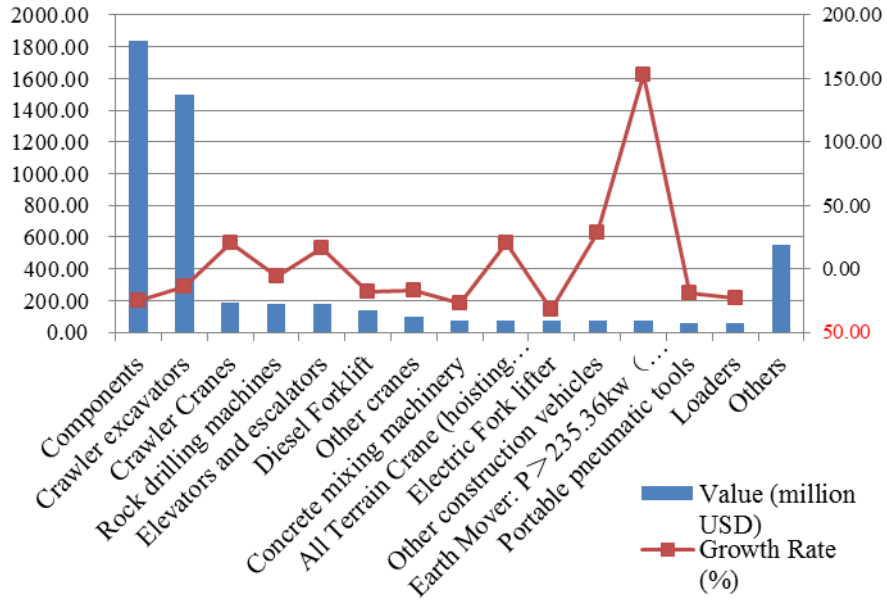


Chart 8 shows the value and growth for the main products imported in 2011. A large portion of the total value of imports comes from key components and crawler excavators.

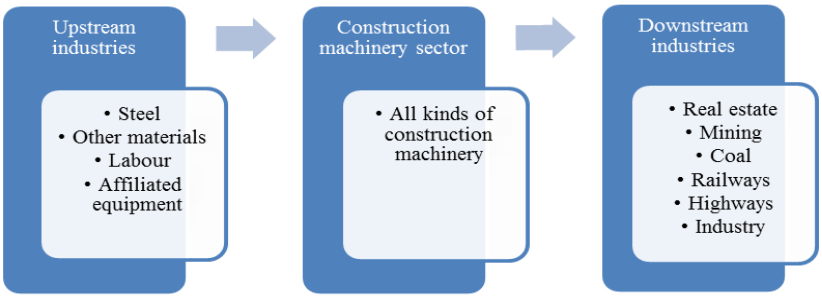
Chart 8: Main imported construction machinery in 2011



Analysis of the industry chain

The construction machinery sector in China is strongly influenced by related industries. The cost of resources such as steel and labour costs influence the construction machinery sector just as downstream industries such as the stagnant real estate industry or investments in infrastructure have a direct impact on the sector.

Chart 9: Industry chain



Key players

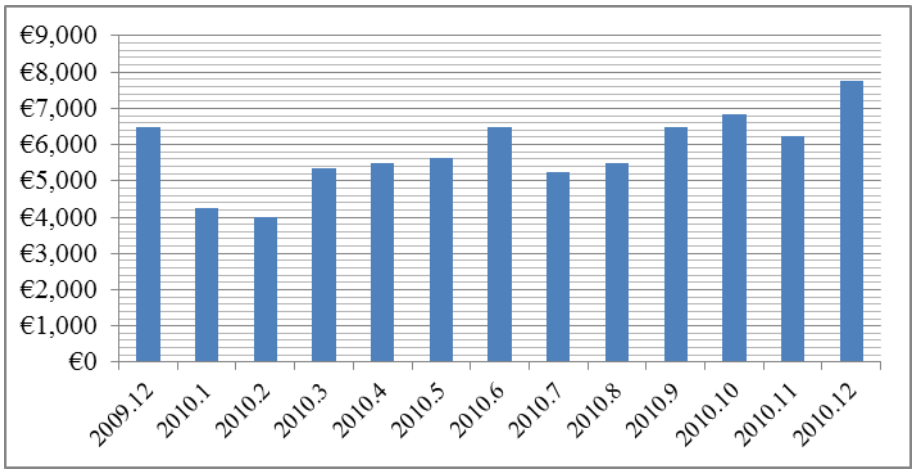
The red stars in the map below mark the six construction machinery industry clusters in China. The top three regions in terms of sales revenue in 2011 are Hunan Province (24.66%), Shandong Province (21.32%) and Jiangsu Province (13.38%).

Domestic players	XCMG Group (Changzhou, Jiangsu Province) Changlin Company Ltd. (Changzhou, Jiangsu Province) Sany Group, Zoomlion, Sunward (Changsha, Hunan Province) Xiagong – SAHM (Xiamen, Fujian Province) Liugong Group (Liuzhou, Guangxi Province) Shantui (Jining, Shandong Province)
Global players	Caterpillar Komatsu Terex Volvo Atlas Copco

2.1.3 Machine tools

The machine tool sector in China has developed very fast in the past ten years. The output value increased from EUR 3.7 billion in 2000 to EUR 69.2 billion in 2010. There are now over 1,000 major enterprises in this industry in China.

Chart 10: Monthly output value of the machine tool industry in 2010 (million EUR)[6]



The machine tools industry is a driving force for the whole machinery sector. The metal cutting machine tools industry reached a total output value of EUR 16.3 billion, while the metal forming machine tools output attained EUR 5 billion. Demand for high-end computer numerical control (CNC) machine tools is also increasing. The output increased from 59,000 sets in 2005 to 230,000 sets in 2010, reflecting the general trend towards higher value-added production. In 2010, the production of CNC metal cutting equipment totalled 223,000 sets and the production of CNC metal forming tools reached 12,000 sets.

Although the Chinese machine tools manufacturers made great progress in terms of technology and production capacity, China still imports large quantities of middle- and high-end machine tools such as CNC components, jigs and fixtures as well as other components of metal forming machine tools. Thus the import of machine tools continued to increase in 2010, reaching EUR 12.4 billion in value, representing an increase of 62% YOY. The import value of metal cutting machine tools was EUR 7.4 billion, an increase of 59.8% YOY. It is estimated that the import value of machine tools will continue to grow, with the majority of imports coming from Japan, Germany, Taiwan, Korea and Italy.

Key players

Domestic players	Shenyang Machine Tools Co., Ltd. Dalian Machine Tools Group
Global players	Trumpf (Germany)

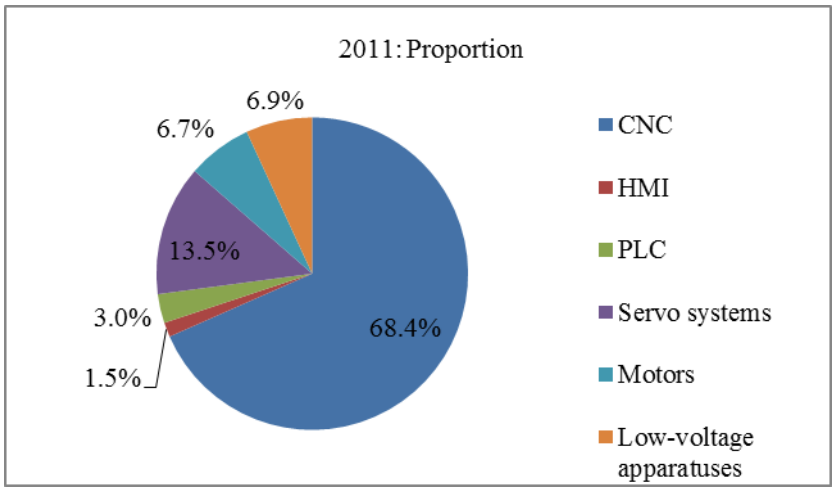
Market segmentation of automation products (2011)

- CNC: Computer numerical controls
- HMI: Human machine interfaces
- PLC: Programmable logic controllers
- Servo systems
- Motors
- Low-voltage apparatuses

Source: www.chuandong.com

[6] Source: 2011 China Machinery Industry Yearbook

Chart 11: Products breakdown



Computer numerical controls

Chart 12: CNC market share of main suppliers (2011)

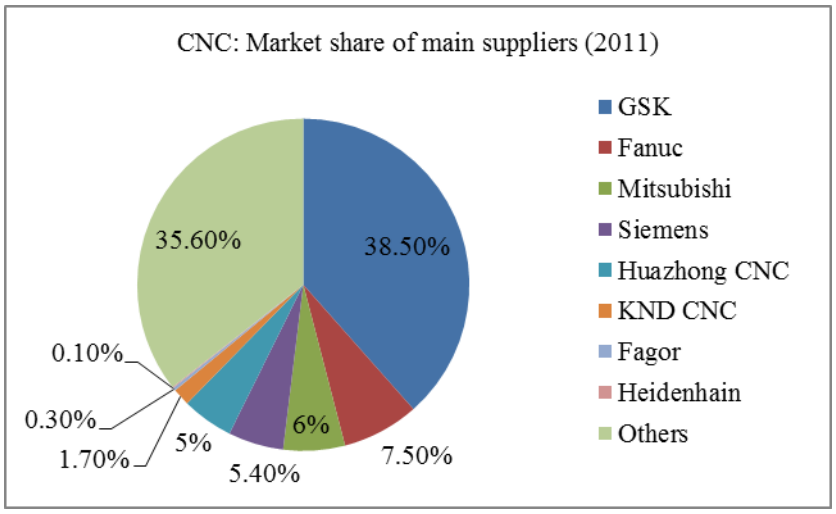
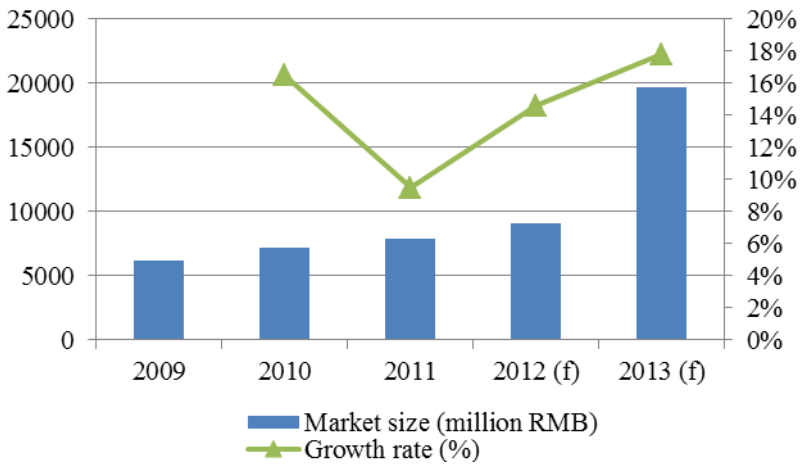


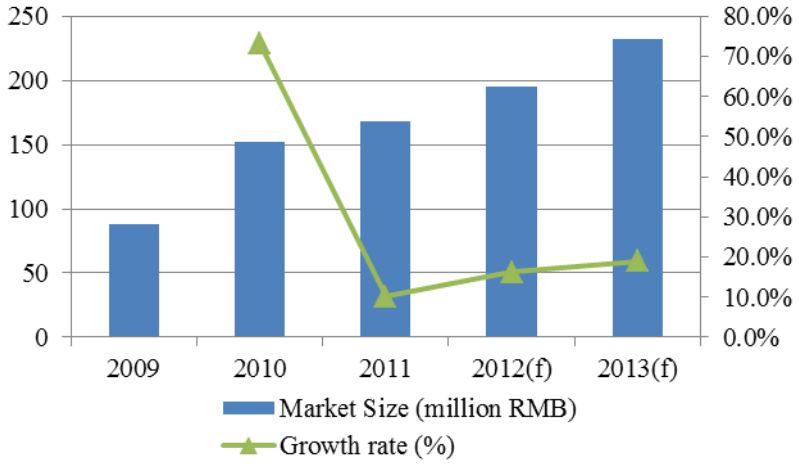
Chart 13: CNC Market size and growth rate (2011)



Human machine interfaces

The main suppliers of HMI technology ranked by their market share are: Omron, Delta, Hitech, Siemens, Mitsubishi, Fuji (Hakko), Pro-face, eView, Advantech and Weinview.

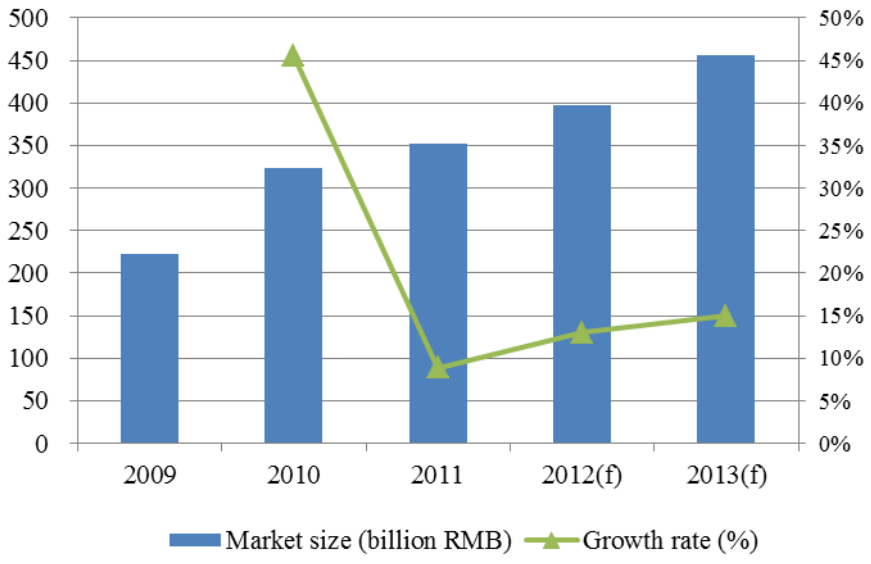
Chart 14: HMI market size and growth rate (2011)



Programmable logic controllers

The main suppliers of PLC technology ranked by market share are: LS, Panasonic, Delta, Siemens, Mitsubishi, Schneider, GE Fanuc, Omron and Rockwell.

Chart 15: PLC Market size and growth rate (2011)



Servo systems

Chart 16: Servo systems - market share of main suppliers (2011)

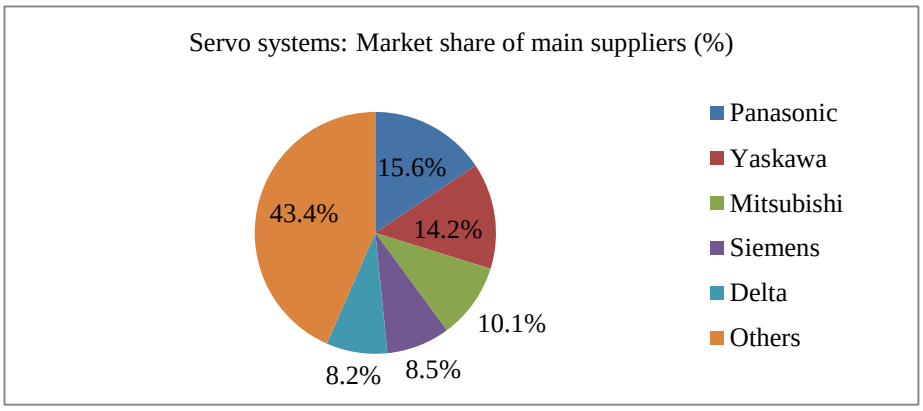
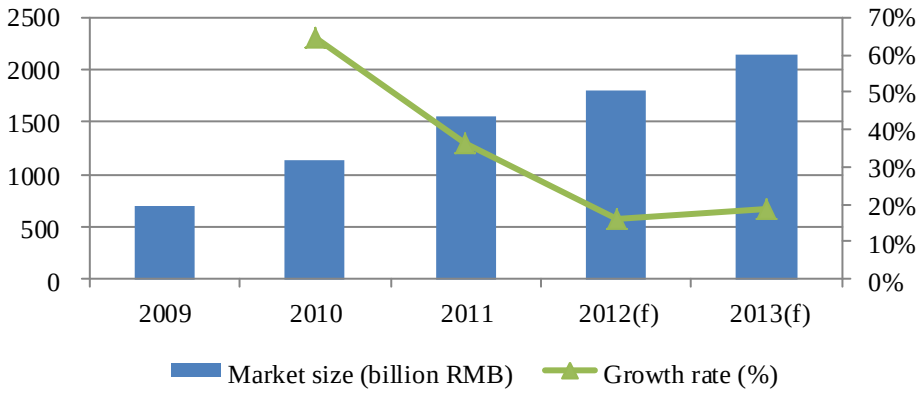


Chart 17: Servo systems - Market size and growth rate (2011)



Motors

There are no big players and suppliers in the motors market in China. The market shares of a number of companies average around 3%-6%. Some examples are: Huali Motor, Siemens, Luan Jianghuai, ABB Automation, Hengshui OX Motor, JS Dazhong Motor, Jiamusi Electric Group or Anhui Wannan Motor.

Market size was RMB 779.7 billion in 2011 and is expected to increase to RMB 1,081 billion in 2013.

Low-voltage apparatuses

Main suppliers of low-voltage apparatuses are: Schneider (18.3% market share), ABB (12.1%), Chint (11.5%), Delixi (8.8%), Chuangshu (4.5%), Tianzheng (4.3%), Nader (3.8%), SH Renming (3.5%), Siemens (2.3%), Muller (0.9%) and others (30.3%).

Market size was RMB 800 million in 2011 and is expected to be RMB 1040 billion in 2013.

VAT reform has positive impact on the sector

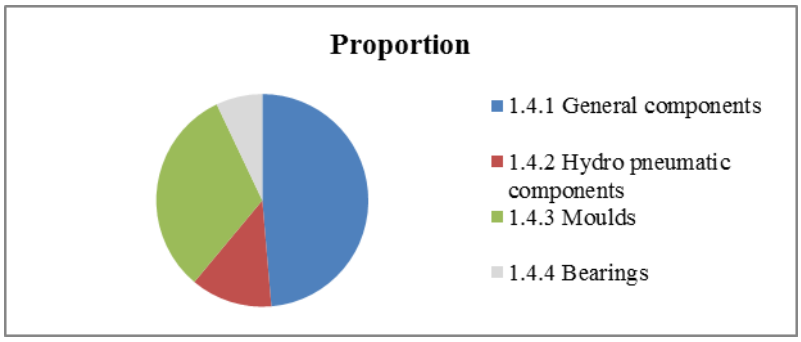
Effective from January 1, 2009, the old regulation with the VAT exemption policy for imported equipment and VAT refund policy for domestic equipment purchased by foreign-invested enterprises was abandoned. New regulation took immediately effect with VAT refund policy for both foreign-invested enterprises and Chinese enterprises when they purchase either imported or domestic equipment, which gives Chinese companies the equal treatment and encourages all enterprises to buy new equipment[7].

[7] Source: 《Notice of the Ministry of Finance and the State Administration of Taxation on Some Issues Concerning Nationwide Implementation of the VAT Transformation Reform》

2.1.4 Basic machinery components

The production of basic components is less developed than those of other machinery industries in China. The market especially lacks high-end products. So far, the quality and general performance of most basic components are similar to those in 1980s. Unstable quality and high turnover rates are the major weaknesses of the sector. Therefore, some companies import components from foreign countries in order to survive in the global competition. Although China has exported large amounts of some basic components, those components are mainly labour-intensive and with low added-value.[8]

Chart 18: Breakdown of basic components of machinery



General components

Table 4 presents the sales of the machinery component industry in 2010, including sub-sectors of fasteners, dies and moulds. Six types of components reached two-digit increase, among which powder metallurgical components, chains and springs increased by around 35%, gears by 20%, dynamic couplings by 19%, and fasteners by 15%.

Table 4: Sales revenue, export and import of general components in 2010[9]

Items	Sales revenue (million EUR)	Growth rate	Import value of product (million EUR)	Growth rate	Export value of product (million EUR)	Growth rate
Gears	18,125	20%	8,413.73	46%	2,156.96	58%
Fasteners	7,000	15%	2,267.98	25%	2,894.45	46%
Chains	1,850	35%	182.39	14%	563.03	25%
Springs	1,812	34%	428.22	39%	150.67	50%
Metallurgical powder	1,037	36%	-	-	63.44	0%
Dynamic couplings	1,325	19%	277.55	-33%	222.04	44%
Total	31,150	21%	11,569.87	36%	6,050.59	41%

China is the one of the largest producers and consumers of general machine components, but most of the equipment produced locally is intended for low-end markets. High-end products are mostly imported from other countries. In 2010 the total output value of the sector was EUR 31 billion, marking an increase of 21% YOY. The combined export and import value reached EUR 17.6 billion, an increase of 38% YOY. The import value has been growing continuously and reached EUR 11.5 billion in 2010, gears being the product with the largest share at 72.7% of the total value. The export value totalled EUR 6 billion, with fasteners being the most popular product. With a total value of EUR 793 million, representing a 58% increase YOY, gears became a common export product, too.

[8] http://feature.mei.net.cn/jchj/news/20100623/311276.htm
[9] Source: 2011 China Machinery Industry Yearbook

Hydro pneumatic components

At the time of writing China has more than 3,000 hydro-pneumatic enterprises. In 2010, the total output value reached EUR 7,966.25 million. The total export and import value was EUR 3,739.7 million. Table 5 below presents the total output value of the hydro pneumatic component industry in 2010.

Table 5: Total output value of hydro pneumatic components in 2010[10]

Industry	Hydraulic pressure components	Hydraulic components	Pneumatic components	Rubber seals	Mechanical seals	Stuffing static seals	Total
Total output value (million EUR)	4,391.25	247.50	1,451.25	1,070.00	478.75	327.50	7,966.25
Growth rate	30.35%	23.52%	46.35%	38.62%	29.83%	19.09%	33.29%

China is the world's largest market for hydraulic products and ranks second in pneumatic products, mainly due to China's efforts to upgrade its infrastructure and the machinery industry. China is still lacking advanced technologies to manufacture high-end hydro-pneumatic components such as high-end hydraulic and pneumatic seals, leading to high demand in imported products from developed countries. Overall, 38.86% of all hydro-pneumatic and sealing technology has to be imported.

In 2010, EUR 2.2 billion worth of hydro-pressure products were imported, an increase of 47.5% YOY; imports of sealing products totalled EUR 386 million, marking only a slight increase of 7.05% YOY.

Moulds

According to the National Bureau of Statistics (NBS) of China, the general performance of enterprises in this industry above the designated size (enterprises with revenue higher than EUR 600,000 in this case) has improved, thanks to a stimulus plan that helped increase domestic demand. Since its introduction, sales and profits keep increasing.. Table 6 presents the revenue and output value of these enterprises in 2009 and 2010, indicating a slight increase in the number of enterprises and growth rates above 20% for output value, sales revenue and profits from 2009 to 2010:

Table 6: Major economic indicator of the mould industry in 2009 and 2010[11]

Indicator	Number of enterprises	Total output value (million EUR)	Sales revenue (million EUR)	Profit (million EUR)
Y2010	2,884	20,384.50	19,995.12	1,175
Y2009	2,797	15,826.50	15,474.12	954
Growth rate	3.11%	28.8%	29.22%	23.1%

Plastic moulds have been and still remain the fastest growing product group with a 45% proportion of the overall output value in 2010. At the same time, stamping moulds accounted for 37%, while casting and other moulds accounted for 9% of each.

According to statistics from China Customs the import and export value of moulds totalled EUR 3.3 billion in 2010, representing an increase of 11.85% YOY; of this, imports accounted for EUR 1.6 billion (+ 4.99% YOY). Out of all product groups in the category, plastic moulds remained the most popular, making up 55.74% of imports and 68,96% of exports. Stamping moulds remained the second most popular product, taking up 38.17% and 22.9% respectively. In terms of country of origin Japan, Korea, Taiwan and Germany top the list.

[10] Source: 2011 China Machinery Industry Yearbook
[11] Source: 2011 China Machinery Industry Yearbook

Overall, the market for low- and middle-end moulds suffers from oversupply while the market for large die, precision, high-efficiency and high performance moulds is heavily dependent on foreign mould manufacturers.

Bearings

According to NBS of China, there are around 1,850 large bearing enterprises. In 2010, the sales revenue of those enterprises attained EUR 15.75 billion, representing an increase of 36.96%, 1.5 times the number achieved during the 11th Five-year Plan. The production volume was 15 billion sets, an increase of 36.36%. The economic efficiency has been greatly improved with profits reaching EUR 937.5 million, an increase of 66.67%.

Taken from the 2010 Annual Report of the Bearing Industry, the output value and volume of the bearing enterprises involved in the annual statistics are presented in the table below:

Table 7: Production volume and output value of the bearing industry in 2010[12]

Type of bearing	**Production volume**		**Total output value**	
	Sets (ten thousand)	**Proportion**	**Amount (million EUR)**	**Proportion**
Total	329,805	100%	4,553.65	100%
Miniature bearings	70,693	21.43%	212.43	4.67%
Small bearings	154,579	46.87%	1,017.47	22.34%
Small and medium-sized bearings	88,466	26.82%	1,498.33	32.90%
Small and large-sized bearings	14,360	4.35%	774.49	17.01%
Large bearings	1,676	0.51%	527.71	11.59%
Extra-large bearings	32	0.02%	523.22	11.49%

China consumes and exports large amounts of products based on bearings. 4.1 billion sets of bearings were exported in 2010, over 50% more than the year before. The value of these exports amounted to EUR 2.6 billion, representing an increase of 63.63% YOY. Ball bearings, tapered roller bearings, spherical roller bearings and bearing parts made up the bulk of these exports.

1.7 billion sets of bearings were imported during 2010, 30.97% more than the year before. The import value reached EUR 3 billion, marking an increase of 34.4% YOY. Ball bearings made up 66.91% in terms of number of sets (1.1 billion) and 33.88% in terms of value (EUR 1 billion) of all imported bearings during that year.

Imported bearings mainly come from Japan (EUR 898 million or 29.74% of the total, 55.01% increase YOY), Germany (EUR 765 million or 25.34% of the total, 21.73% increase YOY) and Italy (EUR 111 million, 3.69% of the total, 38.07% increase YOY).

Key players

General components	CN Power Gearbox Co., Ltd Shaanxi Fast Group, Shaanxi Fast Gear Co., Ltd.
Hydro pneumatics	Shanghai Electric Hydraulic & Pneumatics Co., Ltd. Shanghai Camozzi Pneumatic Control Components Co., Ltd
Seals	Anhui Zhongding Sealing Parts Co., Ltd.
Moulds	Qingdao Haier Mold Ningbo Heli Mould Technology Co., Ltd.
Bearings	Wafangdian Bearing Group Corporation Wanxiang Group

[12] Source: 2011 China Machinery Industry Yearbook

2.1.5 Heavy machinery

Since 2000 the heavy machinery industry has been growing steadily. Total output value and sales revenue have reached new records. In 2010, the total output value of the heavy machinery industry was EUR 88,898.5 million, eleven times higher than that in 2000, representing an average growth rate of 27.5 % YOY over the last ten years. Today there are nearly 1000 major enterprises in this sector in China.

Table 8 below presents the major indicators of the heavy machinery industry in 2010 and growth rates compared to the number in 2009.

Table 8: Major economic indicators of the heavy machinery in 2010[13]

Name	Number of enterprises	Growth rate	Total output value (million EUR)	Growth rate	Profit (million EUR)	Growth rate
Total	4,686	6.79%	88,898.50	22.88%	6,915.12	35.62%
Metallurgical and mining machinery industry	2,384	6.52%	40,094.75	24.33%	3,121.25	48.75%
Lifting and transport machinery industry	2,302	7.07%	48,803.75	21.70%	3,793.87	26.44%

Heavy machinery can be separated into two categories: metallurgical mining and material handling machines, and lifting and transporting machines. In 2010, the total output of metal smelting in China was 695,000 tons, mining equipment amounted to 4.19 million tons and metal rolling equipment 526,000 tons. In the lifting machinery industry, the output of cranes was 5.77 million while that of combustion forklifts totalled 151,000 sets.

In 2010, the export value of metallurgical mining products was EUR 1.8 billion, while the import value amounted to EUR 1.6 billion. The top five import products were: metal rolling machines, metal rolling parts, crushing/grinding equipment, filters and rock drills. In terms of countries of origin, the Chinese metallurgical mining industry imported EUR 479 million worth of goods from Germany, EUR 350 million from the USA, EUR 209 million from Japan and EUR 182 million from Italy.

In that same year, the export value of material handling machinery was EUR 6.9 billion while imports reached EUR 3 billion. The import and export of cranes decreased, with an export value of EUR 2.3 billion and an import value of EUR 523 million. EUR 881 million worth of material handling machinery was imported from Germany, EUR 498 million from Japan, EUR 241 million from Korea and EUR 187 million from the USA.

Key players

Domestic players	1. China First Heavy Industries (CFHI) 2. China National Erzhong Group Co. 3. Taiyuan Heavy Machinery Group Co., Ltd. 4. Citic Heavy Industries Co., Ltd. 5. Dalian Huarui Heavy Industry Group Co., Ltd. 6. Shanghai Zhongxing Jiqi Chang Co., Ltd.

2.1.6 Power generating machinery

The demand for power generating machinery equipment is mainly dependent on the development of the energy industry.[13] In 2010 the generator and power generating equipment industry recovered from the temporary baisse caused by the financial crisis and total industry revenue kept increasing. By the end of November 2010, the installed capacity of China's power generating equipment had reached 902.57 million kilowatts, an increase of 10.80% YOY.

[13] Source: 2011 China Machinery Industry Yearbook

The share of local power generating equipment manufacturers has risen, which intensifies their competition with international players. In recent years fierce international competition has characterised the power generating market, but thanks to the development of R&D and technology transfers the Chinese power generating equipment industry now possesses necessary cutting-edge technologies to face it. In addition, nurtured by the local industrial culture, domestic enterprises in the power generating equipment sector have been more adaptive to the Chinese market than their foreign counterparts.[14]

Table 9 and 10 present the major economic indicators and output values of products in the power generating equipment industry.

Table 9: Major economic indicators of the power generating equipment industry during the 11th Five-year Plan period[15]

Indicator	2006	2007	2008	2009	2010
Total output value (billion EUR)	182.38	244.51	311.67	354.12	467.78
Total output value of new products (billion EUR)	24.38	34.51	45.09	52.90	70.90
Sales Revenue (billion EUR)	178.31	238.82	302.57	343.28	411.18
Sales Revenue from core business (billion EUR)	174.45	233.75	289.02	47.99	443.75
Export value (billion EUR)	32.41	43.09	51.46	47.99	65.15

Table 10: Installed capacity of the major products in the power generating equipment industry during the 11th Five-year Plan period[16] (ten thousand KW)

Name of product	2006	2007	2008	2009	2010
Power generating equipment	11,000	13,000	13,343	11,994	12,264
Hydro generators	N/A	2,911	2,418	2,304	1,916
Turbine Generators	N/A	9,976	10,486	8,654	8,472

Recovering from setbacks suffered due to the financial crisis, output of major products in the power generating machinery industry, such as power generating equipment (turbines recorded an increase of 53.8% in 2010), power transmission equipment, wires, cables and generators has increased significantly.

Turbines, gas turbines and generators topped the list of imports into China in 2010. 75 turbines worth EUR 123 million were imported, 70.45% more than the previous year. The import volume of generators was 80,000 sets with a value of EUR 696 million, more than twice as much as the year before. With a YOY increase of 116.67%, the growth of gas turbine sales was even stronger. 39 sets worth EUR 83.5 million were imported in 2010.

Key players

Domestic players	China Huadian Corporation Dongfang Eletric Corporation China XD Group TBEA NEE

[14] http://www.ocn.com.cn/reports/2006117fadianshebei.htm
[15] Source: 2011 China Machinery Industry Yearbook
[16] Source: 2011 China Machinery Industry Yearbook

2.2 Distribution

Distribution channels are of the utmost importance to European SMEs approaching the Chinese market. In most cases, participating in professional, sector-specific exhibitions is a good start to establish first contacts with potential Chinese distribution partners. Exhibitions are also a good opportunity to get to know the market through conversations with visitors as well as other participants.

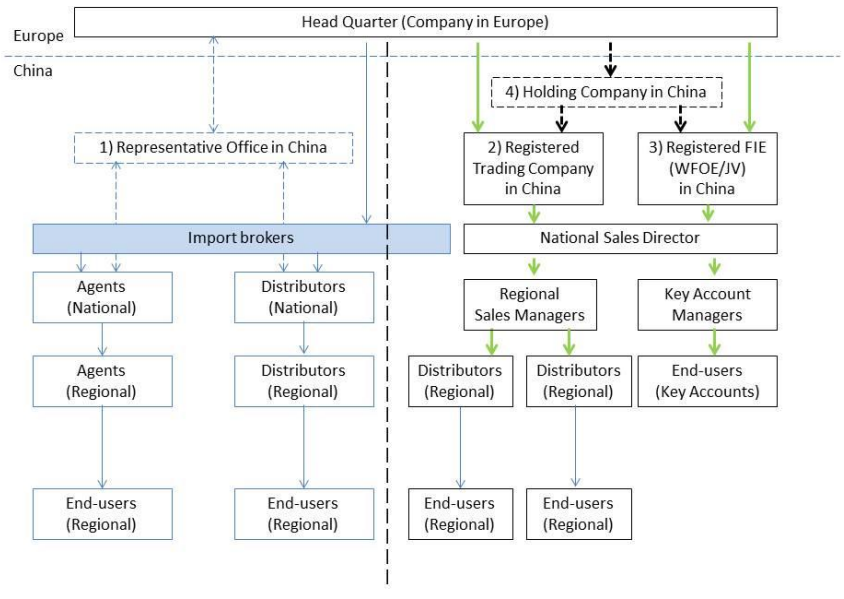
As most SMEs lack human and financial resources, direct sales through their own branches, offices or subsidiaries in China is difficult. Even though a direct presence in China improves control over marketing and sales activities (branding, pricing, after-sales service) significantly, indirect sales through agents or distribution partners are more feasible for SMEs in the early stages of market access.

When working with an agent, the relationship between the manufacturer and the agent is usually based on commissions, i.e., whenever the Chinese agent closes a deal in the name of the manufacturer an agreed upon commission is paid.

Working with a distribution partner usually requires the establishment of a more stable, long-term relationship between the manufacturer and the distribution partner. While the two parties work closely together to develop a marketing and sales strategy, its implementation and the conduct of daily sales activities is usually done mainly by the Chinese partner.

Considering the size of China in terms of geography, SMEs might want to consider working with a number of agents for different regions, although working with a single partner covering the whole country is possible. When working with more than one distribution partner, make sure to avoid unwanted competition between them and ensure a single, unified brand image in all target regions.

Chart 19: Distribution



Industrial products are very much technology-intensive and sometimes even tailor-made, so they cannot be distributed like FMCG (fast moving consumer goods). Additionally, most of these products are sold to industrial manufacturers as parts of their products or fixed assets. Keeping these two aspects of the machinery market in mind, several best practices can be discerned (please refer to the chart above):

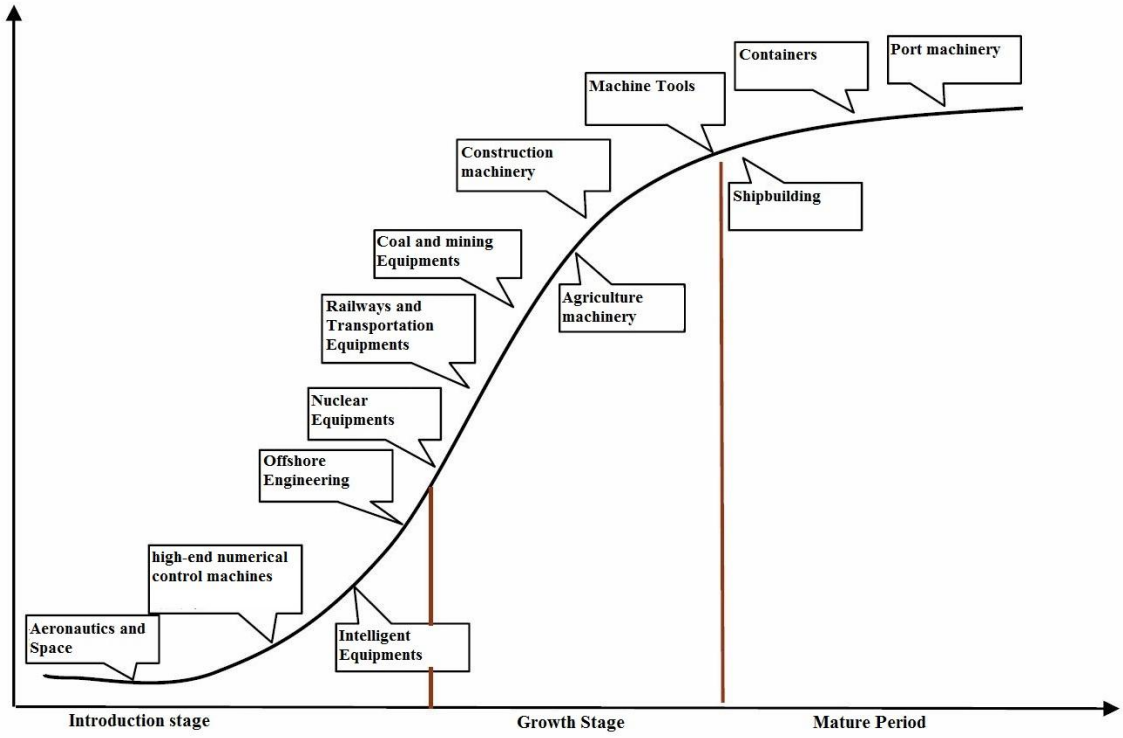
1) When an SME is not registered in China and only operates out of a representative office, all business transactions have to be concluded through agents or distributors. Representative or liaison offices can facilitate communication with potential customers but are not allowed to conduct business themselves. This means that agents and distributors are essential to SMEs.

2) Some SMEs prefer to register a trading company because they do not want to produce in China for various reasons. Trading companies are allowed to conduct all kinds of trading activities.
3) Some SMEs register a foreign-invested enterprise (FIE), a wholly foreign-owned enterprise (WFOE) or a joint venture (JV) in order to save costs and improve delivery and reaction times. Additionally, these types of companies can easily purchase materials locally and can manufacture their products in China directly.
4) When there are several subsidiaries, it might be prudent to found a holding company.
5) Small companies should make sure that the layers of their distribution structure are as flat as possible, i.e., that as few companies as possible are involved. This helps to keep distribution costs low.
6) Distributors can be sales companies, engineering companies, design institutes, sub-contractors or main contractors.

Key growth drivers and trends in the future

The year 2012 marks the second year of the 12th Five-year Plan. With RMB 4 trillion stimulus plans, China's economy finds itself at a critical point, encountering new challenges, including industry upgrading, environmental protection, resource conservation and other unprecedented pressures. Compared to the rapid development in the past ten years, the whole machinery industry has now moved into a more stable growing period.

Chart 20: Life cycle and development trends of the machinery sector



Source: CICC report – China International Capital Corporation Ltd.

In May 2012, the Ministry of Industry and Information Technology of the People's Republic of China released the 12th Five-year Plan for the high-end equipment manufacturing industry together with the 12th Five-year Plans for the railway transportation equipment and intelligent equipment manufacturing industries.

Table 11: 12th Five-year Plans

12th Five-year Plan for the high-end equipment manufacturing industry	12th Five-year Plan for the railway transportation equipment industry	12th Five-year Plan for the intelligent equipment manufacturing industry
• In 2015: Sales revenue more than RMB 6,000 billion, 15% share of total machinery sector, growth rate reaches 28%. • In 2020: Sales revenue share 25% of total machinery sector.	• In 2015: Sales turnover more than RMB 400 billion. • In 2020: Sales turnover reaches RMB 650 billion. R&D investment more than 6% of total sales revenue. • Globalisation, international standards.	• In 2015: Sales turnover more than RMB 1,000 billion, annual growth rate 25%. • In 2020: Sales turnover reaches RMB 3,000 billion.

The following four factors are identified as the key growth drivers for the Chinese machinery sector.

3.1 The national policies continue to encourage the development of the machinery industry

In the 12th Five-year Plan, the machinery industry is defined as one of the most important sectors of the national economy. The government launched five strategies to further accelerate the development of the machinery industry:

- Investing into R&D to produce high-end products, aiming to replace imported products;
- Driving the industry by innovation and technologies instead of massive energy consumption;
- Encouraging the development of key component industries;
- Adapting information technology to improve the overall quality of machinery products;
- Prioritising green technologies to improve efficiency and reduce pollution.

3.2 Urbanisation leads to further investment in infrastructure

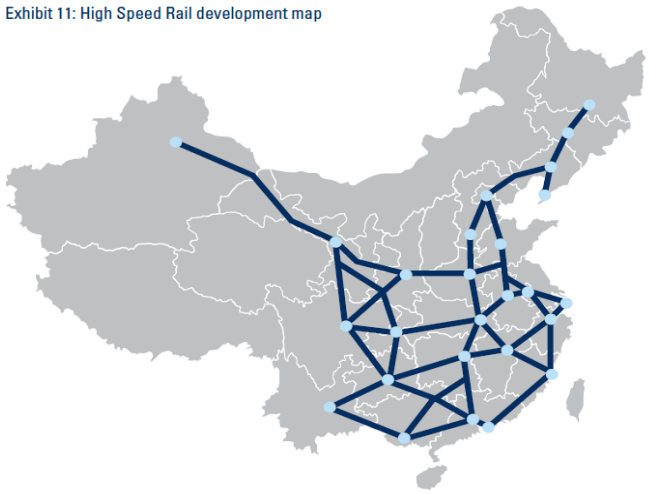
In the 12th Five-year Plan, the government forecasts that the urban population will reach 51.5% by the end of 2015. The continuous urbanisation leads to further investment in energy, railways, highways and other infrastructures as the coverage rate of China's highways and railways is still relatively low compared with those of many developed countries. The investment in infrastructure will further generate domestic demand for construction machines as well as other equipment.

Chart 21: Urbanisation in China

Source: China Daily

China plans to increase the high speed railroad network to 25,000 km by 2020.

Chart 22: High speed rail development map



Source: Opportunities for UK business in China's regional cities, 2011

3.3 Pressure from both domestic and international markets push the upgrading of the industry

The 12th Five-year Plan predicts that the demand for machinery will continue to increase, although the growth rate of demand may be slower than that of ten years ago. As the national policies encourage industry upgrading and innovation, the development of the machinery sector will focus more on quality improvement and technology optimisation. Facing restrictions in terms of energy, resources and the environment, the Chinese machinery industry will grow further by adopting information, energy-saving and other green technologies to increase efficiency and productivity while reducing energy consumption and pollution.

3.4 Move towards high-end and high quality equipment

After years of rapid development, China is no longer satisfied with the fact that it is producing large volumes of machinery products of low quality. In the 12th Five-year Plan, the Chinese government prioritises the acceleration of the development of high-end equipment, equipment for new markets, general machinery, as well as key basic components and basic machinery crafts and technologies, in a move to drive the industry by innovation and technology improvement instead of huge energy and resource consumption. The investment in R&D activities is also highly encouraged by the government through tax reduction policies and the provision of other subsidies.

4 Regulatory environment

4.1 CCC Mark

The China Compulsory Certification mark, commonly known as the CCC, is a compulsory safety mark for many imported products to be sold or used in the Chinese market. The regulation concerning this mark was implemented on May 1st 2002 and became fully effective on August 1st 2003, integrating two previous compulsory inspection systems, "CCIB" (Safety Mark, introduced in 1989) and "CCEE" (also known as the "Great Wall" Mark, for electrical commodities), into a single procedure. The CCC safety regulations require manufacturers to obtain the CCC mark before exporting or selling products that are listed in the CCC catalogue in China.

The catalogue of CCC-compulsory products clarifies whether a product or a component part requires a CCC mark and divides products mandatory to get the CCC mark into 132 broad categories.

To read more about the CCC application process and necessary steps, please refer to the Centre's guideline at: http://www.eusmecentre.org.cn/content/ccc-guideline

Many Chinese service providers can offer services to support foreign companies in applying for this certification (the China Certification Corporation and the CCC Service Centre amongst others).

To find out more, please visit the EU SME Centre's service providers database at: http://www.eusmecentre.org.cn/node/195

4.2 Protection of intellectual property rights

Most of the machines and components imported from European countries such as Germany, Italy or the United Kingdom are highly value-added. To keep their competitive advantage, the protection of intellectual property is crucial.

In China, intellectual property includes trademarks, copyrights and patents (design). Patents and designs are only available in registered form in China. A trademark/patent/design registered in Europe is not automatically protected in China, and vice versa.

It is important for European SMEs to understand the IPR situation in China and try to adjust their business strategies accordingly. The products of European and other western corporations that are easiest to be copied are those of low quality. Low value-added equipment in the machinery sector, for example household-type valves and fittings and simple packing or woodworking machines are commonly affected by IPR infringements. High value-added and high technology products, which constitute the majority of imported machines and components in China, are copied much less frequently.

To find out more about the protection of intellectual property in China, please visit the website of the China IPR SME Helpdesk: http://www.china-iprhelpdesk.eu/

5 Opportunities for EU SMEs

The machinery sector has developed into a diverse industry combining machines with electronics, software and services to come up with solutions for complex production and processing systems. Thus, this knowledge-intensive, high value-added sector is also an "enabling industry" that provides other sectors with means and technologies to improve productivity. The sector requires a high level of innovation, which is an area in which European SMEs have competitive advantages. EU SMEs are better equipped to provide customised machinery to niche markets than their Chinese counterparts are.

5.1 Machine tools

The machine tools industry is a key enabling sector that provides relevant and necessary technology and equipment to other manufacturing industries. Machine tools are also known as "mother machines" as they are the only machines which produce other machines, including themselves. Machine tools are used to produce high precision parts and components from metals and other materials, which are then assembled into final products by other industries, including automotive, aerospace, general machinery, energy generation, construction, medical engineering, optical industries, defense and others.

Europe is the biggest producer of machine tools in the world, reaching more than EUR 21 billion of sales in 2011, which was more than one third of the total value of the machine tool production worldwide[17]. The European machine tool manufacturers have a leading global market share (44% to 46%), well ahead of Japan (18%) and China (15%), and most of these manufacturers are SMEs.[18]

In China, the machine tools industry is defined as one of the fundamental industries that affect economic development. It also serves as one of the strategic industries of the Chinese national defense and military development. To meet the demands from automobile, aerospace and aviation, new energy, railway and electronics production industry, China is trying to produce more high-end machine tools. Moreover, investment in production systems creates strong demand for complex machine tools, in particular those tools with advanced technologies from European countries. For this reason, amongst others, the import value of machine tools in 2010 increased 60% compared with that of 2009.

5.2 Basic machinery components

Compared with the fast growth of the main machinery market, the Chinese basic components sector is still fragmented and less developed. The production of low-end products suffers from over-capacity while the technology development is far behind that of Europe, mainly because of less investment in R&D. Most Chinese component manufacturers are small in terms of economies of scale and do not possess their own key technologies, making them unfit to compete with European manufacturers. Although the Chinese government encourages the industry to invest more in R&D, China still needs to import a lot of high-end components. Demand is especially high for hydraulic components, high-grade bearings, electronic power and frequency conversion devices, large high-quality castings and forgings, high-end valves, high voltage insulation sleeves and outlet devices, electronic fuel injection devices for internal combustion engines, exhaust gas processing systems, computer numerical control (CNC) systems, functional components serving systems and control systems for electrical appliances.

5.3 Technology transfer

The Chinese government is encouraging 'indigenous innovation' (part of a profound effort by the Chinese leadership to advance the country from its status as a prolific, but low-end producer to a technology leader) for Chinese local products and services. There is a great demand for technology transfer from abroad in the high-end machinery sector. EU SMEs could target Chinese companies with the necessary manufacturing capabilities, a good reputation and provide technology transfer services to them. Building such partnerships can be a good market entry strategy for EU SMEs.

[17] This production figure refers to production by CECIMO (European Association of the Machine Tool Industries) countries which covers Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Italy, the Netherlands, Portugal, Spain, Sweden, Switzerland, UK, and Turkey.
[18] http://www.cecimo.eu/about-cecimo/dgforeword.html

6 Key challenges for EU SMEs doing business in China

In the past ten years, Chinese machinery companies have been developing rapidly and their market shares in both domestic and international markets grow through competitive pricing strategies, aggressive exporting into third markets and rapid industry consolidation. In contrast, European SMEs have a comparative disadvantage in manufacturing costs and are facing a number of barriers when trying to enter the Chinese market. The protection of intellectual property rights is another obstacle to be kept in mind.

6.1 Market access

Since its successful entry into the WTO in December 2001, China has made great progress in deregulating its economy by formulating relevant laws and lowering tariffs to fulfill its accession commitments. However, implementation at the provincial level has not always been in line with the efforts of the central government. National economic planning and the application of non-tariff barriers have shaped the evolution of almost all sectors in China, especially those that are defined as 'strategic'. Many of these policies result in unequal treatment of European operators in various machinery sectors. Lacking uniformity in the regulatory framework of different Chinese provinces is another problem foreign companies are facing when trying to expand their local presence.

6.2 Intellectual property rights (IPR)

China incorporated most of the requirements of the World Intellectual Property Organisation (WIPO) into its national law when it entered the WTO in 2001. More recently, the drive to boost innovation in the Chinese machinery sector, as well as in the many other sectors, seems to have shifted priorities from absorbing new technologies to reducing dependence on foreign advanced machinery technologies. The drive for homegrown innovation has put the question of IP protection into the spotlight and how to strengthen IPR has received an increasing amount of attention in China.

Nonetheless, there are still challenges for European SMEs in the machinery sector in terms of protecting intellectual property rights. For example, due to the local business culture and other factors, IPR regulations are still not as strictly enforced in China as they are in Europe. Furthermore, protecting IP in China still takes a lot of time and effort for foreign companies.

6.3 Building relations with Chinese partners

Good relationships with Chinese partners are a key success factor and a prerequisite for concluding business deals in China. Developing and managing relationships with Chinese partners takes time and effort and is always a big challenge for EU SMEs with no experience in the Chinese market.

For obvious reasons, the main challenges when managing these relationships are language barriers and cultural differences. Even though English is the second language of choice, it is spoken fluently by only a small percentage of the overall population. Similar to other Asian countries, courtesy sometimes prevents Chinese from expressing their feelings openly, which can lead to misunderstandings and even the breakdown of established relations.

The culture of negotiation is also different. In China everything is negotiable, so bargaining skills are very important. It is always helpful to understand the needs and conditions of both sides clearly and try to find a compromise acceptable to both parties. In addition, it is inevitable to invest a lot of time and money into visiting China and building relationships with Chinese partners on a personal basis before a lasting cooperation can be established.

Report summary

The Machinery Sector in China	
Opportunities	• China's investment into production systems creates strong demand for complex machine tools, in particular those tools with advanced technologies from European countries. • China's weakness in basic components manufacturing leads to strong demand for high-end components, such as hydraulic components, high-grade bearings, electronic power and frequency conversion devices, large high-quality castings and forgings, high-end valves, high voltage insulation sleeves and outlet devices, electronic fuel injection devices for internal combustion engines, exhaust gas processing systems, computer numerical control (CNC) systems, functional components serving systems and control systems for electrical appliances. • Technology transfer to Chinese companies.
Challenges and market barriers	• Non-tariff barriers and the lack of uniformity of regulations in different Chinese provinces still cause difficulties for EU SMEs. • Two major risks with regard to IPR issues in China: products might be copied and IPR taken by the Chinese partner. • Developing and managing relationships with Chinese partners takes time and effort and poses challenges for EU SMEs due to language barriers and cultural differences.
Regulatory environment	• China has integrated two previous compulsory inspection systems – "CCIB" (Safety Mark, introduced in 1989) and "CCEE" (also known as "Great Wall" Mark, for electrical commodities) – into a single procedure: the CCC mark. • Patents and designs are only available in registered form in China. A trademark/patent/design registered in Europe is not protected in China, and vice versa.
Success factors	• Take time to study the market well and develop a suitable and flexible market approach strategy. • Try to focus on niche markets and differentiate your products. • Visit China on a regular basis and keep updated on the market. • Identify suitable Chinese partners and take efforts to manage the relationship. • Be patient, think in long terms and build solid relationships with Chinese partners.

Resources

Further reading
2011 China Machinery Industry Yearbook http://news.mei.net.cn/industry/project/tjxx/12.html Published by: Machinery Industry Press
2011 China Agricultural Machinery Industry Yearbook http://news.mei.net.cn/industry/machinery/index.html Published by: Machinery Industry Press
2011 China Construction Machinery Industry Yearbook http://news.mei.net.cn/industry/project/index.html Published by: Machinery Industry Press
2011 China Machine Tool Industry Yearbook http://news.mei.net.cn/industry/machine/index.html Published by: Machinery Industry Press
2011 China Mould Industry Yearbook http://news.mei.net.cn/industry/infrastructure/index.html Published by: Machinery Industry Press
2011 China Heavy Machinery Industry Yearbook http://news.mei.net.cn/industry/heavymine/index.html Published by: Machinery Industry Press
2011 China Electric Industry Yearbook http://news.mei.net.cn/industry/electrician/index.html Published by: Machinery Industry Press
IPR Protection in China for European SMEs: Focus on the Machinery Industry http:// www.china-iprhelpdesk.eu Published by: China IPR SME Helpdesk
European Machine Tool market 2011 and future trends http:// www.cecimo.eu Published by: The European Association of the Machine Tool Industries

Exhibitions
China (Wenzhou) Mechanical Equipment Exhibition (CWMEE) http://www.cwmee.cn/en/enindex.asp (19-21 October 2012, Wenzhou) CWMEE has become the international advanced manufacturing and technological exchanges. China Machinery Industry Federation is one of the supporting organisations in the event. The event has ability to attract all industry. *E-mail:* cwmee@cwmee.cn
China International Industry Fair http://www.ciif-expo.com/en/ (6-10 November 2012, Shanghai) CIIF has become one of the most influential international industry brand exhibition in China, through implementing "specialisation, market-oriented, internationalisation and branding" as its strategies for over 13 years
Bauma China 2012 http://www.bauma-china.com/ (27-30 November 2012, Shanghai) International trade fair for construction machinery, building material machinery, construction vehicles and equipment. Online application: http://www.bauma-china.com/en/exhibitors/onlineapplication

The 8th China (Shandong) International Equipment Manufacturing Industry Exposition http://www.chinaieme.com/ (13-15 March 2013, Shandong Jinan) The expo is a good platform to show new products and manufacturers in Shandong. It is an important channel to promote Shandong with cooperating foreign enterprises. *E-mail:* zhibohui001@126.com
China Western International Equipment Manufacturing Exposition http://www.cwieme.com/default.aspx (March 2013, Xian) As the only exposition in China's western areas fully participated and organised by China Machinery Industry Federation, CWIEME has been assessed as the Top-ten Brand Exposition of Xi'an during 2005-2007. With the increase of the scale and influence of CWIEME, more and more enterprises and organisations from domestic and abroad have been participating in the exposition, making CWIEME a really grand international show of international equipment manufacturing industry *E-mail:* organizer@cwieme.com
2013 The 6th China (Shanghai) International Heavy Machinery and Equipment Exhibition http://www.chmexpo.com/index.html (25-27 June 2013, Shanghai) This event will focus on heavy machinery industry in China. In order to expand the effect of heavy machinery industry, the show will display new products, new technology and building the relationship with industry. *E-mail:* tancheng886@126. organizer@cwieme.com

Useful websites
EU Commission – DG Trade DG Trade provides a large number of guides, research reports and policy documents for all sectors and trading partners. http://ec.europa.eu/trade/
China Machinery Industry Federation The official website of China Machinery Industry Federation. The website includes all information that related to machinery, and analysis. Provides many statistics of each machinery industry, and explains the indicator of the industry. http://news.mei.net.cn/industry/project/tjxx/12.html
China Machinery Web Identified each machinery sector in China. Include the news and information of machinery industry in China. http://www.jx.cn/
China Machinery Industry The website includes all the information related to machinery, such as news, regulations and exhibitions. http://www.cnjxcymh.com/channel/13496292
Chinese Machinery Web The website includes market information, and market analysis in domestic and foreign. It also provides the regulation of machinery industry. http://news.machine365.com/
China Market Research Provides the report of market analysis in each sector, and gives a clear view of development for machinery industry. http://www.cu-market.com.cn/jixie/
China IPR SME Helpdesk Useful advice and guides on how to protect IPR in China www.china-iprhelpdesk.eu

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The EU SME Centre assists European SMEs to export to China by providing a comprehensive range of free, hands-on support services including the provision of information, confidential advice, networking events and training. The Centre also acts as a platform facilitating coordination amongst Member State and European public and private sector service providers to SMEs.

The Centre's range of free services cover:
• Business Development – provision of market information, business and marketing advice
• Legal – legal information, 'ask the expert' initial consultations and practical manuals
• Standards – standards and conformity requirements when exporting to China
• HR and Training – industry and horizontal training programmes
• Access to a service providers directory and information databases
• Hot-desking – free, temporary office space in the EU SME Centre to explore local business opportunities
• Any other practical support services to EU SMEs wishing to export to or invest in China.

Date: December, 2012

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