



German Power Tools Industry and Development Trends

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Foreword

In 2015 the total value of the global power tools market reached USD 21.833 billion. Although the value showed a significant drop during the 2009 financial crisis, the value in 2010-2014 remained continuous growth. Countries with the highest power tools consumption were USA (28%), China (21%), Japan (8%), Germany (5%) and France (4%), all of which represented nearly 66% of the global power tools consumption. The global power tools market is expected to keep continuous growth and the mid-term annual growth rate will be 4.2%.

In terms of power tools consumption, the construction industry is the biggest consumer. Other major consumers include manufacturing, aerospace and railway industries. The power tools consumption is also increasing in developing countries and China is particularly the country with the highest growth margin. In 2016 the global export value of power tools reached about USD 25.9 billion and Germany exported about USD 3.471 billion (12.44% of the global total export). Although the total power tools export value of Germany is much less than China's export, the quality and

durability of German power tools is considered top of the world. As a result, there is no significant influence on the market shares of German leading brands like Bosch, though facing drastic competition from China.

Development Trend of German Power Tools Import in Recent Years

Import value analysis: Table 1 shows the trend of Germany's power tools import from the world. In 2016 the total value of power tools Germany imported from the world was USD 2.594 billion, with the 5-year CAGR being 0.01%. Of all these imports, other hand-held power tools (incl. grinders, cutters, socket wrenches, cutting machines) were the category with the highest import value (USD 0.806 billion), much higher than the import value of various hand-held power drilling machines (USD 0.515 billion).

In addition, the category with the highest CAGR was other household power tools ranked at the 3rd place and its growth rate reached 15.45%, showing the increasing demand of Germany for this category.

Export value analysis: Table 2 shows the trend of Germany's power tools export to the world in 2012-2016. In 2016 the total value of power tools Germany exported to the world was USD 3.471 billion, with the 5-year CAGR being -3.10%. Other hand-held power tools (incl. grinders, cutters, socket wrenches, cutting machines, etc.) were the category with the highest export value (USD 1.145 billion), much higher than the export value of various hand-held power drilling machines ranked at the 2nd place (USD 0.622 billion). However, the export values of these top two categories both showed a decline.

In addition, the growth rate of other household power tools (with a higher CAGR and ranked at the 3rd place) reached 5.44%, showing the increasing competitiveness of Germany in the export of this category.

Table 1. The Trend of Germany's Power Tools Import from the World in 2012-2016

Unit: USD 0.1 billion;%

Product Category	2012	2013	2014	2015	2016	CAGR
Other Hand-held Power Tools (Grinders, Cutters, Socket Wrenches, Cutting Machines, etc.)	7.24	7.59	8.43	8.45	8.06	2.73%
Various Hand-held Power Drilling Machines	5.79	4.76	5.09	5.22	5.15	-2.87%
Other Household Power Tools	2.30	2.39	3.03	3.71	4.08	15.45%
Hand-held Power Cutting Tools	2.02	1.98	2.34	2.23	2.16	1.71%
Vacuums (Power<1500)	3.04	2.60	2.55	2.20	1.36	-18.26%
Other Power and Pneumatic Tool Parts	1.45	1.37	1.47	1.55	1.31	-2.48%
Other Non-power Hand-held Tools	0.95	0.97	1.11	1.17	1.20	6.00%
Hand-held Power Tools (Incl. Drilling Machines, Screwdrivers, Spanners, etc.)	1.00	0.90	0.81	0.86	0.78	-6.07%
Hand-held Power Chain Saws	0.74	0.76	0.74	0.82	0.63	-3.99%
Power Sanders	0.36	0.44	0.28	0.38	0.42	4.01%
Other Hand-held Pneumatic Tools (Incl. Hammers, Concrete Vibrating Machines, etc.)	0.40	0.33	0.33	0.34	0.31	-6.23%
Pneumatic Tool Parts	0.40	0.43	0.33	0.39	0.28	-8.33%
Parts for Hand-held Power Chain Saws	0.25	0.24	0.23	0.24	0.19	-5.68%
Total	25.93	24.74	26.75	27.56	25.94	0.01%

Source: ITC/MII-ITIS, MIRDC

Table 2. The Trend of Germany's Power Tools Export to the World in 2012-2016

Unit: USD 0.1 billion;%

Product Category	2012	2013	2014	2015	2016	CAGR
Other Hand-held Power Tools (Grinders, Cutters, Socket Wrenches, Cutting Machines, etc.)	12.48	11.68	12.32	12.75	11.45	-2.13%
Various Hand-held Power Drilling Machines	7.11	6.64	6.65	6.78	6.22	-3.29%
Other Household Power Tools	4.13	4.37	5.32	5.19	5.11	5.44%
Other Non-power Hand-held Tools	3.08	3.01	3.40	3.31	2.90	-1.50%
Vacuums (Power<1500)	5.28	4.55	4.72	3.81	2.49	-17.12%
Hand-held Power Sawing Tools	2.19	2.10	2.18	2.22	2.12	-0.80%
Other Power and Pneumatic Tool Parts	1.97	1.87	1.96	1.97	1.71	-3.49%
Power Sanders	1.48	1.26	1.27	1.13	1.11	-6.93%
Hand-held Pneumatic Tools (Incl. Drilling Machines, Screwdrivers, Spanners, etc.)	0.75	0.76	0.79	0.84	0.74	-0.39%
Other Hand-held Pneumatic Tools (Incl. Hammers, Concrete Vibrating Machines, etc.)	0.56	0.52	0.51	0.54	0.48	-3.81%
Pneumatic Tool Parts	0.34	0.31	0.32	0.38	0.38	3.33%
Parts for Hand-held Power Chain Saw	0.00	0.00	0.00	0.00	0.00	0.00%
Total	39.37	37.06	39.43	38.92	34.71	-3.10%

Source: ITC/MII-ITIS, MIRDC

German Power Tools Import/Export Trend with Taiwan in Recent Years

Import value analysis: Table 3 shows the trend of Germany's power tools import from Taiwan in 2012-2016. In 2016 the total value of power tools Taiwan imported from Germany was NTD 0.15 billion, with the 5-year CAGR being -4.75%. Sanders, grinders and polishing machines were the category with the highest import value and the import value was NTD 29 million. The import value of various power drillers was ranked the 2nd place and reached NTD 23 million.

The category with the lowest CAGR was sanders with a decline margin of -85.60%.

Table 3. The Trend of Taiwan's Power Tools Import from Germany in 2012-2016

Unit: 1,000 NTD;%

Product Category	2012	2013	2014	2015	2016	CAGR
Spray Guns and Similar Products	13,052	14,111	16,114	18,529	17,649	7.84%
Grinders	37,250	1,310	613	353	16	-85.60%
Polishers, Sanders	17,870	53,907	36,595	14,012	28,957	12.83%
Hand-held Pneumatic Drilling Machines	519	21	427	871	783	10.83%
Hand-held Pneumatic Screwdrivers	2,658	4,363	1,556	1,603	1,822	-9.01%
Hand-held Pneumatic Spanners	24	436	39	368	652	128.30%
Other Rotary Hand-held Pneumatic Tools	583	1,079	289	730	985	14.01%
Hand-held Pneumatic Hammers	252	137	84	620	854	35.68%
Hand-held Pneumatic Concrete Vibrating Machines	52	104	102	0	53	0.48%
Other Non-rotary Hand-held Pneumatic Tools	6,278	4,387	6,574	5,266	7,955	6.10%
Various Power Drilling Tools	12,020	16,973	13,452	17,314	22,979	17.59%
Power Saws	185	372	368	116	125	-9.34%
Hand-held Power Grinders	195	1,448	634	670	1,034	51.75%
Power Cutters	232	238	2,614	256	167	-7.89%
Power Socket Wrenches	100	0	0	356	1	-68.38%
Hand-held cutting machines	0	20	220	0	14	0.00%
Other Hand-Held Power Tools	21,012	19,742	19,638	20,512	16,292	-6.16%
Hand-held Chain Saws	19,010	15,364	10,911	16,809	8,286	-18.75%
Other Hand-held Tools	7,182	18,851	12,064	13,610	12,478	14.81%
Parts for Chain Saws	1,928	666	430	628	267	-39.00%
Parts for Power Tools	5,745	3,662	2,997	3,527	2,803	-16.42%
Parts for Other Hand-held Tools	22,156	23,989	23,525	21,018	11,505	-15.11%
Vacuums (Power<1500)	12	0	0	89	1,932	256.21%
Power Meat Cutters	12	0	0	139	4	-24.02%
Other Power Hand Tools	13,555	14,173	14,843	14,685	12,080	-2.84%
Total	181,882	195,353	164,089	152,081	149,693	-4.75%

Source: TIER/MII-ITIS of MIRDC

Export value analysis: Table 4 shows the trend of power tools Taiwan exported to Germany in 2012-2016. In 2016 the total value of power tools Taiwan exported to Germany was NTD 1.026 billion, with the 5-year CAGR being 4.10%. Other non-rotary hand-held power tools were the category with the highest export value (NTD 0.287 billion) Other rotary hand-held power tools were the category with the 2nd largest export value (NTD 0.172 billion).

In addition, the category with a higher CAGR was various power drilling tools and the CAGR reached 47.67%, showing the growing trend of Taiwan's export of the products to Germany. The category with the lowest CAGR was hand-held power grinders with the decline margin being -32.37%.

Table 4. The Trend of Taiwan's Power Tools Export to Germany in 2012-2016

Unit: 1,000 NTD;%

Product Category	2012	2013	2014	2015	2016	CAGR
Spray Guns and Similar Products	43,894	30,143	43,568	43,686	57,122	6.81%
Grinders	6,700	5,192	3,963	5,832	3,246	-16.57%
Polishers, Sanders	23,563	29,533	39,449	30,677	33,459	9.16%
Hand-held Pneumatic Drilling Machines	7,372	13,146	11,001	10,956	28,090	39.71%
Hand-held Pneumatic Screwdrivers	9,623	7,217	8,381	6,465	5,420	-13.37%
Hand-held Pneumatic Spanners	152,058	99,998	90,156	99,965	106,328	-8.56%
Other Rotary Hand-held Pneumatic Tools	167,946	179,704	281,418	233,627	171,510	0.53%
Hand-held Pneumatic Hammers	5,327	4,405	5,189	7,213	7,041	7.22%
Other Non-rotary Hand-held Pneumatic Tools	195,562	205,151	194,648	242,716	287,390	10.10%
Various Power Drilling Tools	3,503	13,979	15,769	35,980	16,658	47.67%
Power Saws	14,271	7,712	7,127	10,759	6,367	-18.27%
Hand-held Power Grinders	3,207	2,717	1,202	2,802	671	-32.37%
Power Cutters	432	0	215	1,161	1,649	39.78%
Power Socket Wrenches	5,146	5,819	5,311	19,165	12,317	24.38%
Hand-held Cutting Machines	546	866	344	138	194	-22.79%
Other Hand-held Power Tools	62,649	63,619	70,696	84,239	61,077	-0.63%
Hand-held Chain Saws	81	96	0	286	349	44.07%
Other Hand-held Tools	7,003	5,897	11,934	9,176	11,088	12.17%
Parts for Chain Saws	1,098	1,373	993	961	2,110	17.74%
Parts for Pneumatic Tools	80,772	70,484	60,392	90,457	97,889	4.92%
Parts for Other Hand-held Tools	68,486	76,261	77,249	111,233	98,690	9.56%
Vacuums (Power<1500)	208	196	0	0	0	-100.00%
Power Meat Cutters	14,681	8,640	16,273	42,293	17,718	4.81%
Total	874,128	832,148	945,278	1,089,787	1,026,383	4.10%

Conclusion

Source: TIER Import/Export Statistics/MII-ITIS of MIRDC

The concept of Industry 4.0 which has become a quite popular idea in recent years in Germany is just at the beginning stage of development, and in order to fulfil this concept, a huge amount of capital should be invested and those software and hardware must be integrated. In the future, if the development of Industry 4.0 becomes more mature in Germany, German will definitely show more strengths in the development of power tools. Below are some suggestions for Taiwanese hand tools suppliers.

a. The reason that power tools made in Germany show more advantages is their adoption of many well-engineered IT parts and technology, which are also Taiwan's strengths. As a result, in order to tap into the major supply chain of German power tools, Taiwanese hand tools companies should make the most of the opportunity to work with international leading companies or should improve their manufacturing capabilities and sell their power and non-power hand tools to foreign SMEs at competitive prices.

b. The future challenges for German manufacturing will be the adaption to personalization, diversification and fast market changes. Due to the insufficient linkage between manufacturers and consumers, not only information technology must be used to optimize consumers' experience and satisfaction, but also the Big Data must be used to find out strategies and solutions that can help customers achieve success. If Taiwanese power tools suppliers can get customers' feedbacks and provide aftersales service in time, it will be definitely helpful to improve their service quality of the tools manufacturing industry. Learning the manufacturing capabilities and innovation of Germany can be also another way to increase the competitiveness of their aftersales services.

c. Strengthening the domestic demand & power tools consumption in the global market and increasing service export: Taiwanese suppliers should find their own targeted customers based on different cultures and market needs, figure out their own customized marketing strategies, take their niche in the industry into account and focus on consumers with medium to high incomes. According to the research data, household power tools show high prospect. In addition to promoting the use of superior quality power tools with high C/P ratios, tapping into the field of power tools demanded by emerging industries will be also the priority. If Taiwanese hand tools suppliers would like to reach another high peak in future power tools market, they should abandon the low-price competition with their Chinese counterparts and reinforce the systematic output of their power tools. ■