The World Machine-Tool Output & Consumption Survey

2014

How the major industrialized countries of the world rank in terms of production, trade, and consumption of machine tools.

World consumption looks to recover in 2014

THE WORLD SURVEY AT A GLANCE

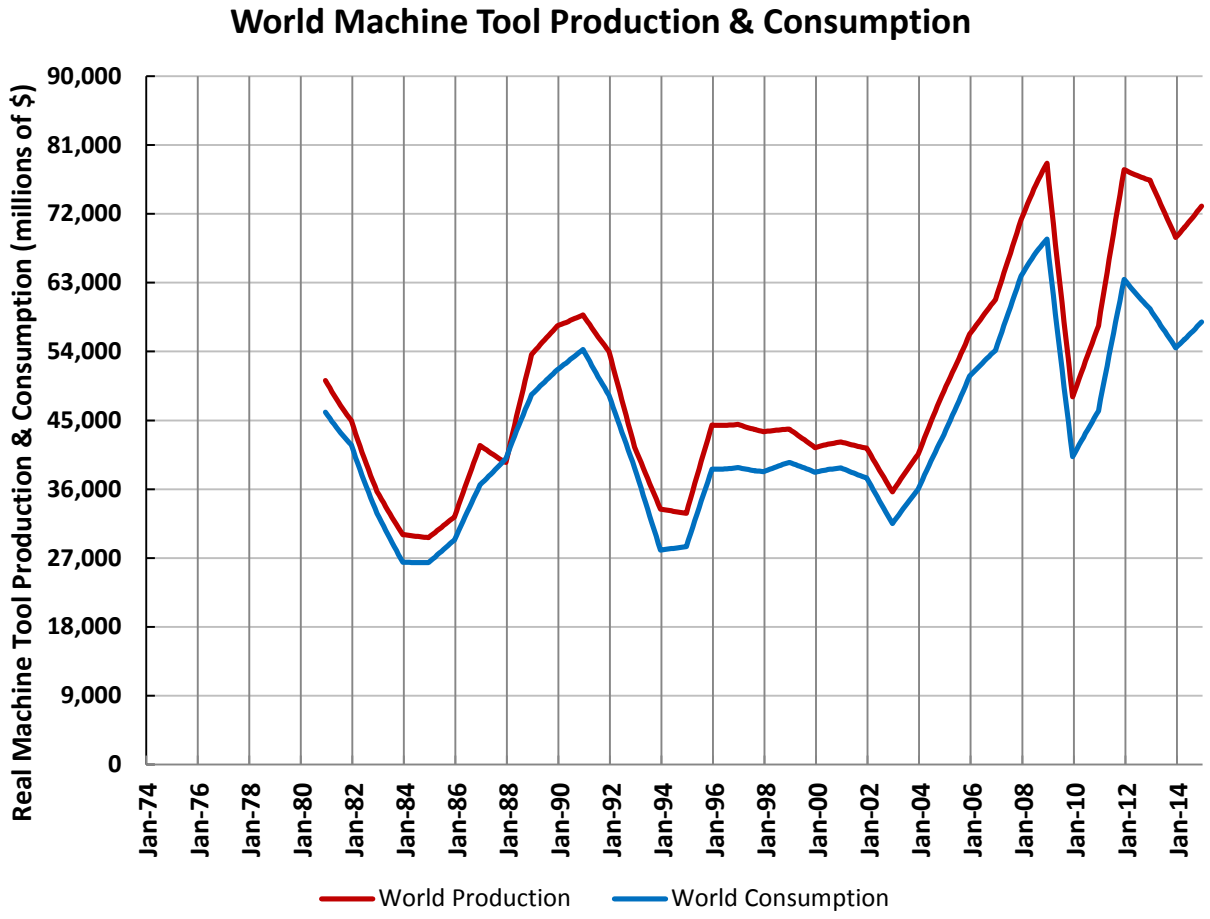
After growing in 2010 and 2011, world machine tool consumption has contracted for two consecutive years. The rate of contraction in world consumption was slightly faster in 2013 (-8.5%) than it was in 2012 (-6.1%). However, based on several leading indicators, our forecast calls for world machine tool consumption to grow by 6.2% in 2014, reaching about $58,300 million. When calculating these world totals, we use the top 25 consuming or producing countries from that year. So, for example, total world consumption in 2002 is from a different set of countries than the total world consumption in 2010. Since the number of reporting countries changes from year to year, this provides a reasonable approximation because the top 25 consuming or producing countries account for roughly 95% of all consumption and production.

World machine tool production fell for the second year in a row. In 2012, world production fell by 1.8%. The contraction in production was significantly slower than the contraction in consumption in 2012. It is very unusual for the rates of change in production and consumption to be substantially different from each other, but the significantly slower contraction in production resulted in an over production of machine tools in 2012, which caused machine tool prices to fall rather significantly in 2013.

In 2013, supply and demand came into a better balance. Production fell at a slightly faster rate (-9.8%) than consumption last year. Therefore, by the end of 2013, machine tool prices were improving from what they were one year ago, at least in the U.S.

If our machine tool consumption forecast is correct, then builders will need to produce $73,735 million of machine tools for the rate of growth in production to match the rate of growth in consumption, which it has historically done.

For detailed charts on world consumption and production and forecasts for the top 25 consuming countries, please visit www.gardnerweb.com/forecast/international.htm.


World Machine Tool Production & Consumption
Real Machine Tool Production & Consumption (millions of $)
90,000
81,000
72,000
63,000
54,000
45,000
36,000
27,000
18,000
9,000
0
Jan-74
Jan-76
Jan-78
Jan-80
Jan-82
Jan-84
Jan-86
Jan-88
Jan-90
Jan-92
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World Production
World Consumption

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ABOUT THE SURVEY

This is the 49th edition of an independent annual survey that collects statistics from machine tool consuming and producing countries and compares them in real U.S. dollars. It is conducted through the research department of Gardner Business Media, Inc., Cincinnati, Ohio USA, by Steve Kline, director of market intelligence, Nancy Eigel-Miller, research manager, and Joe Jablonowski, a long-time metalworking editor.

Methodology remains similar to previous years. Data comes from official sources, including trade associations and government ministries. Local currencies are converted to U.S. dollars at average exchange rates for the entire year.

However, two changes were made to the methodology. First, U.S. nominal dollars were converted to real dollars using the producer price index for capital equipment. This provides a better historical comparison. Second, consumption and production data for China has been reduced to account for the high percentage of non-CNC machines that are almost universally produced and consumed in China. The as reported data is still shown in the tables.

For a complete description of how the survey was conducted, as well as a listing of the exchange rates used, please refer to page 15.

Release February 27, 2014

CONSUMERS OF MACHINE TOOLS

In 2013, the top five consuming countries remained the same; however the order of the top five did change. Despite contracting the last two years, China remains the world's largest machine tool market. The U.S. remains the second largest market. Having grown two of the last three years, the U.S. has narrowed the gap with China. China eclipsed the U.S. as the number one consumer in 2009. The U.S. lost more to ground to China in 2010, and the U.S. market ended 2010 just 45.9% the size of the Chinese market. Since 2010 though, the U.S. has gained ground on China every year. In 2014, because the U.S. should grow by 15% while China remains relatively flat, we estimate that the size of the U.S. market will be 81.4% of the Chinese market.

While the top two positions remained unchanged, there was movement in the other top five positions. In last year's survey, Germany was the fourth largest consumer of machine tools. But, Germany's consumption grew 8.4% in 2013, making it the third largest consumer of machine tools in the world. We forecast Germany to grow by 12% in 2014, retaining its position as the third largest consumer in the world.

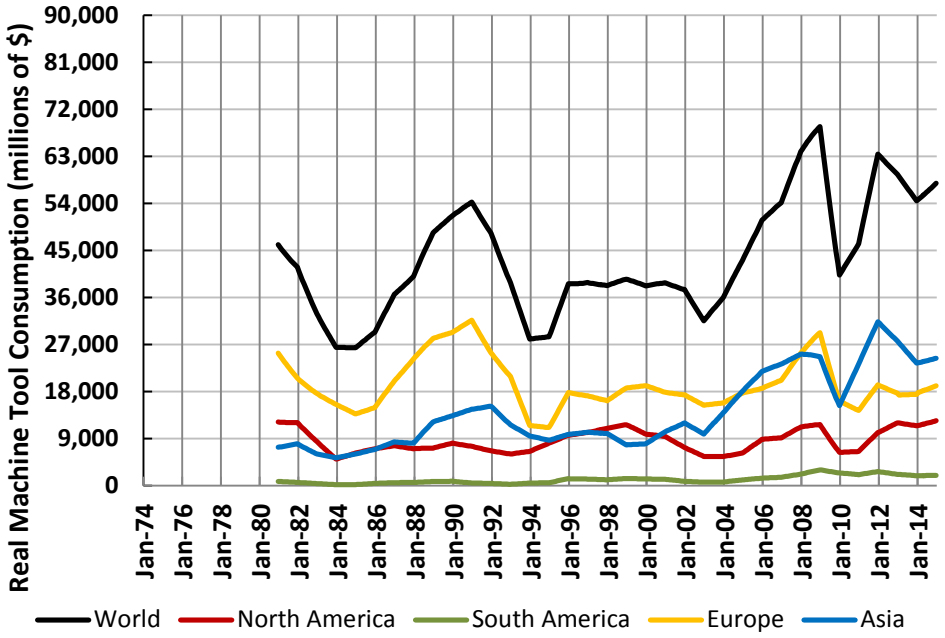
Even though its consumption was relatively flat in 2013, South Korea also moved up one spot in this year's survey. While consumption was flat in 2013, we expect South Korea to grow in by 13% in 2014.

With both Germany and South Korea moving up one position, Japan fell from the third to the fifth largest machine tool consumer in 2013. In 2011, Japan was the second largest machine tool consumer in the world. Since then, Japan's consumption has fallen by almost 45%. In 2013, Japan's consumption was less than $5 billion (in real dollars) for just the second time since 2003. However, we expect Japan to grow in 2014 by 6%, or about the world average.

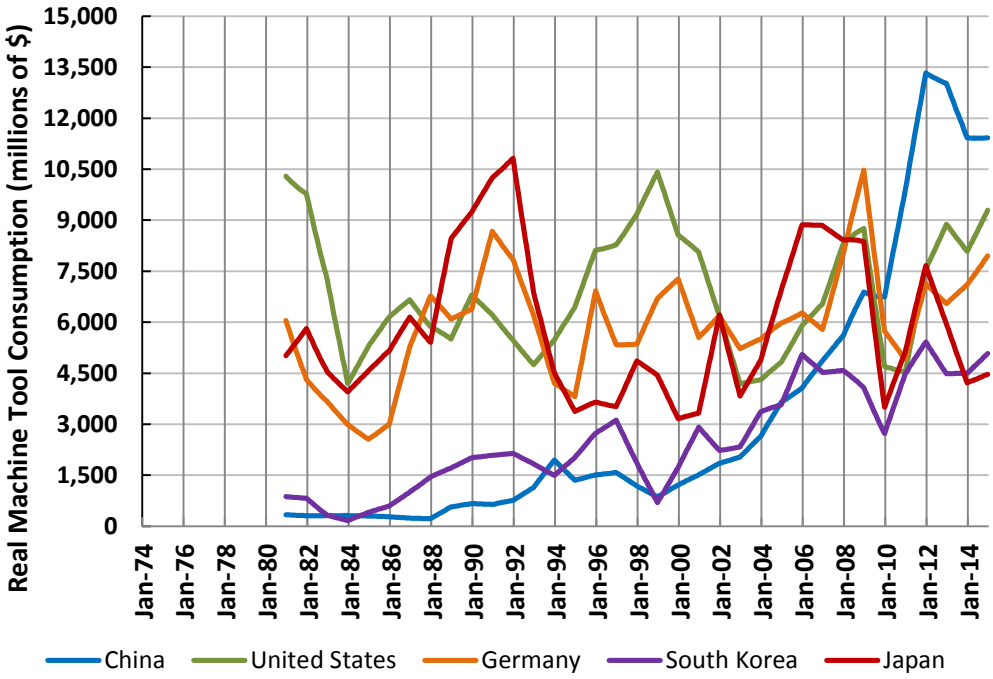
Mexico made the largest jump in the rankings. According to last year's survey, Mexico was the 10th largest consumer with $1,361 million in 2012. In this year's survey, which includes revised data for 2012, Mexico jumped all the way to number six in the world. Mexico's consumed $2,246 million of machine tools in 2013. Our forecast of consumption in Mexico calls for a slight decline of 8% to $2,077 million. Even with that decline, 2014 would be the third year in a row that Mexico consumed more than $2,000 million of machine tools.

India was the country to fall the furthest in this year's rankings, dropping all the way to 11th from 6th in the world. Consumption in India has fallen from $2,627 million in 2011 to $1,441 million in 2013, or 45%. We think India will continue to contract in 2014, but the rate of contraction will be slower.

World Machine Tool Consumption



Machine Tool Consumption - Top 5 Countries



Consumers

	Country		$-Millions 2014 (forecast.)	$-Millions 2013 (est.)	$-Millions 2012 (rev.)	Change in local currency	Change in U.S. dollars
1.	China, P. Rep.		11,423.9	11,364.5	12,950.6	$	-12%
	as reported		-	*32,470.0*	*39,244.2*	*$*	*-17%*
2.	United States		9,294.1	8,039.8	8,835.4	$	-9%
3.	Germany		7,954.2	7,065.0	6,515.4	6%	9%
4.	South Korea		5,084.3	4,476.0	4,464.0	$	1%
5.	Japan		4,471.5	4,196.5	5,914.8	-13%	-28%
6.	Mexico	c	2,076.8	2,245.6	2,070.7	$	9%
7.	Italy		2,423.4	2,078.3	2,072.3	-2%	1%
8.	Russia	c	1,164.1	1,711.9	1,934.8	$	-12%
9.	Brazil		1,750.1	1,674.0	1,883.2	$	-11%
10.	Taiwan		1,784.9	1,629.0	1,840.7	$	-11%
11.	India		1,376.1	1,441.0	2,167.5	$	-33%
12.	Turkey		1,618.1	1,399.7	1,343.5	2%	5%
13.	Canada	c	1,028.1	1,099.7	1,052.0	9%	5%
14.	Switzerland		1,128.0	1,079.0	1,053.3	2%	3%
15.	France		1,125.9	1,000.0	1,044.0	-6%	-3%
16.	United Kingdom		1,083.9	954.2	1,069.3	-9%	-10%
17.	Austria		635.8	585.6	624.1	-8%	-5%
18.	Spain		498.0	419.8	392.3	4%	8%
19.	Czech Republic		485.2	419.7	430.5	-2%	-2%
20.	Netherlands		416.3	394.4	399.4	-4%	0%
21.	Sweden		296.7	268.3	333.3	-21%	-19%
22.	Argentina		208.1	220.2	274.1	$	-19%
23.	Australia		244.4	206.0	187.7	$	8%
24.	Portugal		156.9	130.1	172.5	-26%	-24%
25.	Finland		136.6	118.2	158.2	-27%	-25%
26.	Belgium		131.6	116.9	223.1	-49%	-47%
27.	Denmark		98.9	75.7	84.3	-12%	-9%
	Total		**58,095.9**	**54,409.1**	**59,491.0**		
	% Change		**7%**	**-9%**			

c = circa; rough estimate from fragmentary reports.
$ = reported in U.S. dollars.

Source: Gardner Business Media, Inc.

PRODUCERS OF MACHINE TOOLS

While the top five producers are the same this year as last year, only China holds the same position in the rankings. Germany is once again the world's largest machine tool producer, which is the country's first time holding this spot since 2009. Production in Germany increased about 5% in 2013 from 2012.

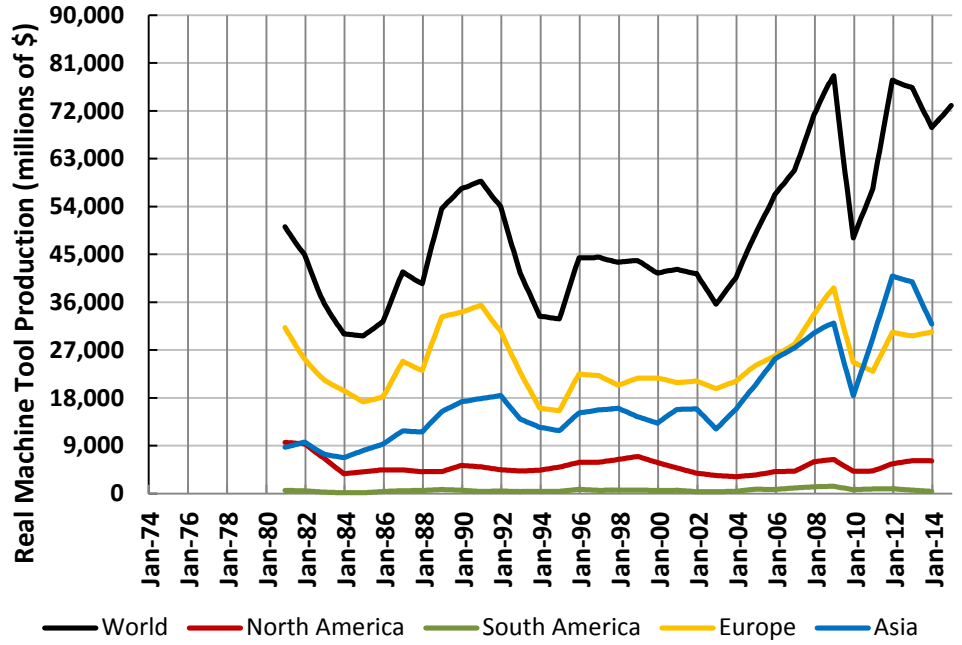
Japan fell from its number one position, which it had held for the last three years. Production in Japan peaked in 2011 at $18,484 million. In 2013, production in Japan fell all the way to $12,326 million, a decline of roughly 33%.

China remained the third largest producer in the world. Its production has contracted at a moderate rate each of the last two years.

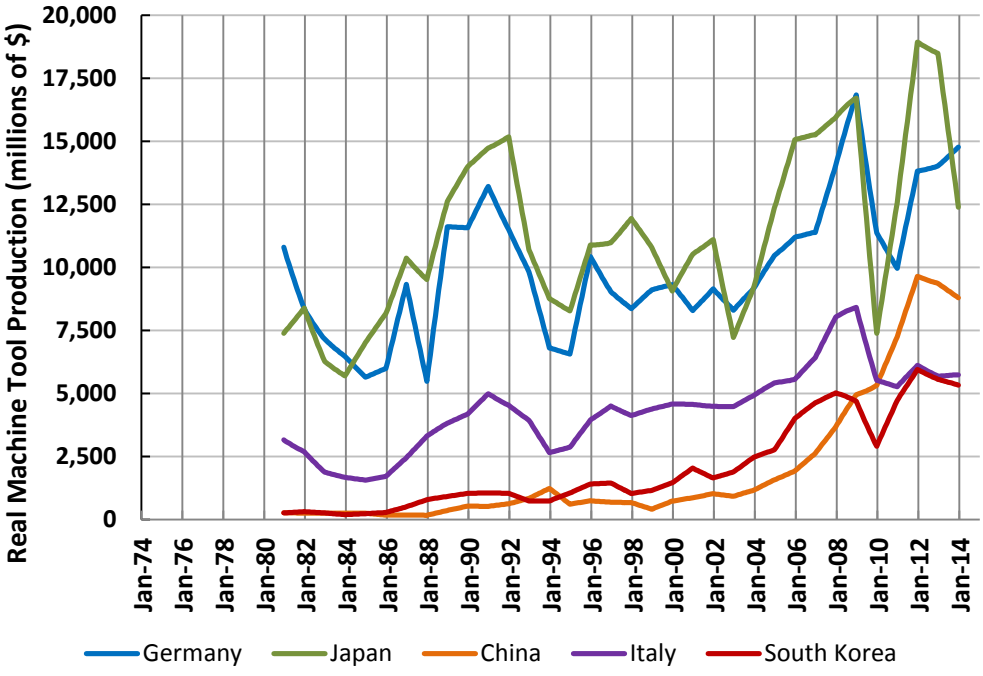
Last year, Italy held down the number five spot. But, in 2013, Italy was the fourth largest producer in the world. Production in Italy has been relatively unchanged the last three years.

South Korea fell one spot to number five this year. Like Italy, South Korea's production has been relatively stable the last three years. For the first time in the country's history, it has produced more than $5,000 million of machine tools for three consecutive years.

World Machine Tool Production



Machine Tool Production - Top 5 Countries



Producers

	Country		$-Millions 2013 (est.)	% Cut	% Form	$-Millions 2012 (rev.)	Change in local currency	Change in U.S. dollars
1.	Germany		14,687.7	72%	28%	13,824.9	3%	6%
2.	Japan		12,326.4	84%	16%	18,231.3	-18%	-32%
3.	China, P. Rep.		8,743.0	60%	40%	9,236.7	$	-5%
	as reported		*24,980.0*	*60%*	*40%*	*27,990.0*	*$*	*-11%*
4.	Italy		5,710.4	50%	50%	5,606.1	-1%	2%
5.	South Korea		5,306.0	71%	29%	5,485.0	$	-3%
6.	United States		4,956.1	75%	25%	4,983.2	$	-1%
7.	Taiwan		4,537.0	82%	18%	5,414.0	$	-16%
8.	Switzerland		3,129.1	83%	17%	3,282.2	-6%	-5%
9.	Spain		1,218.6	58%	42%	1,095.1	8%	11%
10.	Austria		1,094.3	54%	46%	1,000.1	6%	9%
11.	United Kingdom		891.7	69%	31%	911.7	-1%	-2%
12.	Canada	c	803.4	61%	39%	752.2	10%	7%
13.	Turkey		709.2	26%	74%	644.2	7%	10%
14.	Czech Republic		705.6	82%	18%	720.0	-2%	-2%
15.	France		686.6	64%	36%	752.2	-12%	-9%
16.	India		658.0	85%	15%	798.0	$	-18%
17.	Brazil		420.1	81%	19%	643.3	$	-35%
18.	Netherlands		415.7	20%	80%	402.5	0%	3%
19.	Mexico	c	374.4	62%	38%	389.4	$	-4%
20.	Belgium		324.0	20%	80%	304.7	3%	6%
21.	Russia	c	210.9	41%	59%	263.0	$	-20%
22.	Sweden		208.5	38%	62%	201.9	0%	3%
23.	Finland		184.6	20%	80%	187.7	-5%	-2%
24.	Australia		160.0	88%	12%	148.0	$	8%
25.	Portugal		74.4	46%	54%	70.7	2%	5%
26.	Denmark		73.0	40%	60%	70.7	0%	3%
27.	Argentina		43.1	53%	47%	39.7	$	9%
	Total		**68,651.8**			**75,458.5**		**-9%**

c = circa; rough estimate from fragmentary reports.
$ = reported in U.S. dollars.
% = ratio of cutting/forming production in some cases estimated from previous reports

Source: Gardner Business Media , Inc.

Importers

	Country		$-Millions 2013 (est.)	$-Millions 2012 (rev.)	Change in local currency	Change in U.S. dollars	Imports * as % of 2013 Consp
1.	China, P. Rep.		10,300.0	13,660.0	$	-25%	91%
2.	United States		5,262.4	5,883.4	$	-11%	65%
3.	Germany		2,868.5	3,109.1	-11%	-8%	41%
4.	Mexico	c	2,002.2	1,780.5	$	12%	89%
5.	Russia	c	1,618.1	1,760.8	$	-8%	95%
6.	Brazil		1,488.1	1,435.8	$	4%	89%
7.	So. Korea		1,386.0	1,492.0	$	-7%	31%
8.	Turkey		1,162.0	1,117.4	1%	4%	83%
9.	France		923.0	969.5	-8%	-5%	92%
10.	Italy		916.3	873.1	2%	5%	44%
11.	United Kingdom		891.7	968.6	-7%	-8%	93%
12.	India		822.0	1,389.0	$	-41%	57%
13.	Japan		797.4	771.5	25%	3%	19%
14.	Belgium		745.0	829.3	-13%	-10%	637%
15.	Switzerland		647.4	613.4	4%	6%	60%
16.	Taiwan		640.0	647.0	$	-1%	39%
17.	Canada	c	491.2	481.9	5%	2%	45%
18.	Austria		435.6	449.5	-6%	-3%	74%
19.	Czech Republic		418.3	440.4	-5%	-5%	75%
20.	Netherlands		405.0	430.7	-9%	-6%	103%
21.	Sweden		326.7	358.7	-12%	-9%	122%
22.	Spain		313.2	300.0	1%	4%	75%
23.	Argentina		196.7	247.1	$	-20%	89%
24.	Australia		190.0	178.0	$	7%	92%
25.	Portugal		118.2	160.7	-29%	-26%	91%
26.	Denmark		108.9	136.3	-23%	-20%	144%
27.	Finland		93.0	115.7	-22%	-20%	79%

* = includes machines imported for re-exported machines
c = circa; rough estimate from fragmentary reports.
$ = reported in U.S. dollars.

Source: Gardner Business Media, Inc.

Exporters

	Country		$-Millions 2013 (est.)	$-Millions 2012 (rev.)	Change in local currency	Change in U.S. dollars	Exports * as % of 2013 Pdtn
1.	Germany		10,491.2	10,474.1	-3%	0%	71%
2.	Japan		8,927.3	13,138.4	-18%	-32%	72%
3.	Italy		4,548.4	4,424.4	0%	3%	80%
4.	Taiwan		3,548.0	4,236.0	$	-16%	78%
5.	Switzerland		2,697.5	2,851.3	-6%	-5%	86%
6.	China, P. Rep.		2,810.0	2,740.0	$	3%	32%
7.	South Korea		2,216.0	2,551.0	$	-13%	42%
8.	United States		2,178.7	2,106.4	$	3%	44%
9.	Spain		1,112.0	1,006.0	7%	11%	91%
10.	Belgium		952.2	912.9	1%	4%	294%
11.	Austria		944.2	830.8	10%	14%	86%
12.	United Kingdom		829.1	820.1	2%	1%	93%
13.	Czech Republic		704.2	733.6	-4%	-4%	100%
14.	France		609.6	686.6	-14%	-11%	89%
15.	Turkey		471.4	429.5	6%	10%	66%
16.	Netherlands		426.3	437.2	-6%	-2%	103%
17.	Sweden		266.9	230.2	12%	16%	128%
18.	Brazil		234.2	211.8	$	11%	56%
19.	Canada	c	194.9	191.1	5%	2%	24%
20.	Finland		159.4	146.6	5%	9%	86%
21.	Australia		144.0	135.0	$	7%	90%
22.	Mexico	c	131.0	116.8	$	12%	35%
23.	Russia	c	117.1	105.5	$	11%	56%
24.	Denmark		106.2	123.4	-17%	-14%	145%
25.	Portugal		62.4	60.4	0%	3%	84%
26.	India		39.0	38.0	$	3%	6%
27.	Argentina		19.6	15.0	$	31%	45%

* = includes re-exported machines
c = circa; rough estimate from fragmentary reports.
$ = reported in U.S. dollars.

Source: Gardner Business Media, Inc.

Trade Balance

in U.S. dollars*

	Country		2013 (est) $-Millions	2012 (rev) $-Millions
1.	Japan		8,129.9	12,366.9
2.	Germany		7,622.7	7,365.0
3.	Italy		3,632.1	3,551.3
4.	Taiwan		2,908.0	3,589.0
5.	Switzerland		2,050.1	2,237.9
6.	South Korea		830.0	1,059.0
7.	Spain		798.8	706.0
8.	Austria		508.6	381.3
9.	Czech Republic		285.9	293.2
10.	Belgium		207.2	83.6
11.	Finland		66.4	30.9
12.	Netherlands		21.3	6.5
13.	Denmark		-2.7	-12.9
14.	Australia		-46.0	-43.0
15.	Portugal		-55.8	-100.3
16.	Sweden		-59.8	-128.5
17.	United Kingdom		-62.6	-148.5
18.	Argentina		-177.1	-232.1
19.	Canada	c	-296.3	-290.8
20.	France		-313.4	-282.9
21.	Turkey		-690.6	-687.9
22.	India		-783.0	-1,351.0
23.	Brazil		-1,253.9	-1,224.0
24.	Russia	c	-1,501.0	-1,655.3
25.	Mexico	c	-1,871.2	-1,663.7
26.	United States		-3,083.7	-3,777.0
27.	China, P. Rep.		-7,490.0	-10,920.0

* = Exports Minus Imports
c = circa; rough estimate from fragmentary reports.

Source: Gardner Business Media, Inc.

Per-Capita Consumption

	Country	2013 Consumption $-Millions	Population 000s	$-Millions Per capita
1.	Switzerland	1,079.0	7,950	135.72
2.	South Korea	4,476.0	50,000	89.52
3.	Germany	7,065.0	81,840	86.33
4.	Taiwan	1,629.0	23,310	69.88
5.	Austria	585.6	8,440	69.38
6.	Czech Republic	419.7	10,520	39.90
7.	Italy	2,078.3	59,390	34.99
8.	Japan	4,196.5	127,220	32.99
9.	Canada	1,099.7	35,060	31.37
10.	Sweden	268.3	9,480	28.30
11.	United States	8,039.8	317,300	25.34
12.	Netherlands	394.4	16,730	23.57
13.	Finland	118.2	5,430	21.77
14.	Mexico	2,245.6	116,900	19.21
15.	Turkey	1,399.7	75,620	18.51
16.	France	1,000.0	65,280	15.32
17.	United Kingdom	954.2	63,260	15.08
18.	Denmark	75.7	5,570	13.59
19.	Portugal	130.1	10,540	12.34
20.	Russia	1,711.9	143,350	11.94
21.	Belgium	116.9	11,080	10.55
22.	Spain	419.8	46,200	9.09
23.	Australia	206.0	22,790	9.04
24.	Brazil	1,674.0	193,940	8.63
25.	China, P. Rep.	11,364.5	1,354,000	8.39
	as reported	*32,470.0*	*1,354,000*	*23.98*
26.	Argentina	220.2	41,280	5.33
27.	India	1,441.0	1,233,000	1.17

Source: Gardner Business Media, Inc.

How the World Machine-Tool Survey Was Conducted

Short History. This series of annual reports of world machine tool consumption, production, and trade was started in 1965 at American Machinist magazine. In the early 1980s, Joe Jablonowski, at the time on the staff of that magazine and not a contributing editor at Gardner, joined the project. Sixteen years ago, Gardner Business Media, Inc. (Cincinnati, OH) began annual preparation of the surveys for its publications and website.

Methodology remains similar to previous years. Most of the information comes from official sources sent directly to Gardner's research department. Coordination of the data collection is handled by Nancy Eigel-Miller, research manager at Gardner. Data calculations and forecasts are prepared by Steve Kline, director of market intelligence at Gardner. Local currencies are converted to U.S. dollars at average exchange rates for the entire year.

Two changes were made to the methodology this year. First, U.S. nominal dollars were converted to real dollars using the producer price index for capital equipment. This provides a better historical comparison. Second, consumption and production data for China has been reduced to account for the high percentage of non-CNC machines that are almost universally produced and consumed in China. The as reported data is still shown in the tables.

Sources. The revised data for 2012 and estimated data for 2013 are sourced at government agencies or trade associations. Also, special assistance came from the fifteen-member CECIMO consortium (Brussels, Belgium) and the Association for Manufacturing Technology (McLean, VA).

Notes on entries. The reliability of such sources varies somewhat from country to country. When it is necessary, the research team develops an estimate that is based on information from a number of sources, including import and export data from the country's trading partners. When this is done, it is indicated by a "c" (for circa) next to the particular figure on the tables.

Definitions. A machine tool is usually defined as a power-driven machine, not portable by hand, and powered by an external source of energy. It is designed specifically for metalworking either by cutting, forming, physic-chemical processing, or a combination of these techniques.

Machine tools are traditionally broken down into two categories: metalcutting and metal forming. Metalcutting machines typically cut away chips or swarf and include (but are not limited to) broaching machines, drilling machines, electrical-discharge machines, lasers, gearcutting machines, grinders, machining centers, milling machines, transfer machines, and turning machines such as lathes. Metal forming machines typically squeeze metal into shape and include (but are not limited to) bending machines, cold-heading machines, presses, shears, coil slitters, and stamping machines.

Data presented in the Survey are solicited for metalcutting machines (codes 8456-8461 under the Harmonized Tariff System) and for metal forming machines (8462-8463) and are solicited for complete machines only, not including parts or rebuilt machines.

Exchange rates. All data reported in domestic currencies are translated into U.S. dollars using the average daily exchange rate for the year (not the end-of-year rate) as reported at www.oanda.com in the historical section. All analysis is done in real U.S. dollars.

U.S. $ to Reporting Currency

Country	Reporting Currency	2013	2012	Change
Argentina	U.S. $	1.0000	1.0000	0%
Australia	U.S. $	1.0000	1.0000	0%
Austria	Euros	1.3280	1.2858	3%
Belgium	Euros	1.3280	1.2858	3%
Brazil	U.S. $	1.0000	1.0000	0%
Canada	Canadian $	0.9711	1.0002	-3%
China, P. Rep.	U.S. $	1.0000	1.0000	0%
Czech Republic	Czech Koruna	0.0511	0.0511	0%
Denmark	Euros	1.3280	1.2858	3%
Finland	Euros	1.3280	1.2858	3%
France	Euros	1.3280	1.2858	3%
Germany	Euros	1.3280	1.2858	3%
India	U.S. $	1.0000	1.0000	0%
Italy	Euros	1.3280	1.2858	3%
Japan	Yen	0.0103	0.0125	-18%
Mexico	U.S. $	1.0000	1.0000	0%
Netherlands	Euros	1.3280	1.2858	3%
Portugal	Euros	1.3280	1.2858	3%
Russia	U.S. $	1.0000	1.0000	0%
Spain	Euros	1.3280	1.2858	3%
South Korea	U.S. $	1.0000	1.0000	0%
Sweden	Euros	1.3280	1.2858	3%
Switzerland	Swiss franc	1.0790	1.0667	1%
Taiwan	U.S. $	1.0000	1.0000	0%
Turkey	Euros	1.3280	1.2858	3%
United Kingdom	Pounds	1.5643	1.5847	-1%
United States	U.S. $	1.0000	1.0000	0%

Scope. Information from the 27 countries represented in the survey does not include all machine tool production and trade activity in the world, but is thought to encompass more than 95% of all activity. In some cases, like South Africa and some Southeast Asian or Eastern European countries, a measurable machine tool market exists, but data is not supplied by the local market or is difficult to estimate.

"Shipments" vs. "orders." Many countries, in addition to contributing statistics to this Survey, also track orders for new machine tools. These are, by their nature, different sets of numbers, and they may or may not be related. This Survey is based on actual shipments of new machine tools from the factories in which they are produced. In contrast, the various order compilations in individual countries around the world are based on bookings for machines that will be shipped in the future. The time lag between these two events can vary greatly. An in-stock lathe might be shipped one day after the order is placed; whereas a complex engine-machining line might take a year to be delivered after the order has been received. On average in the U.S., orders lead shipments by four to five months. That is likely a common lead time for other countries.

Additional data. For other detailed statistics, we recommend The Association for Manufacturing Technology. The trade group offers a CD version of The Economic Handbook of the Machine Tool industry. It also has other data available in through its MT Insight program.

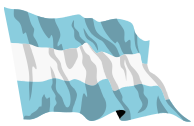
Country Reports

Countries below are listed alphabetically. Some countries described here are not ranked in the tables above because the statistics are not available and/or not deemed reliable for 2013, although they may have been included in previous Surveys.

In each country report, production means actual shipments, not orders for future shipment. When discussing percentage changes year to year, those percentages are based on real U.S. dollars. Therefore, the data in this Survey matches the historical data on the international page of Gardner's corporate website. Percentage changes can easily be figured in the reporting currencies of the various countries by subtracting the change in foreign exchange rates from the table above.

Many listings below include information on significant trade fairs that feature machine tools. The German machine tool builders' association known as VDW does a good job of compiling a list of such shows.

Argentina



The AAFMHA – Asociacion Argentina de Fabricantes de Maquinas-Herramienta, Accesorios y Afines – supplies statistical data for this Survey. The association can be found online at http://www.aafmha.org.ar/. The trade group is the primary sponsor of one of the country's international machine tool shows called EMAQH (www.emaqh.com), which runs in Buenos Aires in the spring in odd-numbered years. The next show will be in April 2015.

Another biennial show, FIMAQH (www.fimaqh.com), next planned for May 2014, is also in Buenos Aires. It is organized by CARMAHE – Camara Argentina de la Maquina Herramienta, Biense de Capital y Servicios para la Produccion. The machine tool and capital goods association can be found at www.carmahe.com.

Australia

The Australian Manufacturing Technology Institute Ltd., in Wantirna (suburb of Melbourne, Victoria), combined the Institute of Machine Tools Australasia and the Australian machine Tool Association in Sydney. Estimates of production and trade are sourced from AMTIL, www.amtil.com.au. AMTIL is a sponsor of Austech, an annual technology show that alternates between Sydney and Melbourne. The next show will take place in 2015.

Austria

Austria is a member of CECIMO. Primary contact for the machine tool industry is through the larger machinery and metalware industries trade group known as FMMI – Fachverband Maschinen & Metallwaren Industrie in Vienna. It can be found online at www.fmmi.at. A biennial show run by Reed Exhibitions called Intertool runs as part of an umbrella trade fair called Vienna-tec. Intertool will next be held in May 2014 in Vienna.

Belgium

CECIMO, the European Association of the Machine Tool industries, is based in Brussels and brings together 15 national associations of machine tool builders. It can be found online at www.cecimo.eu. CECIMO provides statistics for this Survey for Belgium and other European countries.

Brazil

Brazilian data is reported by the Sao-Paulo-based builders group, Associacao Brazileira da Industria de maquinas e Equipamentos. It can be found online at www.abimaq.org.br. Abimaq reports only the results of responding member companies, or about 35% of the total number of enterprises. However, these represent the most significant part of the industry. The major machine tool show is FEIMAFE (www.feimafe.com.br) and is held every other year in Sao Paulo. The next show will be in June 2015. Another trade fair, Mecanica (www.mecanica.com.br), for general machinery including machine tools runs in alternating years. It is also held in Sao Paulo.

Canada

Canadian data in this survey is a rough estimate based on input from Industry Canada (www.ic.gc.ca), and Ottawa-based ministry of government.

The Canadian Machine Tool Distributor's Association (www.cmtda.com) and the Canadian Tooling & Machining Association (www.ctma.com) both are sponsors of the Montreal Manufacturing Technology Show (www.mmts.ca), which will be held in May 2014. There is also

the Canadian Manufacturing Technology Show (www.cmts.ca), which is held every other year in odd-numbered years.

China, Peoples Republic of

The Chinese Machine Tool Builders' Association (CMTBA, www.cmtba.org.cn) reports data for this Survey. The association sponsors two trade shows running in opposite years. In even-numbered years it hosts the China CNC Machine Tool Fair (CCMT, www.ccmtshow.com). The show is typically held in April. It also sponsors the China International Machine Tool Show (CIMT, www.cimtshow.com). It is usually held in April of odd-numbered years. The next trade fair is scheduled for April 2015.

Czech Republic

The Association of Engineering Technology (www.sst.cz) represents machine tool companies and is a member of CECIMO. The organization sponsors a biennial show, IMT (www.bvv.cs/msv/). The International Engineering fair begins in September 2014.

Denmark

The Association of Danish Machine Tool Manufacturers is a member of CECIMO. For this Survey, CECIMO reports statistics for Denmark. The association is a sponsor of the country's metalworking trade show, VMT (vtm2014.dk). The show is held typically in April every other year in even-numbered years.

Finland

Finland's machine tool builders are represented by the Federation of Finnish Technology Industries. The machine tool subgroup is also a member of CECIMO. FinnTec is the country's machine tool show. It will next be held in Helsinki in May 2014.

France

Statistical data comes from the Association for Manufacturing Technologies (wwww.manufacturing-technologies.com). The association was reorganized in 2005 to include importers and distributors. It is now a member of both CECIMO and a similar distributor group, CELIMO.

Also known as Symop, the association sponsors a biennial machine tool show in even-numbered years. It is held as part of IndustrieParis. There is also a biennial show, SIMODEC (en.salon-simodec.com), that focuses on screw machine technology.

Germany

Statistics are compiled by Germany's machine tool builders' group, VDW (vdw.de). The trade association is the largest member of CECIMO. In non-EMO years, it sponsors Metav (www.metav.com), a German metalworking show. In addition to Metav, VDW organizes EMO when it is in Hannover.

VDW is a sponsor or a privately organized show, AMB, which is in an every other year show held in September of non-EMO years. There is also a metal forming show, Blechexpo, in November of odd-numbered years. There is a manufacturing and tooling show called Intec that runs every other odd-numbered year. Finally, there is a biennial laser systems fair, LASYS, typically held in June.

India

The Indian Machine Tool Manufacturers' Association (www.imtma.in) in Bangalore is composed of about 475 member companies, including a small group that produces the majority of Indian machine tools. The trade association reports an estimate of the country's total output, including non-members.

The main metalworking show in India is IMTEX (www.imtex.in). The Indian Metalcutting Machine Tool Exhibition is held triennially in January. The next event will be in 2015. The association also holds a concurrent show on tooling, accessories, and software called ToolTech. A forming show, IMTEX Forming, will be held in 2016.

Italy

The Italian machine tool trade group is UCIMU (www.ucimu.it). The Italians will be the host of EMO 2015 when the show is held in Milan. UCIMU stages a series of shows, including the biennial Italian national machine tool show called Bi-MU, which will be held in October of 2014. Bi-Mu is held in conjunction with a subcontracting expo, SFORTEC. There is also a less frequent exhibition in Southern Italy called Bi-MU Mediterranea in Bari, a biennial mechatronics and automation event known as Bi-Mec, and an annual metal forming equipment show called Lamiera in Bologna.

Japan

Statistics for this survey come from two groups. The metalcutting data comes from the Japan Machine Tool Builders' Association (www.jmtba.or.jp) and the metal forming data comes from the Japan Forming Machinery Association (j-fma.or.jp).

JMTBA estimates production totals starting with statistics from the Ministry of Economy, Trade, and Industry (METI), which does not include companies employing less than 50 workers and adjusts the data according to its own surveys. For trade data, JMTBA excludes semi-conductor fabrication equipment, which is included in the data from the Ministry of Finance.

JFMA uses member statistics for production and Finance Ministry statistics for imports and exports.

The major metalcutting machine tool show in Japan is JIMTOF (www.jimtof.org), which is held in November of even-numbered years. It is sponsored by a variety of trade organizations. Japan also has a large show for metal forming machinery, Metal Forming and Fabricating Fair Tokyo (mf-tokyo.jp). It is held in July or August of odd-numbered years and is sponsored by JFMA.

Mexico

Statistics for Mexico are estimated from fragmentary data by the Association for Manufacturing Technology in the U.S. (www.amtonline.org). A generalized machinery importers group that includes distributors of construction and agricultural machines, the AMDM (www.amdm.org.mx), sponsors TECMA (www.tecma.org.mx), which is a national machine tool show held in odd-numbered years. In the even-numbered years there is the Expomaq (www.expomaq.org.mx).

The Netherlands

Machine tool builders in The Netherlands are represented by VIMAG (www.vimag.nl). VIMAG is affiliated with CECIMO. The country hosts a biennial trade show called Techni-Show.

Portugal

EMAF (www.emaf.exponor.pt), the International Machine Tool and Accessories Exhibition, runs in Porto in November of non-EMO years. Machine tool manufacturers are represented by AIMMAP (www.aimmap.pt), which is the metal and mechanical engineering trade group. It is a member of CECIMO.

Russia

MashEx (www.mashex.ru) is the country's largest exhibition related to metalworking technology. It is held every October in Moscow. It is supported by the Union of Russian Machine Builders. Another exhibition, Metalloobrabotka (www.metobr-expo.ru), is supported by a number of trade groups and government ministries. It is held every June in Moscow.

Production statistics come from the Stankoinstrument Association of Machine and Tool Manufacturers, which represents more than 200 machine tool and instrument factories, research organizations, and design bureaus. Import and export data is estimated using various trade statistics.

South Korea

The Korean Machine Tool Manufacturers' Association (KOMMA, www.komma.org/en) provides statistics for this Survey. Data comes from the National Statistic Office (production) and Korea Customs Service (imports and exports).

KOMMA is the main sponsor of SIMTOS (www.simtos.org), the Seoul International Manufacturing Technology Show, which is held in April of even-numbered years.

Spain

AFM (www.afm.es) , the Spanish machine tool builders' association, supplies statistical information for this Survey. It includes the former AMT, an association of machine tool accessories, component parts, and tools manufacturers. AFM is a member of CECIMO.

AFM's biennial machine tool show, BIEHM (www.biehm.com) will be held in June, 2014 in Bilbao. Another show, one that emphasizes imports, Maquitec, is held in Barcelona.

Sweden

The Machine and Tool Association of Sweden (www.mtas.se) is a member of CECIMO. The country's main show for machine tools is MAX, the Manufacturing and Automation Expo.

Switzerland

Machine tool builders are represented by the machine tools and manufacturing technology group of SwissMEM (www.swissmem.ch), the umbrella organization of mechanical and electrical engineering industries in Zurich. The group is a member of CECIMO. A biennial trade show for machine tools and production technology, Prodex (www.prodex.ch), is held in November in even-numbered years.

Taiwan

The Taipei Manufacturing Technology Show, also known as MT Duo (for machine tools and manufacturing technology), is organized by Taiwan External Trade Development Council, TAITRA. It is held in even-numbered years. Also, there is TIMTOS, which is the Taipei International Machine Tool Show. TIMTOS is held in odd-numbered years.

In 2007, the Taiwan Machine Tool and Accessory Builders' Association in Taichung, was set up as an independent, not-for-profit organization. Its chartered purposes include promoting internal industrial cooperation projects and global machine tool shows. It runs TMTS, the Taiwan International Machine Tool Show in even-numbered years in Taichung.

Another important trade group in Taiwan is TAMI, the Taiwan Association of Machinery Industry. Data for this Survey comes from TAITRA.

Turkey

MIB, the Turkish machinery companies' trade association, provides statistics for this survey and is a member of CECIMO. Two biennial metalworking-oriented fairs run in Istanbul in alternating years. TATEF is run by the ITE Group in October of even-numbered years. TIME, Manufacturing Technologies Exhibition, is held in November of odd-numbered years. In addition, Turkey Maktek Eurasia, a machinery-oriented event organized by TUYAP Group, runs in October.

United Kingdom

Statistics for this survey are provided by MTA, the Manufacturing Technologies Association, whose members include builders and distributors. The trade association is a member of CECIMO. MTA's trade show, Mach, is held in April in even-numbered years. It is part of a combined exhibition that also includes drives and controls, fluid power technology, plant management, etc.

United States

The main trade association for machine tool builders in the U.S. is the Association for Manufacturing Technology (AMT). In even-numbered years it hosts the International Manufacturing Technology Show (IMTS). The association performs a number of functions for the metalworking industry, including collecting a variety of statistics that can be accessed through its MT Insights program.

SME, the Society of Manufacturing Engineers, holds a number of conferences and trade shows of interest to machine tool builders.

CECIMO

CECIMO is the European Committee for Co-operation of the Machine Tool Industries and is based in Brussels, Belgium. Its market intelligence department, headed by Maret Veiner, is instrumental in coordinating data collection from many European countries for this Survey.

CECIMO is the official sponsor for EMO, the pan-European machine tool show that is held in odd-numbered years. The trade show rotates between two events in Hannover, Germany and then one event in Milan, Italy. In 2015, EMO will be held in Milan.

International Trade Centre

Although it does not provide information about the domestic machine tool producing industry in any given country, the International Trade Centre in Geneva, Switzerland, provides reasonably up-to-date information on imports and exports. For import and export data, go to the ITC's international trade statistics page and select product groups 8456 through 8463 for metalworking machine tools. The sum of these eight categories provides an approximation of the statistics in this Survey.