

# 41<sup>st</sup> Census of World Casting Production—2006

Global casting production surpasses 90 million tons.

A MODERN CASTING Staff Report

The global metalcasting industry broke the 90 million ton production mark in 2006, reaching 91.4 million tons—a 7.2% increase over 2005, according to this year's MODERN CASTING Census of World Casting Production. At this pace, 2007 could be the year the world reaches 100 million tons of castings produced. Ferrous castings saw a 6.6% increase globally, while nonferrous castings grew 10%.

The data reported in the 41st Annual Census of Casting Production are production numbers supplied by each nation's metalcasting association.

In the first year of the census, 1966, total shipments amounted to 63.3 million tons, and the U.S.S.R. and U.S. were in a tight race for the casting production lead. Both countries were producing around 20 million tons of castings, while the next closest nations were hovering near 5 million tons. Today, China is in a race by itself. With a reported 28.1 million tons produced in 2006, it produces more tons of castings than the second through fourth top producing nations combined. But China isn't the only country experiencing growth. Eight out of the top 10 nations showed increases in production in 2006, and two countries, Japan and India, showed a higher growth percentage than China.

Thirty-two countries responded with casting production totals from 2006. Four countries that did not respond, Russia, Slovakia, Ukraine and Thailand, are included with production totals from their most recently reported data.

Number of Operating Metalcasting Plants By Nation—2006

COUNTRY	IRON	STEEL	NONFERROUS	TOTAL
Austria	12	4	35	74
Belgium	17	9	10	36
Brazil	609	186	577	1,372
Canada	55	28	83	166
China <sup>A</sup>	17,000	4,700	4,300	26,000
Croatia	15	3	25	43
Czech Republic	89	28	59	176
Denmark	8 <sup>B</sup>	n/a	10	18
Finland	15	6	15	36
France	110	37	322	469
Germany	212	53	354	619
Great Britain	203	46	210	459
Hungary	42	27	143	212
India	n/a	n/a	n/a	4,750
Italy	170	27	974	1,171
Japan	454	78	1169	1,701
Korea	501	140	210	851
Lithuania	8	3	5	16
Mexico	n/a	n/a	n/a	1,500
Netherlands <sup>BC</sup>	16	0	5	21
Norway	7	3	11	21
Poland	185 <sup>D</sup>	n/a	245	430
Portugal	49	10	40	99
Romania	72	54	84	210
Russia <sup>E</sup>	n/a	n/a	n/a	1,900
Slovenia <sup>E</sup>	16	4	33	53
Slovakia <sup>A</sup>	12	7	32	51
South Africa	87	51	117	255
Spain	65	34	57	156
Sweden	36	15	85	136
Switzerland	17	3	38	58
Taiwan <sup>B</sup>	520	45	350	915
Thailand <sup>A</sup>	230	26	220	476
Turkey	890	66	306	1,262
Ukraine <sup>E</sup>	400	233	437	960
U.S.	564	239	1367	2170

A) 2005 data B) 2004 data C) only association members D) includes steel casters E) 2002 data

Although it is likely that Russia, if it had reported production totals, would have been in the top 10 casting na-

tions, because 2006 numbers were not available, it has been left off the world production leaders summary.

### 41<sup>st</sup> Census of World Casting Production—2006 (metric tons)

Country	Gray Iron	Ductile Iron	Malleable Iron	Steel	Copper-Base	Aluminum	Mag.	Zinc	Other Nonferrous	TOTAL
Austria	49,080	138,383 <sup>A</sup>	n/a	19,671	2,691	107,576	6,534	14,031	2,691	340,657
Belgium	81,200	10,700 <sup>A</sup>	n/a	46,800	1,049	24,545 <sup>B</sup>	n/a	740	n/a	165,034
Brazil	1,760,376	750,432	21,014	325,113	20,306	198,042	5,279	6,483	n/a	3,087,045
Canada	483,000 <sup>***A,C</sup>	n/a	n/a	117,600 <sup>***</sup>	18,585 <sup>***</sup>	282,200	n/a	n/a	n/a	901,385 <sup>**</sup>
China	13,928,086	6,843,019	517,214	3,811,210	470,189	2,310,350 <sup>B</sup>	n/a	214,100	n/a	28,094,168
Croatia	30,971	18,243	50	2,000	825	17,301	n/a	363	n/a	69,753
Czech Republic	293,026	51,006	3,900	113,878	1,760	89,824 <sup>B</sup>	n/a	2,712	285	556,391
Denmark	36,500	42,100 <sup>A</sup>	n/a	n/a	813 <sup>D</sup>	n/a	n/a	n/a	5,601	85,014
Finland	46,780	67,250	n/a	19,816	4,328	11,743	n/a	495	n/a	150,412
France	874,022	1,071,145	1,358	116,583	25,476	291,377 <sup>B</sup>	n/a	23,538	4,742	2,408,241
Germany	2,582,539	1,661,189	56,103	215,303	98,057	772,700	30,556	64,453	n/a	5,480,900
Great Britain	421,000	335,000	10,000	112,000	13,000	185,000	2,000	20,000	2,000	1,100,000
Hungary	48,950	20,112	31	6,033	4,338	93,630	n/a	2,012	n/a	175,106
India	4,870,000	762,000	62,300	914,000	n/a	571,000 <sup>E</sup>	n/a	n/a	n/a	7,179,300
Italy	931,400	549,300 <sup>A</sup>	n/a	83,000	92,000	897,100	12,000	71,200	1,400	2,637,400
Japan	2,834,185	2,035,845	56,401	281,190	105,830	1,556,316	1,014,837	35,788	7,234	7,927,626
Korea	987,600	576,500 <sup>F</sup>	46,600	150,400	23,600	173,100	n/a	n/a	10,500 <sup>B,C</sup>	1,968,300
Lithuania	12,500	200 <sup>A</sup>	n/a	90	2	60	n/a	n/a	n/a	12,852
Mexico	899,712 <sup>A,G</sup>	n/a	n/a	79,200	n/a	696,300	n/a	n/a	n/a	1,675,212
Netherlands*	63,100	78,241	6,209	438	n/a	n/a	n/a	n/a	n/a	147,988 <sup>H</sup>
Norway	17,971	53,199	n/a	3,346	5,271	21,163	n/a	n/a	n/a	100,950
Poland	431,000	129,400	24,400	60,400	7,300	185,400	n/a	11,120	n/a	849,020
Portugal	28,025	80,694	n/a	14,171	10,800	21,400	50	750	120	156,010
Romania	61,540	14,753	898	35,616	3,356	30,982	2,800	540	3	150,488
Russia <sup>***</sup>	3,480,000	720,000	280,000	1,200,000	160,000	920,000	70,000	20,000	50,000	6,900,000
Slovenia	79,000	28,800	n/a	30,000 <sup>A</sup>	n/a	32,610 <sup>B</sup>	n/a	n/a	7,413 <sup>C,I</sup>	177,823
Slovakia <sup>***</sup>	41,520	8,760	n/a	4,300	2,160	26,260	n/a	1,800	5	84,805
Spain	440,600	623,000	17,300	87,700	9,102	135,999 <sup>B</sup>	n/a	15,785	515	1,330,001
South Africa	14,700	86,000	n/a	184,000	3,000	77,000	-n/a	4,000	n/a	368,700
Sweden	193,600	67,800	n/a	24,100	11,900	48,400	2,400	5,800	n/a	354,000
Switzerland	38,886	28,225	n/a	n/a	3,120	20,846 <sup>B</sup>	n/a	1,859	n/a	92,936
Taiwan	840,203	227,527	n/a	86,568	40,899	273,339	5,177	83,013	n/a	1,556,726
Thailand <sup>***</sup>	170,000	70,000	30,000	30,000	28,600	100,000	n/a	16,900	n/a	445,500
Turkey	586,000	368,000	6,500	132,000	17,500	82,500	n/a	17,000	n/a	1,209,500
United States	4,255,604	4,128,598	n/a	1,366,220	288,484	2,003,971	105,233	306,628	n/a	12,454,738
Ukraine <sup>****</sup>	626,610	40,000	10,000	266,060	11,000	20,500	n/a	n/a	n/a	974,140
<b>TOTALS</b>	<b>42,539,286</b>	<b>21,685,421</b>	<b>1,150,278</b>	<b>9,938,806</b>	<b>1,485,341</b>	<b>12,278,534</b>	<b>1,256,866</b>	<b>941,110</b>	<b>92,509</b>	<b>91,368,121</b>

\* 2004 tonnage    \*\*some tonnage from 2004    \*\*\* 2005 tonnage    \*\*\*\* 2002 tonnage

- |                            |                            |                          |
|----------------------------|----------------------------|--------------------------|
| A) includes malleable iron | D) gunmetal alloys         | G) includes ductile iron |
| B) includes magnesium      | E) includes all nonferrous | H) includes only ferrous |
| C) includes zinc           | F) includes pipe castings  | I) includes copper       |



**1. China**—The gap between China and the rest of the world continues to grow.

With a 15% increase over 2005, it now accounts for close to a third of total global production, with a reported 28,094,168 tons of castings produced in 2006.



**2. United States**—Production in the U.S. decreased 3.4% to 12,454,739 metric tons of castings in 2006. It is the first time in four years that production in the U.S. has not grown.



**3. Japan**—With a 19.1% increase, Japan matched India's fast-growing metal-casting industry to stay ahead of the rapidly-growing country. Its 7.9 million tons produced was boosted with a 1.12 million-ton gain in the production of aluminum and magnesium castings.



**4. India**—India's production grew 17.5% in 2006 to 7,179,300 tons. Since 2002, India's production has more than doubled. The country surpassed the U.S. in gray iron production in 2006.



**5. Germany**—Germany continues to produce thousands more tons of castings per plant than any of the other top-10 nations. In 2006, its production grew 7.3% to 5,480,900 tons.



**6. Brazil**—After huge gains in 2003 and 2004, Brazil's pace of growth is steady. Following a 4.9% increase in 2005, Brazil maintained a 4% increase in 2006 to 3,087,045 tons produced.



**7. Italy**—Italy showed 3.8% growth in 2006 to 2,637,400 tons produced. It was one of the top-four aluminum casting producing nations in 2006, with 900,000 tons produced.



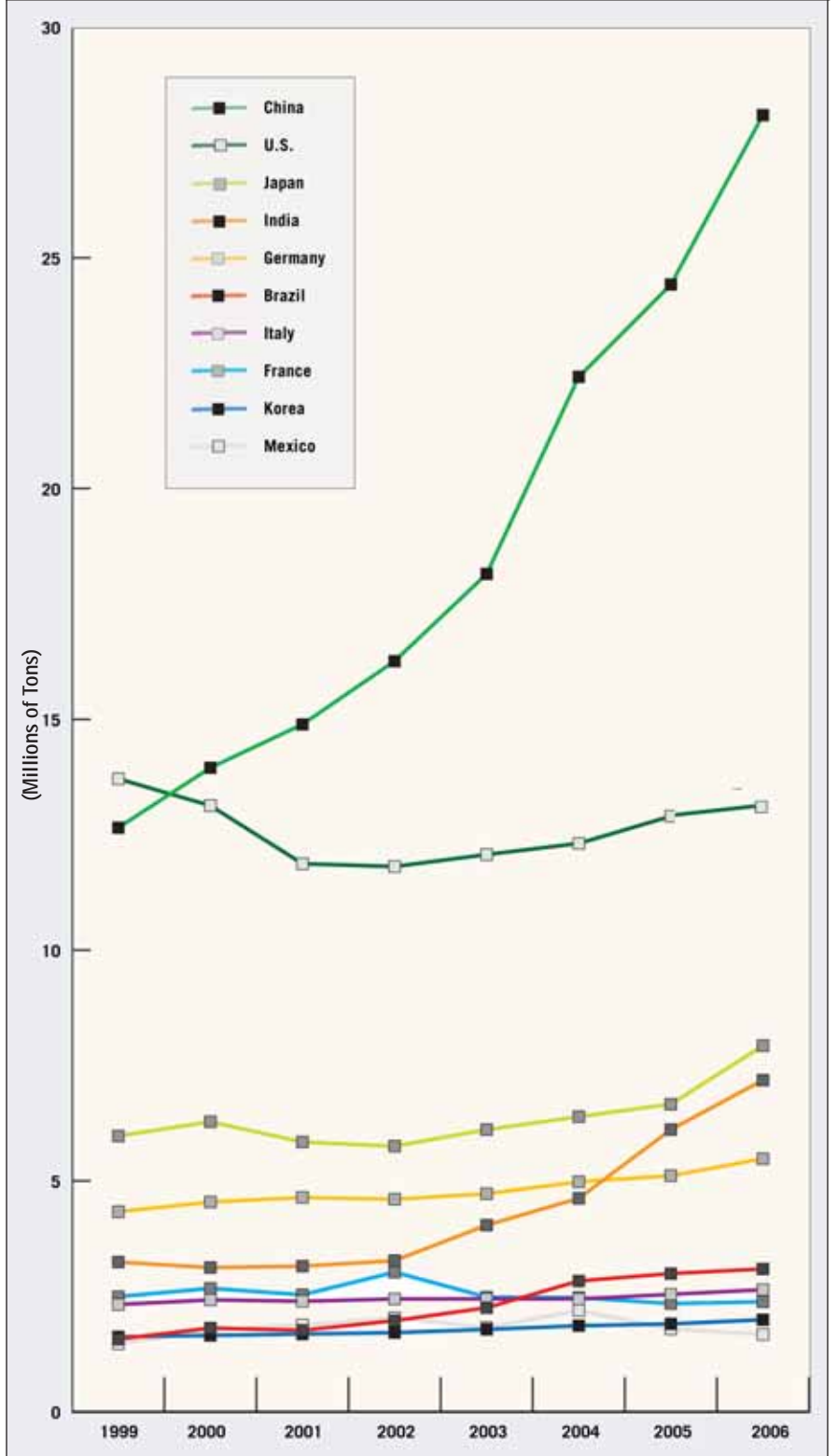
**8. France**—Casting production grew 1.7% in France in 2006 to 2,381,241 tons. The nonferrous casting sector suffered from shrinkage in the automotive market, which is reflected in a 7.5% decrease.



**9. Korea**—Production in Korea grew to almost 2 million tons in 2006, a 3.6% increase over 2005. It is the country's eighth consecutive growth year.



**10. Mexico**—With production of 1,675,212 tons—a 6.3% decrease—2006 is the second consecutive year that the number of castings made in Mexico has fallen.



Pictured are the casting tonnage trends for each of the Top 10 casting-producing nations over the last six years.



Illustrated at right are the Top 10 nations' average productivity per metalcasting plant in 2006. Germany continues to be the most efficient country according to this formula. In 2006, it's production grew 7.3%, while the number of metalcasting facilities decreased. Illustrated below are the four leading nations in the production of each of the four main cast metals. Japan reported a large leap in aluminum and magnesium production in 2006, and it surpassed China and the U.S. this year for those alloys. The production rankings of the other three metals, ductile iron, gray iron and steel, remain the same as 2005, with the exception of the exclusion of Russia, which did not report data for the 2006 census.

