



WECC Global PCB Production Report For 2008

Published July 2009

A Product of the Partnership Among the WECC Member Associations
on Behalf of their Members in the Electronic Circuits Industry Worldwide



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WECC Global PCB Statistical Program

Development Team

The World Electronic Circuits Council (WECC) is a strategic partnership formed in 1998 by the major trade organizations serving member companies in the global electronic circuits industry. Its purpose is to increase the global influence and effectiveness of its member organizations for the benefit and improvement of the industry. The member associations cooperate on standards, market research, marketing, resource development, environmental issues, world trade and economic/political affairs.

The member organizations of WECC formed a working group in 2005 to pool their statistical resources and produce a global statistical report on printed circuit board (PCB) production for the benefit of their members. The WECC Global Statistics Working Group includes the following individuals and organizations:

- ◆ Kevin Yan, Vice President, China Printed Circuit Association (CPCA), kevin_yyh@cPCA.org.cn
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- ◆ Michelle Hung, Manager of Market Information Department, Taiwan Printed Circuit Association (TPCA), michelle@tpca.org.tw

Please contact the representative at your association with any questions about the report or suggestions for improving this program.

Availability

The *WECC Global PCB Production Reports* are available only from these participating associations to their members. The reports are not available for sale.

Methodology

The *WECC Global PCB Production Report* includes estimates of PCB production by country or region based on the data collected by the WECC organizations from their member PCB companies. The estimates in these reports may differ from estimates published by other sources due to differences in methodology. There is no hard data on worldwide PCB production, only estimates based on data collected from representative samples of the companies in the industry.

WECC has published its Global PCB Production Reports since 2005. The reports are published annually. For the sake of comparability, all of the estimates are reported in U.S. dollars. The values reported are nominal, and are not adjusted for inflation or for fluctuations in exchange rates.

Year-on-year growth rates, however, have been adjusted for currency fluctuations, due to the significant decline in the value of U.S. dollars. A table of average exchange rates for the period is included as an appendix to each report.

Confidentiality Policy

It is the WECC organizations' policy never to share any company-specific information with other associations (including the other WECC members) or with their member companies. Only aggregate data are shared for the compilation of this report. In this way, WECC maintains complete confidentiality for all member companies.

Definitions

PCB production attributed to a country or region reflects the value of the PCBs produced there, regardless of where the companies are headquartered, and should not be confused with the PCB market (i.e., where PCBs are sold).

Flexible circuit values reflect bare circuits only. Many flexible circuit producers also offer assembly and other value-added services. Because these producers sell assembled or partially assembled boards, it can be difficult for them to separate the value of the bare circuits from total sales. Based on estimates from these producers, the data shown in this report are estimates of bare board value only, not including other services or components.

Estimates of 2008 PCB Production Value

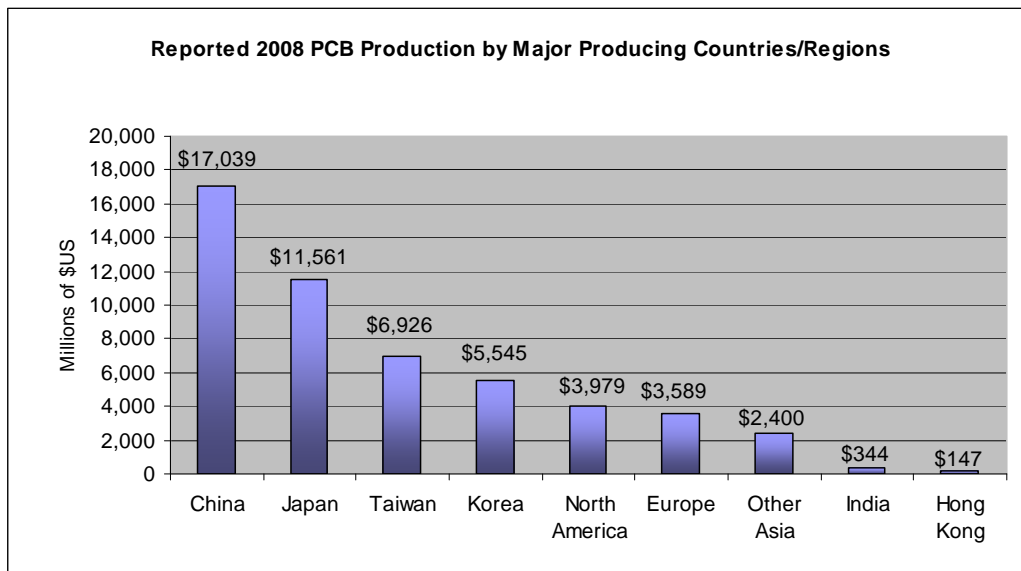
The member associations collected production data from companies producing PCBs in their countries or regions. Every effort was made to eliminate duplication between the associations' survey samples. For flexible circuits, the value of assembly and other services was deducted to estimate the value of bare circuits. These data were then extrapolated to arrive at estimates of total PCB production by country or region and by product category. The countries and regions included in this analysis produce nearly all of the world's PCBs, based on value.

Estimates of Total 2008 PCB Production in the World's Major Producing Areas (in millions of U.S. dollars)

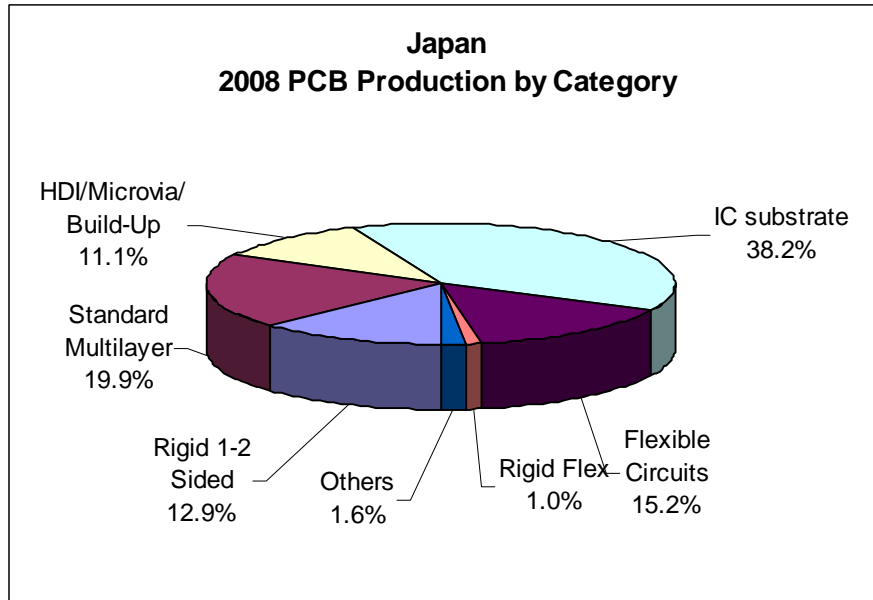
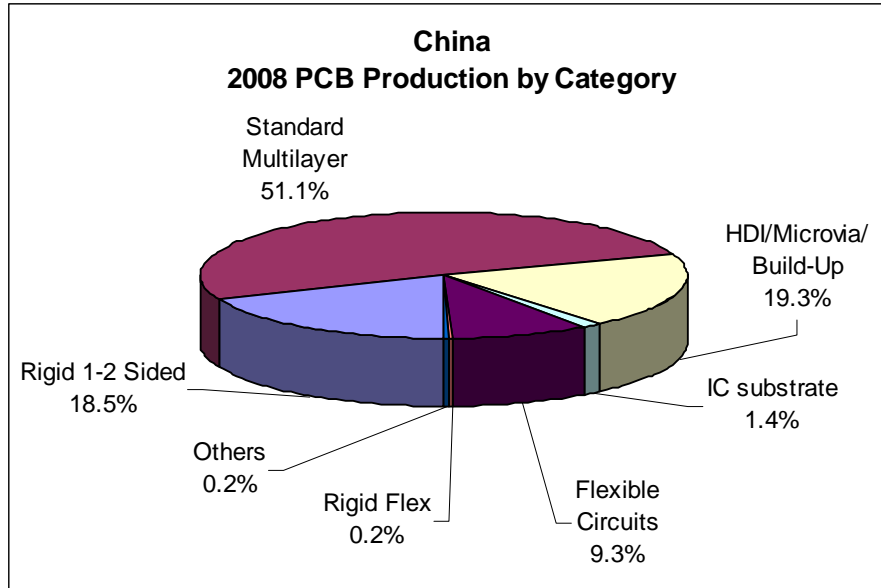
| | Rigid 1-2 Sided | Standard Multilayer | HDI/ Microvia/ Build-Up | IC Substrate | Flexible Circuits | Rigid Flex | Others | Total Estimated Production Value |
|---|-----------------|---------------------|-------------------------|--------------|-------------------|------------|--------|----------------------------------|
| China | \$ 3,149 | \$ 8,706 | \$ 3,290 | \$ 235 | \$ 1,587 | \$ 38 | \$ 33 | \$ 17,039 |
| Hong Kong | \$ 2 | \$ 105 | \$ 17 | \$ 23 | \$ 2 | \$ - | \$ - | \$ 147 |
| India | \$ 227 | \$ 66 | \$ - | \$ - | \$ 9 | \$ - | \$ 42 | \$ 344 |
| Japan | \$ 1,497 | \$ 2,306 | \$ 1,284 | \$ 4,414 | \$ 1,752 | \$ 120 | \$ 187 | \$ 11,561 |
| Korea | \$ 554 | \$ 1,199 | \$ 1,058 | \$ 1,410 | \$ 970 | \$ 354 | \$ - | \$ 5,545 |
| Taiwan | \$ 501 | \$ 2,025 | \$ 1,250 | \$ 2,316 | \$ 730 | \$ 104 | \$ - | \$ 6,926 |
| Other Asia* | \$ 369 | \$ 48 | \$ 143 | \$ 414 | \$ 1,317 | \$ - | \$ 109 | \$ 2,400 |
| Europe | \$ 1,083 | \$ 1,587 | \$ 374 | \$ 42 | \$ 197 | \$ 212 | \$ 95 | \$ 3,589 |
| North America | \$ 373 | \$ 2,570 | \$ 714 | \$ 71 | \$ 144 | \$ 107 | \$ - | \$ 3,979 |
| Total Production of Major PCB-Producing Countries/Regions | \$ 7,755 | \$ 18,611 | \$ 8,130 | \$ 8,925 | \$ 6,707 | \$ 936 | \$ 466 | \$ 51,530 |

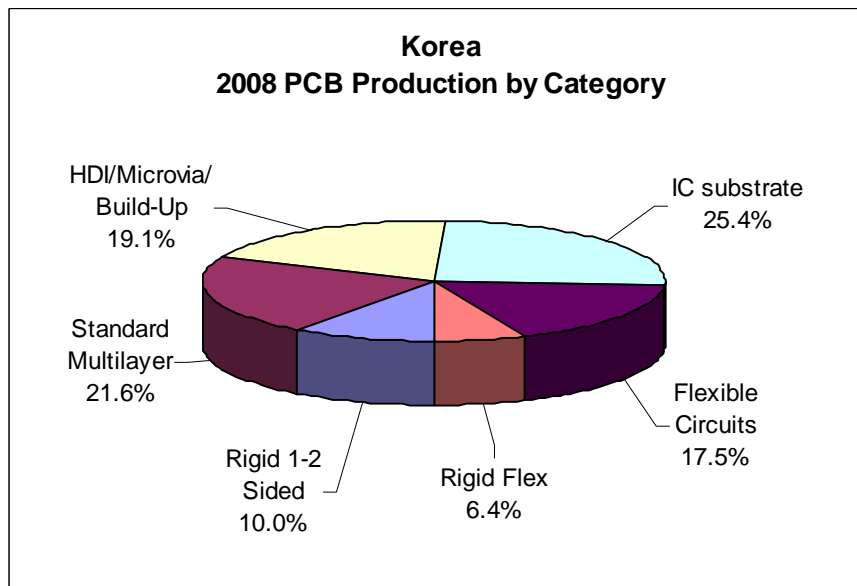
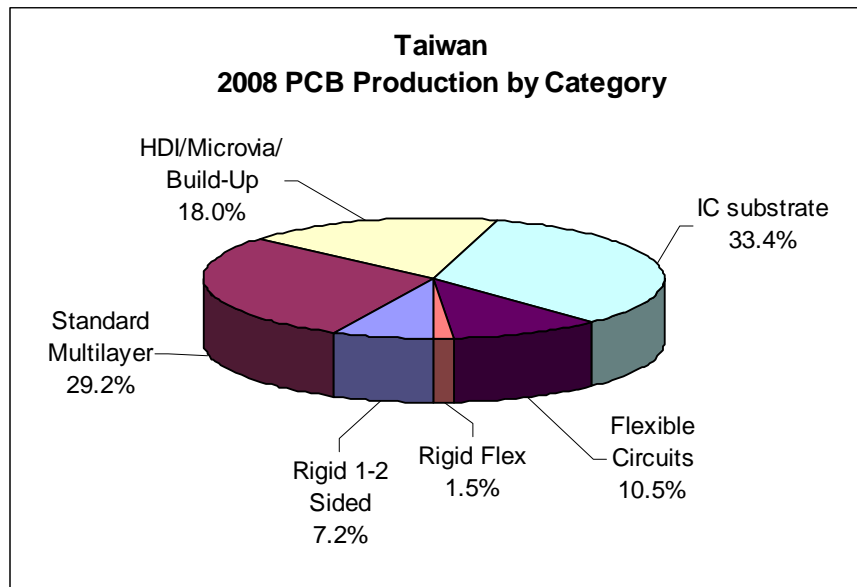
Notes:

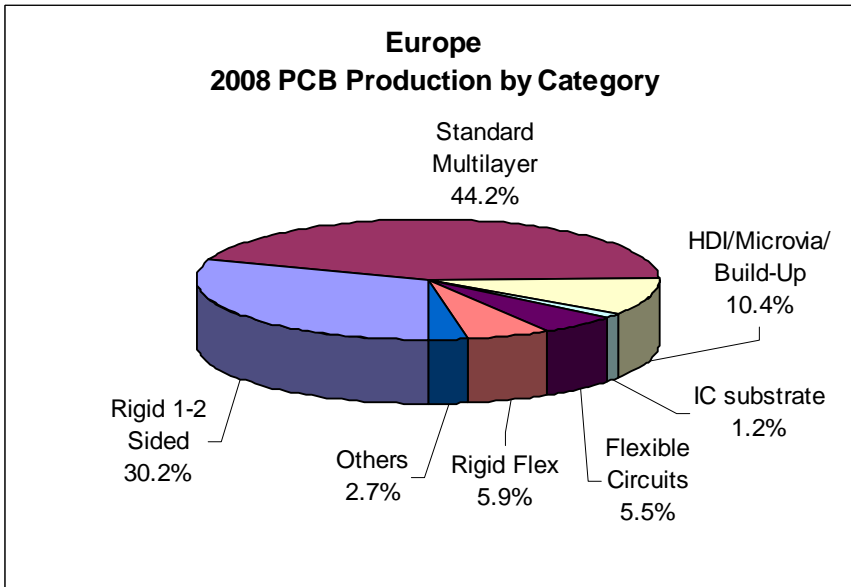
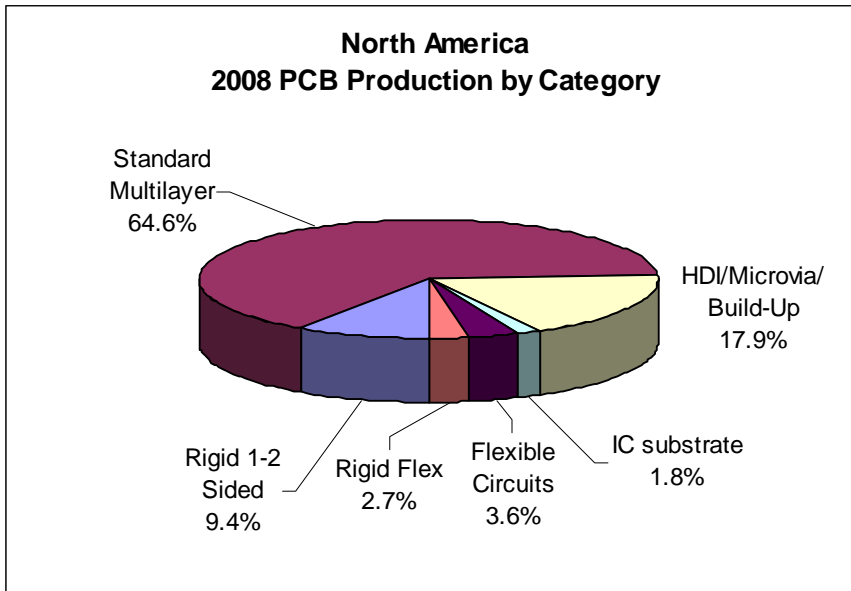
1. Flexible circuit and rigid flex estimates represent bare circuits only, not including assembly or other value-added services
2. Other Asia includes Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam.
3. The revenue estimates in this report are nominal and have not been adjusted for inflation or exchange rate fluctuations. Please see the appendix on exchange rates to determine the impact on amounts in specific currencies.
4. Totals may vary slightly from the sums of the numbers in the table due to rounding.

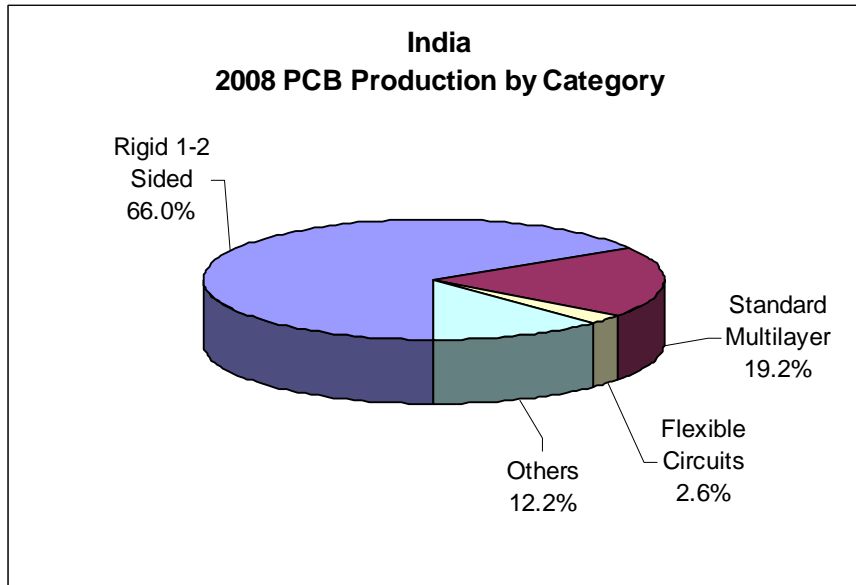
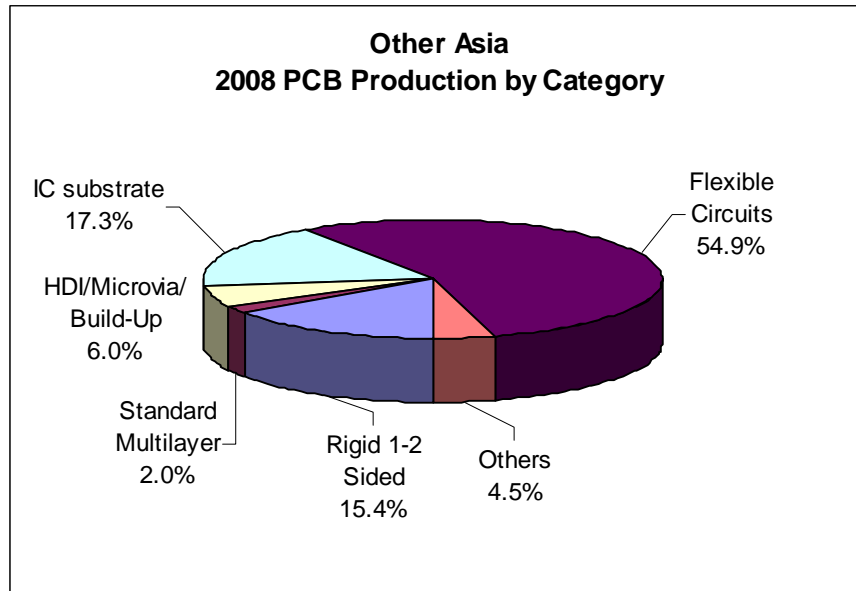


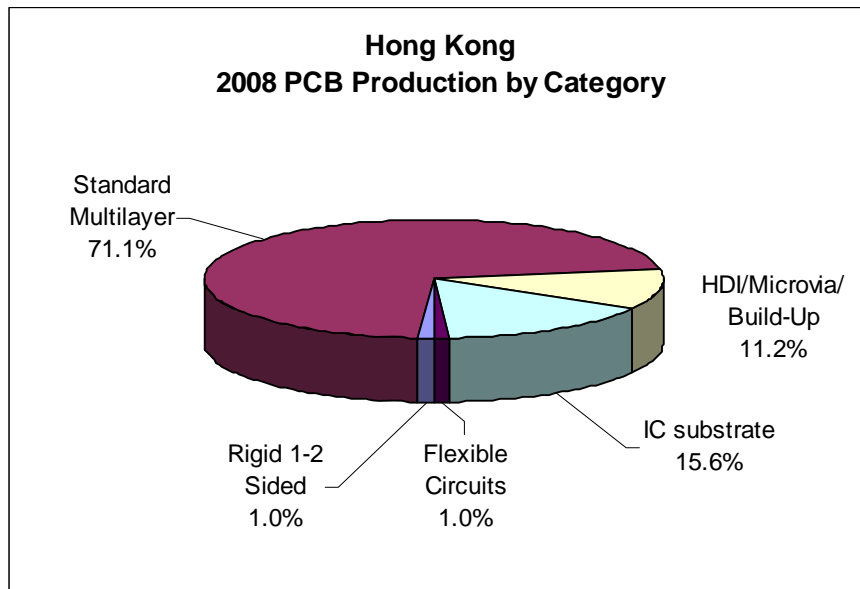
**Profiles of Major PCB Producing Countries/Regions
by Product Category**





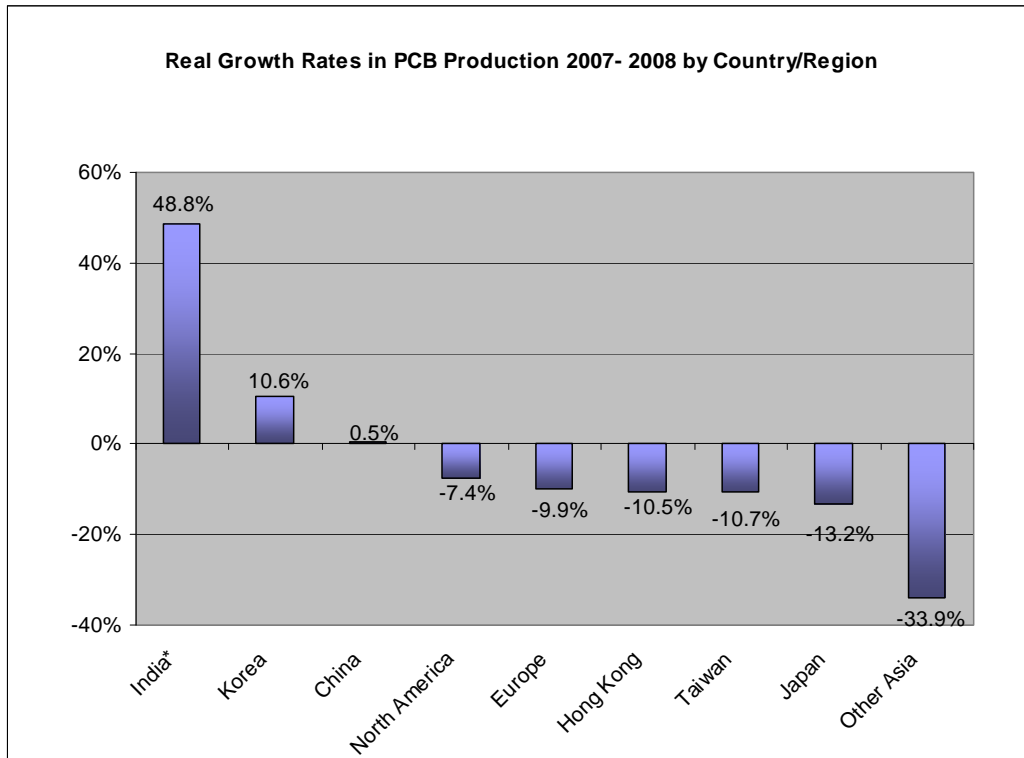






Industry Growth

Based on a comparison of the 2007 and 2008 estimates from the WECC PCB production surveys, and adjusting to factor out the effects of exchange rate fluctuations, the PCB industry worldwide decreased 6.6 percent from 2007 to 2008.



Notes:

1. The growth rates shown in the graph above are based on data in 2007 constant dollars in which exchange rate fluctuations were factored out.
2. The growth rate for India may not be an accurate reflection of actual PCB production growth from 2007 to 2008 because two different sources were used for the data collected in the two years. The estimates for 2007 were based on a consensus of industry experts on IPC's World PCB Consensus Committee. The 2008 data was provided by the Indian Printed Circuit Association (IPCA) based on surveys of its members.

Appendix: Average Exchange Rates for 2008

| | | 2007 Average Exchange Rate (=1.00 USD) | 2008 Average Exchange Rate (=1.00 USD) | Currency (ISO Code) | % Change |
|---------------------|----------------|---|---|--------------------------------|-----------------|
| ASIA/PACIFIC | Australia | 1.20 | 1.20 | AUD | 0.1% |
| | China | 7.62 | 6.96 | CNY | -8.6% |
| | Hong Kong | 7.80 | 7.79 | HKD | -0.2% |
| | India | 41.36 | 43.81 | INR | 5.9% |
| | Indonesia | 9138.50 | 9684.89 | IDR | 6.0% |
| | Japan | 117.81 | 103.47 | JPY | -12.2% |
| | Malaysia | 3.45 | 3.34 | MYR | -3.1% |
| | New Zealand | 1.36 | 1.43 | NZK | 4.7% |
| | North Korea | 140.00 | 140.00 | KPW | 0.0% |
| | Pakistan | 60.82 | 70.80 | PKR | 16.4% |
| | Philippines | 46.21 | 44.57 | PHP | -3.6% |
| | Singapore | 1.51 | 1.42 | SGD | -6.1% |
| | South Korea | 935.27 | 1102.84 | KRW | 17.9% |
| | Taiwan | 32.88 | 31.56 | TWD | -4.0% |
| | Thailand | 32.53 | 33.27 | THB | 2.3% |
| Vietnam | 16421.39 | 16708.34 | VND | 1.7% | |
| EUROPE | Austria | 0.73 | 0.68 | EUR | -6.5% |
| | Belgium | 0.73 | 0.68 | EUR | -6.5% |
| | Czech Republic | 20.33 | 17.10 | CZK | -15.9% |
| | Denmark | 5.44 | 5.10 | DKK | -6.4% |
| | Finland | 0.73 | 0.68 | EUR | -6.5% |
| | France | 0.73 | 0.68 | EUR | -6.5% |
| | Germany | 0.73 | 0.68 | EUR | -6.5% |
| | Hungary | 184.02 | 172.70 | HUF | -6.2% |
| | Ireland | 0.73 | 0.68 | EUR | -6.5% |
| | Italy | 0.73 | 0.68 | EUR | -6.5% |
| | Netherlands | 0.73 | 0.68 | EUR | -6.5% |
| | Norway | 5.86 | 5.65 | NOK | -3.7% |
| | Poland | 2.77 | 2.41 | PLN | -12.9% |
| | Portugal | 0.73 | 0.68 | EUR | -6.5% |
| | Russia | 25.58 | 24.87 | RUB | -2.8% |
| | Slovakia | 24.74 | 21.42 | SKK | -13.4% |
| | Spain | 0.73 | 0.68 | EUR | -6.5% |
| | Sweden | 6.76 | 6.59 | SEK | -2.5% |
| | Switzerland | 1.20 | 1.08 | CHF | -9.8% |
| | Turkey | 1.31 | 1.31 | TRY | -0.4% |
| United Kingdom | 0.50 | 0.54 | GBP | 9.0% | |
| THE AMERICAS | Canada | 1.07 | 1.07 | CAD | -0.7% |
| | Mexico | 10.94 | 11.17 | MXN | 2.1% |
| | USA | 1.00 | 1.00 | USD | 0.0% |

Source: www.oanda.com/convert/fxhistory