

Chips Ahoy: What the Experts Say

By Steve Mowry

Although only in the first quarter of 2005, Taiwan Semiconductor Manufacturing Company's (TSMC) chairman, Morris Chang, and several others have already lowered their growth forecasts for the semiconductor industry. By some accounts, 2004 was a banner year for the IC industry. The first half of 2004 was hot as vendors racked up record sales and profits. In total, the industry was expected to grow anywhere between 25 to 30% in 2004 over 2003, depending on the forecaster; while still others believed the industry was in the midst of a slowdown, if not a downturn. Following a strong and much needed upturn in the first half of 2004, the industry discovered the meaning of "inventory correction."

CHIP SURPLUS

Excess semiconductor inventories in the electronics supply chain declined to \$1 billion in the fourth quarter of 2004, down 38.3% from \$1.6 billion in the third quarter, according to an iSuppli Corp. report on January 27, 2005. iSuppli of El Segundo, Calif., previously forecast that excess inventories would decline more modestly to \$1.5 billion in the fourth quarter. "Thus, the larger decline in inventory came as an upside surprise," according to the research firm. "However, with the supply chain still having \$1 billion in excess chip inventories left and with semiconductor sales growth slowing in 2005, the surplus remains an issue of concern to the worldwide electronics industry," it said. Thus, iSuppli for now is maintaining the yellow alert it sounded in the third quarter of 2004 into 2005 regarding excess chip inventories.

These lingering excess chip inventories have forced semiconductor suppliers to cut their wafer starts and reassess their capital spending plans, according to the latest research from iSuppli Corp.'s Semiconductor Inventory Tracker service released in December 2004. iSuppli expects these current trends to continue into 2005. Utilization at the major silicon foundries is expected to plunge over the first two quarters of 2005.

iSuppli Corp. has also recently reduced its forecast for worldwide semiconductor revenue growth in 2005. Worldwide semiconductor sales are expected to hit \$237.1 billion in 2005, up 4.7% from \$226.6 billion in 2004, according to iSuppli, which previously had predicted 9.6% growth in semiconductor revenue in 2005.

In 2005, this dreaded inventory correction problem is expected to play a big role in the market. Future Horizons of Sevenoaks, England, projected that the IC industry will end up with 32% growth in 2004 over 2003. Future Horizons dropped hints it will shortly make a new forecast for 2005. Back in the summer of 2004, the research firm projected that the global semiconductor market will grow a further 28.0% in 2005 to \$282 billion.

"The downturn the industry is currently experiencing is an inventory correction that is likely to run its course over the next six months," noted Paul Leming, chief financial analyst with Princeton Tech Research. "Our belief that this downturn is an inventory correction and not something more serious is mainly driven by the fact that the industry saw shipments grow at more than three times the historic growth rate of 8.5% to 9% per year through much of late 2003 and early 2004," he said. "That level of strength is not sustainable and when it has occurred in the past, has consistently led to inventory cycles."

"The media wants to equate the current slowdown with the horrific downturn in 2001," said Wilfred Corrigan, chairman and CEO of LSI Logic Corp. The media looks at the current market and says, "My God, it looks like 2001," Corrigan said. "It's a rush to judgment by the media." Corrigan indicated that the IC inventory issues are somewhat exaggerated, although he did acknowledge that the chip market is in the midst of a lull. "It's a slowdown," he said. "I don't think it's a crisis."

Amid the ongoing IC inventory problem, many wonder whether the industry is in the midst of a slowdown or the beginning of a down cycle. Perhaps they are one and the same. "I don't think the inventory correction is a euphemism for a slowdown," said Intel Chief Executive Craig Barrett at a recent event hosted by the Semiconductor Industry Association (SIA). At the same event, another executive took a shot at the media and analyst community, saying that they were attempting to exaggerate the current slowdown.

SALES FORECASTS

The SIA recently released its annual forecast for 2004 to 2007, predicting sales to rise 28.5% to a record \$213.8 billion in 2004 but remain essentially flat in 2005, as the excess inventory problems many chip companies are now reporting make their impact felt. December 2004 is down 3.5% from the previous month's figure of \$19.02 billion, the SIA reported on January 31, 2005. The San Jose, Calif.-based US industry group predicted that sales would continue to decline in the first quarter of 2005, by 4 to 6% sequentially, and that overall 2005 would be flat with 2004.

The "actual" fourth quarter sales, at \$55.1 billion, declined by 0.8% from the immediate-prior quarter's sales of \$55.5 billion, the SIA

said. The December three-month average figure is roughly in-line with historical seasonality and December sales were 14.6% higher than in December 2003. December's sales also took the 2004 annual total to a record \$213 billion in 2004, a year-on-year increase of 28% from the \$166.4 billion recorded in 2003.

The SIA's Global Sales Report (GSR) is a three-month moving average of sales activity. The GSR is tabulated by the World Semiconductor Trade Statistics (WSTS) organization, which represents approximately 66 companies. The SIA puts its statistics out as moving three-month averages to reduce swings due to reporting effects from different companies. In month-on-month terms, sales in all the regions of the world fell slightly in December 2004. The Americas region fell most, by 6.2% to \$3.24 billion. Asia-Pacific fell by 3.6% to \$7.75 billion. Japan's market was \$3.86 billion, down 2.2%, and Europe's market was \$3.53 billion, down 2.1%.

"Fears that high gasoline prices would seriously damp sales of consumer electronics during the holiday season did not materialize," said George Scalise, president of the SIA. The World Semiconductor Trade Statistics (WSTS) data collection group has cut its forecast for global chip market growth in 2005 to 1.2%. Lackluster growth of 1.2% replaces a previous prediction of 8.5% and is to be followed by 3.0% annual growth in 2006 and 11.4% annual growth in 2007.

Global chip sales grew by 36.5% year-on-year during the first half of 2004 compared to 21% in the second half. "By any standard, the 21% year-on-year growth in the second half of 2004 was very robust, but did not match the extremely strong first-half growth rate," George Scalise continued. "We expect that global sales will decline by 4 to 6% sequentially in the current quarter in part due to continuing efforts by the entire supply chain to reduce excess inventories and a very

competitive market environment. A seasonal decline in consumer spending patterns in the first quarter also contributes to our forecast of a modest decline. We believe factory utilization rates will continue to decline modestly in the first quarter of 2005. Our outlook for the year as a whole continues to project essentially flat sales at the record level of 2004," Scalise concluded.

Index Indicator

Jim Feldhan, president of the Phoenix-based Semico Research Corp., said that the semiconductor industry would grow by a healthy 31.5% in 2004, but the market is projected to decline 5.5% in 2005. Semico Research Corp.'s Inflection Point Indicator (IPI) showed a dramatic dip in November 2004. The indicator points to an increased risk of weakness in the third quarter of 2005, a delayed market recovery, and a possible reduced IC forecast for the year 2005. The IPI index was 14.23 in November 2004, down 5.8% from 15.12 in October. This was the largest percentage drop in over three years, when it fell 8% in August 2001, according to Semico.

The IPI is designed to forecast the semiconductor market 8-9 months in advance, Semico said. The current index is a predictor of the market conditions for the July/August 2005 timeframe. "The significant drop in the IPI brings to question the length and depth of the 2005 downturn," according to Semico. "With this latest reading, it now appears that 3Q 2005 will be weaker than originally expected.

"This would indicate a delayed market recovery, pushing the start of the recovery out one quarter, from 3Q 2005 to 4Q 2005." The Semico IPI peaked in March 2004 at 15.83. With the exception of July, the IPI has been on a steady decline. "If this trend continues, our overall 2005 revenue forecast of -4.7% may be too optimistic," according to Semico.

In 2004, the firm projected that 2004 would finish with a respectable revenue growth of 28.9%, with revenues topping \$214.6 billion. The firm reiterated that the market faces an overcapacity situation in 2005.

There also appears to be some inventory remaining in the channel. The economy and an overcapacity situation will curtail the IC growth in 2005. "Continued decline in hardware sales and a sharp weakness in the PCB industry have impacted the semiconductor industry," Semico said. "Notably, in November 2004, the North American PCB book-to-bill ratio, which includes both rigid PCB and flexible circuits, was 0.96. This was the first month it has been below 1.00 since April 2003."

OTHER ESTIMATES

Bill McClean, president of market research firm IC Insights Inc. of Scottsdale, Ariz., predicted that the worldwide semiconductor business would peak and grow 27% in 2004 over 2003. In 2005, McClean projects that the IC industry will move into a downturn mode and show a 5% decline.

G. Dan Hutcheson, president of VLSI Research of Santa Clara, Calif., is sticking to his earlier forecast of positive 8% growth for the semiconductor industry in 2005 over 2004. In 2004, the IC industry was projected to grow by 30%, according to the research firm.

Handelsbanken Capital Markets has reduced its estimate of world chip market growth in 2005 from 7% to 2% growth, citing a spate of profit warnings in recent weeks. Handelsbanken, a business unit of Svenska Handelsbanken AB based in Stockholm, Sweden, also predicted that worldwide chip sales for Dec. 2004 would be reported as up 12.1% year-on-year to \$19.22 billion, but that the three-month average of Oct., Nov., and Dec. 2004 would drop to \$18.3 billion from \$19.0 billion in November. "Telecom chips have slowed down and pricing pressure on

memory chips has been greater than expected. PCs seem to be the main area of strength," the analyst said in a briefing document sent to clients on January 25, 2005.

PHILIPS

The consumer electronics giant, Koninklijke Philips Electronics NV, reported both sales and profits were down in the fourth quarter of 2004 compared with a year before. The outlook for the first quarter of 2005 is for further sequential falls in sales and the company said it has begun taking measures to reduce the cost base in Europe. Gerard Kleisterlee, Philips' president and chief executive officer, said he was "not happy" with the financial performance of the chip unit, according to a *Bloomberg* report. Overall Philips' recorded net income of (Eu)498 million (about \$650 million) in the fourth quarter of 2004, compared with net income of (Eu)598 million (about \$780 million) in the same period in 2003, the company said on January 27, 2005. Sales amounted to (Eu)9,179 million (about \$12.0 billion), an increase of 2% over the same period of 2003.

The weaker US dollar and dollar-related currencies had a downward effect of 4% and comparable sales increased by 6%. Semiconductor sales in Q4 2004 were (Eu)1,354 million (about \$1.77 billion), down 9.5% from (Eu)1,496 million (about \$1.95 billion) in the same quarter a year before, mainly due to lower sales of mobile display systems, which are included in Philips' chip business. The chip business unit was still able to make a contribution to the company's profit of (Eu)46 million (about \$60 million), although this was about one quarter of the contribution of (Eu)166 million (about \$216 million) made a year before.

The fourth quarter has proven softer than the preceeding three quarters for most chip companies, but nearly all have managed to turn in year-on-year increase. Philips said the outlook for Q1 2005 semiconductor sales was for a high single-digit percentage decrease excluding mobile display systems. With mobile display system sales included, Philips forecast a double-digit sequential percentage decrease.

What are the hottest and coldest chip market projections for 2005? According to the SIA, optoelectronics and digital signal processors (DSPs) are projected to show the strongest growth in 2005, while analog, microprocessors, and microcontrollers are expected to be flat. DRAMs, flash memories, and discrete components are projected to go into negative numbers in 2005. Asia is expected to be one of the few bright spots for the semiconductor industry in 2005, according to the SIA. The Asia-Pacific chip market is projected to grow the fastest in a down year in 2005, followed by Japan, Europe, and then North America.