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NAND: History's fastest-growing IC market

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SAN JOSE, Calif. — The NAND flash-memory business is on track to become the fastest-growing semiconductor sector in history despite a "phenomenal first-quarter price collapse," according to Semico Research Corp.

In fact, the NAND market is projected to break all revenue records in 2006. Even though NAND prices fell by over 50 percent in the first quarter, the market's growth will allow it not only to meet 2005's stunning \$11 billion in sales, but it will support a full 44 percent growth to record-breaking revenues of over \$16 billion this year, according to Semico (Phoenix).

"Although many have used the Q1 price fall as an excuse to trim their forecasts to relatively modest growth rates, our data shows that the balance of 2006 will experience very strong growth," said Jim Handy, an analyst with Semico, in a statement.

"This growth will not only allow NAND to overcome the first-quarter setback, but will turbo-boost the market to higher sales than ever before," he said.

It, however, appears that the NAND price erosion has extended into the summer months. For the period from July 21 to July 28, spot prices for NAND flash-memories fell for the seventh consecutive week "and showed the steepest price decline during the previous seven weeks," according to [Gartner Inc.](#)

On the other hand, Gartner also sees NAND shortages in the fourth quarter, which is the high buying season for MP3 players, cellular phones and other products that use flash.

Rival research firm Semico added that the NAND market has enormous price elasticity: As prices drop, more new applications adopt the technology.

"This not only affects existing suppliers, Samsung, Toshiba, SanDisk, Renesas, and Msystems, but also the emerging suppliers: companies like Hynix, STMicroelectronics, Micron Technology, and Qimonda," Handy added.

[Indeed](#), citing price pressures in the NAND flash-memory market, Toshiba Corp. (Tokyo) on Monday (July 31) posted an operating profit of 20 billion yen (\$174.5 million) within its semiconductor unit in its first fiscal quarter, up 5.2 percent from the like period a year ago but down 25.4 percent from the previous period.

However, in its second fiscal quarter, Toshiba projects that its chip unit will more than double and

realize an operating profit of 56 billion yen (\$488.7 million).

[But as reported, the](#) NAND flash-memory market is exploding, but there's trouble looming in the sector: test costs are soaring out of control and escalating by up to 70 percent per chip density.

"It's a huge growth market," said Stefan Zschiegner, vice president of marketing for probe-card maker FormFactor Inc. (Livermore, Calif.), in a recent interview. "We feel like we're reducing the cost of test."

Last month, FormFactor unveiled its Harmony OneTouch probe card for 300-mm flash memory production. With the Harmony OneTouch product, FormFactor said it "tackles test cell utilization from a total system approach — addressing issues that impact not only the probe card but also the prober and tester — to enable flash manufacturers to achieve optimal productivity from one-touchdown 300-mm probing."