

NAND Growth Continues to Set Records, Says Semico

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Semico Research Corp. - November 22, 2005

The NAND market is growing faster than any market in the history of the semiconductor market, according to Semico, a semiconductor industry analyst company. Semico's latest NAND forecast puts NAND megabytes growth at about 230 percent this year, driving revenues to jump 42 percent despite a price collapse that started in the second quarter.

Semico has modified its near-term growth projections, increasing its 2006 forecast from \$11 billion to \$13 billion, or a 25% jump over 2005's revenues of \$10.2 billion.

What's driving all this growth? A lot of NAND's upside demand comes from unexpected new applications. Digital cameras, camera phones, and USB flash drives, the key market drivers to date, are being joined by new demand starting from the MP3 player market, largely through Apple's introduction of two flash-based members of their iPod family this year: the iPod shuffle and the iPod nano. The resulting growth has taxed manufacturers' ability to match supply with demand, causing sudden unexpected shortages.

"One thing is clear about the NAND market," said Jim Handy, Director of Nonvolatile Memory Services at Semico Research Corp., "It's hard to over-forecast! Suppliers who ramped their capacity aggressively early in the year are finding that they need to add still more to even start to satisfy demand."

NAND makers have been forced to devise some clever tricks to stay ahead of demand, or even to match its growth. Samsung is not only migrating the technology across process nodes faster than any of their other technologies, but they are also converting numerous DRAM fabs to NAND and running the technology on two of their new 300mm lines. Toshiba and SanDisk, through their Flash Vision joint venture are investing heavily to open a new mega-fab in Japan ahead of an already-aggressive schedule on top of rapid process shrinks and a prior conversion to MLC which practically doubled their effective capacity. Hynix is ramping faster than any others from zero NAND shipments early last year to becoming the third largest supplier in Q3. Even smaller suppliers like Renesas, M-systems, STMicroelectronics, Micron Technology, and Infineon are looking for ways to ramp quickly.

Handy adds: "Major NAND users, OEMs like Lexar Media, Kingston, Viking Technologies; camera companies, like Nikon, Olympus, Kodak, Canon, & Fuji Film; MP3 Player companies like Apple, Creative, and Sony, and some of their suppliers like SigmaTel and Silicon Motion, are faced with supply constraints that are forcing prices up and causing demand to be tight."

About the market research report

Semico's forecast is built upon a model that compares end-application demand using the Semico MAP model to production capacity from Semico's exhaustive fab database. This is layered upon pricing models extracted from historical market behavior, and is continually tested against WSTS history and Semico's Inflection Point Indicator. Semico's quarterly 2003 flash forecasts hovered within 4% of actual 2003 revenues, and in 2004, a year marked by a 65% NAND price collapse, Semico's flash forecast remained within 13% of the actual over the course of the year. Contact the analyst firm for more information on the report , "Making NAND? Step Hard on the Gas: Third Quarter 2005 Pricing & Forecast" (NV106-05).

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