

Infineon's memory strategy: invest during downturn

By George Leopold , EE Times

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RICHMOND, Va. — Executives of Infineon Technologies' North America operations said its plan to ramp up a new 300-mm fab here is part of a simple strategy: bigger wafers, smaller die size, maximum capacity utilization and continuing investment in its memory technology during a downturn.

With widespread predictions of flat to middling semiconductor growth in 2005, some industry observers questioned why Infineon is investing another \$1 billion now to add a 300-mm line at its fab near here. Critics wonder if the world's fourth-largest chip maker will be able to utilize the added capacity in what is expected to be slow year.

Others analysts disagree, noting that successful chip makers continue to invest in new capacity during downturns to be ready when demand picks up. Infineon is "putting itself into a position to be a long-range winner," said Sherry Garber, senior vice president of Semico Research Corp. (Phoenix).

The strategic move could position Infineon to meet growing demand for memory that Semico and other market researchers are forecasting for the fourth quarter of this year. Fueling demand could be the build out of 3G wireless infrastructure and low-cost digital TV receivers, Garber said.

Infineon managers acknowledged during a fab tour this week that some may think it a "crazy idea" to invest now in a new 300-mm facility. Infineon is also ramping up 300-mm production at another fab in Dresden, Germany.

Robert LeFort, president of Infineon Technologies North America Corp. (San Jose, Calif.) defended the 300-mm expansion plan as part of Infineon's strategy to continue investing in its technology. "We are on the right track," LeFort said. "We continue to invest in our technologies, and [will seek] to grow faster than the market" in 2005.

Infineon has sunk about \$9 billion in DRAM technology and production over the last several years to achieve "critical mass" in the DRAM market. For example, the company estimates that a single tool cluster in its new 300-mm fab will cost as much as \$30 million. However, fab managers maintain that added automation will make the plant more efficient because they will be better able to spot bottlenecks and increase fab utilization.

Managing Director Henry Decker said Infineon expects to achieve a 30-percent savings in memory production by shifting from 200- to 300-mm production.

Infineon's adjacent 200- and 300-mm fabs here will focus on DRAM production, including 256-Mbit synchronous DRAMs, 256-Mbit DDR, DDR2 and "specialty DRAM products" such as mobile and graphics RAM. It will also squeeze as much production out of its trench technology as possible before looking at other DRAM technologies, Decker said.

The company is also investing in flash memory. It recently bought out a joint venture partner, the Israeli flash specialist Saifun, and will use the new unit to develop data and code flash products, said Bernd Lienhard, Infineon's vice president of memory products. Infineon expects to convert its flash production to 110-nm process technology by midyear, Lienhard added.

While pushing memory technology, LeFort said Infineon is also looking to high-volume consumer markets as a way to spread its risk. For example, Infineon is using lower-density designs to train

engineers at its design center in Xian, China. Garber, the semiconductor analyst, said these older DRAM designs could eventually show up soon in low-cost digital TV receivers expected to flood the U.S. market.

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