



OBJECTIVE ANALYSIS

Semiconductor Market Research

OBJECTIVE ANALYSIS ALERT!

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MICRON TO BUY OUT QIMONDA'S SHARE OF INOTERA

On Sunday, October 12, Qimonda and Micron announced an agreement under which Qimonda will sell its 35.6% stake in the Inotera manufacturing JV to Micron for \$400 million in cash, \$200 million paid within the next week with the balance due upon closing, which is expected in November.

Inotera was formed in early 2003 as a manufacturing joint venture between Nanya and Qimonda. The company operates two 300mm DRAM wafer fabs with a combined capacity of approximately 120,000 wafer starts per month. Half of this capacity goes to either partner, a term that will remain in place after the change in ownership.

Micron and Nanya will abandon their MeiYa joint venture under which a Nanya 200mm fab was to be converted to 300mm commencing production next year.

Micron – A Shrewd Mover in Tough Times

Micron is once again doing its part to consolidate the DRAM market. The company has a successful track record of acquiring struggling competitors' manufacturing capacity when the market is depressed. This is a strategy that has worked well for Micron to date, and will give them some much-needed 300mm capacity.

We remind our audience that manufacturing costs in a 300mm plant are about 30% lower than they are for the same process running in a 200mm plant. With today's DRAMs selling at or below cost, all competitors need to shed themselves of their 200mm capacity as soon as they can.

This announcement comes only three days after Micron announced the closing of their 200mm facilities in Boise. While other companies are converting plants from 200mm to 300mm, Micron is taking the approach of closing 200mm capacity and purchasing 300mm capacity at bargain-basement prices, and this deal is indeed a bargain! The \$400 million that Micron is paying for 60,000 wafer starts in Inotera's 300mm line is significantly less expensive than the \$550 million the company had planned to invest in the MeiYa JV for an output we estimate to be roughly half that size.

Nanya – Planning for Tomorrow

Nanya will be playing the same role in with Micron the future that the company has played with Qimonda in the past: Nanya supplies capital and manufacturing competence in return for technology. With Qimonda the out put of Inotera was split 50/50 although Qimonda's ownership was only 35.6%. In MeiYa Nanya supplied a 200mm fab and half

of the \$1.1 billion capital outlay for 50% of the fab's output. Micron, in turn supplied 50% of the capital and their stacked-capacitor technology.

Nanya stated in their press release that "this will enhance Nanya's strengths to successfully compete in the global DRAM business." The company will be converting their process away from trench to stacked capacitor in the future. This protects them from concerns that trench technology has reached its scaling limits.

Death Knell for Trench?

Qimonda is the last company to continue to support a trench cell process for DRAM – all other DRAM makers use a stacked-capacitor approach. Trench technology, pioneered in the 1990s by IBM, Siemens, and Toshiba, has seen its support base shrink mainly through consolidations. Qimonda is the remnant of the DRAM manufacturing arms of the three trench pioneers. Nanya was the only other company supporting trench technology through its relationship with Qimonda, and in March Nanya signed an MOU with Micron to obtain rights to Micron's stacked-capacitor design.

Qimonda itself explained that their path to the 30nm process node would be through their buried wordline design, which harnesses aspects of both trench and stacked capacitor designs.

And What about Qimonda?

This transaction brings some much-needed cash to Qimonda. The company has been suffering significantly during the current protracted downturn. We believe this is the reason why the deal involves cash, rather than stock. In similar deals in the past Micron has been able to trade their depressed equity for a share of an unprofitable business. Over the longer term Micron typically will turn the unprofitable business around, and their stock price improves, giving both buyer and seller a tidy return.

In this case it appears that Qimonda's need was too pressing to wait a year or two for Micron's stock to rise. This forced Micron to find a source for \$285 million in term loan financing to be able to close the deal. In today's market that cannot have been easy.

Qimonda's share of Inotera's capacity will be ramped down over the eight months following the closing, allowing Qimonda to support their existing customer base until they can qualify alternative devices.

Looking Back/Looking Forward

In our March 4 Alert *Micron/Nanya MOU – Qimonda's Bane or Boon?* we detailed the memorandum of understanding through which Micron licensed Nanya their stacked-capacitor DRAM technology. In our Alert we said: "It is less clear why Micron would be

interested in such a deal.” It becomes clear now. This was one small step toward a very significant Micron/Nanya partnership.

We will continue to watch these companies, and will alert our clients should any important changes transpire.

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