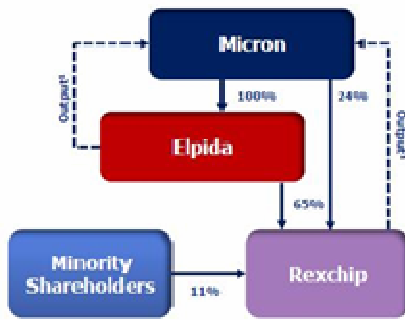


Micron to Acquire Elpida and Majority Share of RexChip



OBJECTIVE ANALYSIS SEMICONDUCTOR MARKET RESEARCH



To Become "Leading Pure-Play Memory Manufacturer"

In a move that Micron says will make it the "Leading Pure-Play Memory Manufacturer" Micron Technology on 12 July 2012 announced not only that it will be acquiring Elpida, which has been anticipated, but also that the company will assume a majority ownership of Rexchip in Taiwan. Micron will assume 100% ownership of Elpida including Elpida's 65% ownership of Rexchip, plus an additional 24% of Rexchip which Micron will acquire from Powerchip for roughly \$334 million. Micron stresses that the company will not compete with its customers, a statement that contrasts the company against Samsung, the memory market leader.

Micron will pay ¥200 billion (roughly \$2.4 billion) to Elpida's creditors - ¥60B in cash at close, and ¥140B in zero-interest installments of ¥20-30B every December from 2014 to 2019, funded from cash flows from Micron's foundry payments to Elpida. Furthermore Micron will support capital spending of up to ¥40B through June 2013 and an additional ¥24B through June 2014.

Will This Stabilize Prices?

Many press and analysts assert that DRAM prices will stop their significant swings once the supplier base reaches some low number, saying that this will be the magic moment when an oligopoly is achieved and prices stabilize for good. Objective Analysis disagrees. There is no reason that a capital-intensive commodity that is supplied by more than one vendor should not undergo important price collapses any time there is an oversupply, since suppliers are highly motivated to run production capacity at its maximum output, and this forces them to lower prices to be able to find markets for overproduced chips.

In brief, prices will continue to behave as they always have, even when the market had 23 suppliers.

Micron Now Looms Large

According to Micron the company's new combined market share will be 21% of the memory market, placing the company significantly ahead of Hynix at 16% to vie for second place after Samsung, whose share is 34%. Micron gains additional manufacturing capacity as well as a key position in the Mobile DRAM business. Micron also points out that there will be broader sales coverage and strong technology synergies with the merged firm.

We fully expect Elpida's facilities to continue to produce DRAM, since Micron is aggressively ramping its NAND flash production capacity in its IMFS fab in Singapore.

Not only will Micron boost its share of PC DRAMs, but the company will also increase its mobile DRAM share to about one quarter of the market, which would be a few percentage points ahead of Hynix and about half of Samsung's share. We believe, also, that Elpida's DRAM process technology has much to offer Micron, and it will be interesting to see how they merge these two DRAM process roadmaps as we go forward.

Micron has not been efficient at converting past acquisitions to its own processes, so Objective Analysis will watch to see if the Elpida change is any different. Micron acquired Toshiba's DRAM plants in Manassas, VA in 2002, ultimately shutting down the 200mm Toshiba line and converted everything to Micron's own process on 300mm wafers before gaining traction. The later acquisition of Inotera from Qimonda in 2008 was plagued by low yields and output for an extended period that unfortunately coincided with an upturn in DRAMs, costing Micron perhaps \$500m in profits. Hopefully Micron can align the Micron and Elpida DRAM processes better than they have in the past with their last two corporate acquisitions.

A Good Outcome for Elpida

This at last brings closure to Elpida's long downfall, which Japan's government hoped to avert through a ¥140B bailout in 2009. The company will continue with a fresh financial start and doubtlessly with several new faces in upper management, which may create an adjustment phase as Micron establishes its corporate culture over a company that has so far been purely Japanese.

Elpida's Creditors Accept Losses

The company's creditors will be absorbing significant losses. Of the ¥420B of debt Elpida had at the commencement of the bankruptcy proceedings, only ¥200B will be repaid. Of this ¥140B will be repaid over seven years at zero interest, although today's interest rates are low enough that this is not likely to be felt as a significant blow to these companies. The deal must have passed through negotiations since the creditors must approve this plan by the end of this year in order for it to become effective.

The End of Japan's DRAM Industry

In the late 1980s and early 1990s Japan led the DRAM market, and even the semiconductor market, largely because of Japanese manufacturers' aggressive penetration into DRAMs. Several DRAM makers have since either merged or exited the business, leaving Elpida as the last important Japanese DRAM provider. The company was formed by the 1999 spin-out of NEC's and Hitachi's DRAM businesses, and later assumed ownership of Mitsubishi's DRAM operations. The transfer of Elpida into foreign ownership removes any remaining participation in the technology the country used to build its semiconductor business.

While this is a huge “Moment of Truth” for Japan and Elpida, there is still a very large base of technical capability and intellectual property in Japan, for DRAM and memory design, and process development, which can reassert itself in the marketplace with the new “Micron” branding if Micron manages the merger in a positive way.

From a more down-to-earth perspective the majority of the jobs at Elpida will be preserved, which is far more beneficial to the local economy than the outright closure that Qimonda underwent. Assuming that the difficulty caused by the Yen's high value can be overcome, Elpida, as a division of Micron, should compete effectively in the market.

Impact on Other DRAM Makers

We anticipate few changes in the market from the viewpoint of Elpida's and Micron's competition. In such an acquisition the parent company usually manages ongoing production of existing products to support existing customers, converting new product introductions to those made by the parent firm.

As for the competitive landscape, it is moving slowly from many players to fewer players (as projected in the Objective Analysis Brief: [Why DRAM Vendors MUST Consolidate](#)) but the commodity nature of the market will continue as before, with no changes.

Although there is a lot of weakness in Taiwan at the moment, Powerchip will be in much better shape with the \$334 million it is receiving for the sale of its Rexchip shares.

Do DRAM Purchasers Need to Worry?

Elpida was always too big to go away the way that Qimonda did. The company, accounting for over 10% of the world's DRAM supply and over 15% of mobile SDRAM would have created a shortage overnight. We have always anticipated for Elpida to continue manufacturing DRAM in another form even though rumors swarmed that Toshiba or Micron would purchase it to manufacture NAND flash, or that Global Foundries would convert it to a foundry.

DRAM purchasers are now reassured of receiving the product that they need from a reliable supplier. As mentioned above, there is no reason to anticipate any changes in DRAM pricing as a result of this move, so buyers can continue to use the same purchasing strategies they have used in the past, although with one less supplier. Also, as mentioned above, production of Elpida's existing DRAMs is likely to continue uninterrupted until these products are replaced with new parts, which would have required a requalification whether they were sourced from Elpida or Micron.

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