Executive Summary

Taiwan Semiconductor Quarterly Report
First Quarter, 2012

INTRODUCTION

The US-Taiwan Business Council is committed to providing our members with tactical and strategic advice on how to succeed in the Taiwan market. As part of a suite of information products distributed to our members, the Council publishes several analysis reports each year. These reports are published each quarter, with an expanded report in the fourth quarter that covers the entire previous year.

The Taiwan Semiconductor Report focuses on the semiconductor industry as it relates to Taiwan, China, and the U.S., and provides up-to-date analysis of developments during each quarter. Each report also contains contact information valuable in initiating and maintaining a relationship with Taiwan private and government entities, as well as other useful information including trend charts and a glossary.

The US-Taiwan Business Council's Taiwan Semiconductor Report has been published since the first quarter of 2002. Although these reports are distributed exclusively to our member companies, interested U.S. and Taiwan government employees, and other close partner organizations, this executive summary provides some insight into the focus and contents of the report.

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TAIWAN QUARTERLY SEMICONDUCTOR ANALYSIS REPORT
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The first quarter of 2012 was a rough one for the global chip industry. Nowhere was this more starkly reflected than in Asia, as memory chipmakers in Taiwan and Japan continued to struggle. The bankruptcy filing by Japan's Elpida Memory, the biggest semiconductor-related event in Asia during the first quarter, could have been predicted by paying attention to the collapsing price of DRAM and the rising value of the Yen. In the end, the strong Japanese currency killed the company, as it made it too difficult to compete in an industry where margins are razor-thin.

Elpida's bankruptcy reverberated across Taiwan's chip industry. Not only is Elpida a major technology provider for Taiwan memory chipmakers, it also outsources chip manufacturing and assembly work to Taiwan companies and buys Taiwan-produced chip equipment. Now the big question is what happens next. Elpida needs new investors to emerge from bankruptcy, and the bidding war is underway. Considering the extensive ties already in place, Taiwan could be the perfect partner. However, the island stands to lose big if Abu Dhabi swoops in to claim the prize.

Unfortunately, Elpida's bankruptcy is not likely to be the last disaster out of Japan this year. The next crisis-in-the-making - the looming power shortages caused by the shutdown of Japan's entire nuclear power supply - could negatively affect the entire global technology industry.

Gripped by anti-nuclear fervor after the post-tsunami meltdown in Fukushima last year, Japan has now shut down 53 of its nuclear reactors. The last reactor will go offline on May 5, and then the country - which counted on these reactors for 30% of its power needs last year - will be nuclear-free. Yet there is no way to shut down rapidly a third of your national power supply without causing shortages. It might be possible to shut down plants over a longer period – similar to Germany's plans to phase out nuclear power by 2022 – but the quick change in Japan could lead to a crisis. Peak power usage looms in the hot summer months ahead, and Japanese utilities are warning of power shortages while local governments are preparing for possible rolling blackouts.

The area facing the worst potential shortages, an area where nuclear reactors met almost half of all power needs, is home to Osaka, Japan's third-largest city. It is also home to the world's second biggest NAND flash memory supplier, the Yokkaichi facility run by Toshiba Corp, and a third of the world's NAND flash memory chips come from this sprawling facility. Japan could avert disaster by simply turning some of the reactors back on, but nobody seems willing to step up to lead the way through this highly emotional issue.

On the brighter side, foundry chipmaker orders to Taiwan Semiconductor Manufacturing Co. (TSMC) have been strong enough for the company to warrant raising its capital spending, with similar increased capex plans from rival United Microelectronics (UMC). The two chipmakers also raised hiring estimates, another sign of good times for contract chip manufacturing. Strong demand for smartphones and tablets, as well as better than expected PC sales, has been good for both companies.

This report will open with an overview of the state of the Taiwan chip industry during the first quarter of 2012, including a discussion on the impact of the presidential election in Taiwan. The next section will examine Elpida's bankruptcy, reasons behind it, the impact it has had in Taiwan, Taipei's response, and how bidding for the company is shaping up so far. The possible impact of power shortages in Japan comes next, including an analysis of what areas face the worst possible shortages and which chip factories are located there. There are many potential problems looming for Taiwan and U.S. chipmakers due to the problems in Japan. But there are also opportunities, and the report will end with conclusions and recommendations for both government and business.

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