



Executive Summary

Taiwan Semiconductor Quarterly Report Third Quarter, 2010

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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 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 members and to U.S. government employees, this executive summary provides some insight into the focus and contents of the report.

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QUARTERLY SEMICONDUCTOR ANALYSIS
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Chip industry watchers have been predicting a downturn for chipmakers all year, and the slowdown finally caught up with the chip industry in the third quarter. Debt worries in Europe and America, fears of a slowdown in China, and other issues have finally caused consumers to pull back on electronics purchases, particularly on new personal computers. Since about a third of chips go into PCs, any slowdown in the sector can affect the entire chip industry.

During its third quarter investors' conference call, executives at U.S. chip giant Intel, a PC industry powerhouse, said that it saw a pullback in PC buying among consumers, but that businesses have increased their spending. While the increased spending by businesses did not bring Intel's revenue up to originally forecast levels, it was still better than expectations. One factor to watch in the fourth quarter is companies buying new computers, as they attempt to empty their budgetary coffers ahead of the new year. With the weak consumer market, more spending by businesses would be welcome.

Taiwan DRAM makers face the most severe consequences of a slowdown in PC sales. The companies have struggled to regain their footing after the 2009 downturn, in which some companies would have gone under without government aid. As DRAM prices continue to decline, these companies will suffer because due to their cash concerns they have been unable to keep up with the latest technology. Under-investment during the past two years means that they are technologically behind their South Korean and U.S. rivals, and it will be very difficult for them to catch up. Less advanced production technologies also means that their production costs are higher than for most rivals.

Even worse is that Samsung Electronics, the biggest DRAM maker in the world, has put into place a plan to grab a 50% share of the DRAM market - and it has the cash and clout to make that happen. Taiwan DRAM makers stand to lose the most in the upcoming market-share battles, and a severe DRAM price decline could finally put a few of them out of business. It appears that the Taiwan government prematurely concluded that its DRAM industry rescue plan was not needed – but they may have to revive the plan within the next several months.

One company that is spending a lot on new chip production equipment is powerhouse Taiwan Semiconductor Manufacturing Company (TSMC). TSMC is on pace for a record amount of capital spending this year, and is planning even more for next year as it moves to keep up with expensive new manufacturing technology - and as the company keeps an eye on new competitor GlobalFoundries. The latest TSMC capex spending announcements will likely prompt a response from GlobalFoundries and its benefactor, Advanced Technology Investment Company (ATIC, based in Abu Dhabi in the United Arab Emirates). Currently flush with cash, ATIC can afford to keep pace with TSMC's spending. But the question becomes, will Globalfoundries have enough orders to fill its production lines? The factory spending race begins with plenty of cash on each side, but there are continued questions over GlobalFoundries' performance as a contract chipmaker. The coming year should see it win more orders from former parent company Advanced Micro Devices (AMD), as AMD refreshes its chip lineup. But the contract chipmaker will have to prove that it can expand to include other lucrative clients.

The backdrop for everything going on in the chip industry is a world struggling to recover from the most significant economic event since the Great Depression. The collapse of the real estate bubble in the U.S. and Europe - and overall debt levels in all developed nations, including Japan - have signaled a new world order where developed nations now depend on emerging countries, including China and Russia, for cash to keep them going. The fortunes of the global chip industry will continue to reflect this economic reality, and for Taiwan companies this is both a constraint and an opportunity. A constraint because Taiwan is affected by the global chip industry, and because most Taiwan companies work with U.S. partners and their

fortunes are therefore tied to the global economy. The opportunity lies in the good fortune of Taiwan's proximity to China and its potential ability to take advantage of future growth there.

This report will begin with a general discussion on the state of the industry, moving on to an in-depth discussion on the outlook for Taiwan DRAM makers and contract chipmakers. We will also review the latest on Taiwan rules governing technology transfer to and investments in China, with yet another call for Taipei to keep up with current events and allow Taiwan companies to at least transfer the same technology that American companies are now allowed to use in China. The report will also take a special look at one company - Taiwan's top chip designer, MediaTek - that has taken full advantage of opportunities in China, but that may now be facing some obstacles going forward.

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