



## **Executive Summary**

# **Semiconductor Quarterly Report Fourth Quarter, 2010**

©2011 US-Taiwan Business Council

## **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 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.

For more information, please contact us directly at the below address, or visit us online at [www.us-taiwan.org](http://www.us-taiwan.org).

**US-Taiwan Business Council  
1700 North Moore Street, Suite 1703  
Arlington, Virginia 22209**

**Phone: (703) 465-2930  
Fax: (703) 465-2937  
Email: [Council@us-taiwan.org](mailto:Council@us-taiwan.org)**

**[www.us-taiwan.org](http://www.us-taiwan.org)**

**QUARTERLY SEMICONDUCTOR ANALYSIS  
PUBLISHED JANUARY 1, 2011**

The initially positive outlook for Taiwan's semiconductor industry in 2010 dimmed as global chip industry demand slowed during the second half, and as the strength of the world economic recovery waned.

During the first half of 2010, chip sales expanded at such a rapid pace that Taiwan Semiconductor Manufacturing Company (TSMC) Chairman Morris Chang said the company would revise upwards its global growth forecasts for technology end-markets during the year.

In the first quarter, TSMC raised its 2010 growth forecast for the personal computer market to 17% (from 14%), for the mobile phone market to 13% (from 12%) and for the global chip market to 22% (from 18%). However, the company kept its growth view for consumer electronics unchanged at 7%. Dr. Chang also forecast that the foundry business, which TSMC dominates, would outpace the global chip market with 36% growth in 2010.

By the second quarter of 2010, TSMC again raised its full-year chip growth forecast to 30% (from 22% in the first quarter). Market researcher iSuppli also raised its 2010 forecast, estimating 35.1% growth and total revenue for 2010 of US\$310.3 billion (NT\$9.37 trillion).

To tap expected gains in sales and profits, Taiwan chipmakers announced about US\$14.1 billion (NT\$425.82 billion) in total capital expenditure plans for 2010 - more than for any other country in the world. The biggest spender of the group, TSMC, said that it was simply trying to keep up with market demand. However, the company was also fending off new competition from deep-pocketed GlobalFoundries, which has become the world's third-largest chip foundry through its acquisition of Chartered Semiconductor of Singapore and chip plants from Advanced Micro Devices (AMD) of the U.S.

With ample funding from oil-rich Abu Dhabi, GlobalFoundries is getting close to overtaking Taiwan's United Microelectronics Corporation (UMC) - raising questions about UMC's ability to hang on to market share, to fund investments in new production technology, and to maintain long-term viability.

By the second quarter of 2010, Taiwan's Powerchip Semiconductor and other DRAM companies had reported three straight quarters of profits after years of losses. For some chipmakers, sales during the second quarter of 2010 more than doubled over the same period in 2009. The rebound in the market was an impetus for Samsung Electronics, the South Korean giant that dominates the DRAM industry, to announce a massive increase in capex spending.

The move sent DRAM prices down again on a renewed supply glut. Such a decline in prices has the greatest impact on Taiwan DRAM makers, which are the least profitable companies in the business owing to their small scale and lagging production technology.

During the last half of 2010, sales growth for the chip industry slowed again, raising concerns about yet another downturn. Slower sales and falling prices have hurt Taiwan's DRAM makers in particular, despite the strong rebound in prices and their return to profitability during the early part of 2010.

This report will begin with a discussion of the current state of the global chip market and its impact on Taiwan's semiconductor industry, followed by an analysis of the impact of the rise of GlobalFoundries on Taiwan's two flagship companies - TSMC and UMC. The report will explore the continuing difficulties of Taiwan's DRAM makers, and will then turn to Taiwan's regulations on technology and chip investment in China. Finally, the report will appraise MediaTek, Taiwan's largest chip-design company, and its competitive challenges through 2010 and into 2011.

## REPORT TABLE OF CONTENTS

### Table of Contents

Letter from the President .....	1
About the US-Taiwan Business Council .....	2
Semiconductor Analysis .....	3
Introduction .....	3
State of the Industry .....	4
<i>Snapshot of Foundry Competition</i> .....	4
<i>Potential Loser: UMC</i> .....	6
<i>Challenge of China's Chip Designers</i> .....	7
<i>Impact of ECFA on Taiwan Tech &amp; Chips</i> .....	8
Is Taiwan's DRAM Industry Back on the Brink? .....	8
<i>New Difficulties for Taiwan DRAM Makers</i> .....	9
Taiwan Slowly Eases Regulations on Tech Investments in China .....	13
<i>Regulations Relaxed for LCD Makers</i> .....	13
<i>Includes Looser Rules on Chip Investments in China</i> .....	14
MediaTek Loses Luster in 2010 .....	15
Conclusions & Recommendations .....	16
Glossary of Terms .....	19
Taiwan Government Contact Information .....	31
United States Government Contact Information .....	39
Suggestions of Sources for Taiwan Semiconductor Industry Information & News .....	45
Semiconductor Headlines - Fourth Quarter, 2010 .....	47
Appendix .....	53
Trend: PHLX Semiconductor Sector Index .....	53
Trend: The Taiwan Stock Index .....	54
Trend: US\$:NT\$ Exchange Rate .....	54