



## **Executive Summary**

# **Semiconductor Quarterly Report Annual Review, 2008**

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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 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).

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**SEMICONDUCTOR ANALYSIS  
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The worldwide economic downturn has become the preeminent issue facing the semiconductor industry, both globally and in Taiwan.

The low interest rate loans necessary to continue building factories and to continue R&D development have dried up, sales have slowed, and production lines across Taiwan are shutting down or slowing amid the downturn - not just for DRAM companies but also among the island's foundry chip giants. TSMC recently announced that its revenue will halve in the first quarter of 2009 compared to the fourth quarter of 2008, a sign of the speed and depth of the downturn.

Unfortunately, what's bad for TSMC is also bad for the U.S. chip industry. TSMC counts U.S. chip designers, including giants such as Qualcomm, Altera and Nvidia - as major customers. Any revenue decline for TSMC is a reflection of worsening business for those customers.

The Taiwan government has responded to the economic crisis by doing what other governments around the world have also proposed. It is seeking to help provide loans or other relief to the island's DRAM and LCD panel industries, as well as to other small and mid-sized businesses. It is seeking ways to aid banks, and has already dispersed shopping vouchers to citizens as a way to directly get consumers buying goods. Taipei opted for shopping vouchers that expire at a certain date as a way to force its citizens to spend them or lose them, thereby ensuring a direct stimulus to the economy.

But there is only so much the government can do to help. Many technology company executives in Taiwan have stated their belief that this downturn will last far longer than most people think - as long as five years according to some. Terry Gou, chairman of Hon Hai Precision Industry, has publicly stated that the downturn is actually three times worse than most people think. His company is the world's largest contract electronics manufacturer and makes the iPhone for Apple and the PlayStation 3 for Sony, as well as a large portion of the world's personal computers and other consumer electronics.

Any hit to these product categories is also a slap directly at the chip industry. Personal computers still account for around 40 percent of the world's chip consumption, while consumer electronics (particularly mobile phones) account for about a third. Although some have predicted a revival in the world economy some time later this year, others say that such a rebound is highly unlikely given the severity of the downturn and its impact on all walks of life, from banking to housing to consumer spending.

Nevertheless, there are some bright spots. The bankruptcy of at least one major DRAM vendor, Qimonda AG, is one more step toward what some feel is the inevitable process of consolidation in the DRAM market, and has left Taiwan DRAM makers relatively more competitive. The Qimonda bankruptcy has also provided an opportunity for the Taiwan government to step up and buy up a mountain of intellectual property.

This report will focus first on the state of Taiwan's semiconductor industry as of the end of 2008, based in large part on fourth quarter investors' conferences from TSMC and major DRAM makers on the island. DRAM will make up the centerpiece of the report, from the proposed government bailout funds, which appears to be stumbling ahead at too slow a pace to save some DRAM makers, to the potential for Taiwan to buy Qimonda's technology assets.

## REPORT TABLE OF CONTENTS

### Table of Contents

Letter from the President .....	1
About the Council .....	2
Semiconductor Analysis .....	3
Introduction .....	3
State of the Industry .....	4
<i>The New China Relationship</i> .....	4
<i>Other Opportunities</i> .....	5
The Taiwan Government Faces a Major Trial in the DRAM Sector .....	5
<i>Taiwan Answers the Call to Aid DRAM Makers</i> .....	7
German DRAM Maker Qimonda Files for Bankruptcy .....	8
<i>Restructuring in Taiwan's DRAM Industry</i> .....	8
<i>Taiwan or China May See Value in Bidding for Qimonda's Intellectual Property</i> ....	9
Looking Ahead .....	10
<i>Formal China Chip Regulations</i> .....	11
Conclusions .....	12
Glossary of Terms .....	13
Taiwan Government Contact Information .....	21
United States Government Contact Information .....	29
Suggestions of Sources for Taiwan Semiconductor Industry Information .....	35
Semiconductor Headlines: Fourth Quarter 2008 .....	37
Appendix .....	45
Trend: The Philadelphia Semiconductor Index .....	45
Trend: The Taiwan Stock Index .....	46
Trend: US\$:NT\$ Exchange Rate .....	46