

# Strained Silicon: Market Research Report

https://marketpublishers.com/r/S99ECE11F4FEN.html

Date: February 2010

Pages: 739

Price: US\$ 3,450.00 (Single User License)

ID: S99ECE11F4FEN

## **Abstracts**

This report analyzes the Global market for Strained Silicon in US\$ Million.

Annual forecasts are provided for the period 2006 through 2015.

The report profiles 66 companies including many key and niche players such as Advanced Micro Devices, Inc., Applied Materials, Inc., ASM International NV, Atmel Corporation, AmberWave Systems Corporation, Canon, Inc., CEVA, Inc., Chartered Semiconductor Manufacturing Ltd., Honeywell International, Inc., International Business Machines Corp., Isonics Corporation, Infineon Technologies, AG, Intel Corp., International Rectifier Corp., KLA Tencor Corporation, Maxim Integrated Products, Inc., MEMC Electronic Materials, Inc., Micron Technology Inc., Mitsubishi Materials Corporation, NEC Electronics Corporation, Oki Semiconductor Company Ltd., Peregrine Semiconductor Corp., Renesas Technology Corporation, Sandia National Laboratories, Soitec S. A., STMicroelectronics N.V., Shanghai Simgui Technology Co., Ltd, Shin-Etsu Handotai Co., Ltd., Silicon Genesis Corporation, Siltronic AG, Texas Instruments Incorporated, Toshiba Corporation, Taiwan Semiconductor Manufacturing Company Limited, United Microelectronic Corporation, and Vitesse Semiconductor Corporation.

Market data and analytics are derived from primary and secondary research.

Company profiles are mostly extracted from URL research and reported select online sources.



### **Contents**

#### I. INTRODUCTION, METHODOLOGY & PRODUCT DEFINITIONS

Study Reliability and Reporting Limitations
Disclaimers
Data Interpretation & Reporting Level
Quantitative Techniques & Analytics
Product Definitions and Scope of Study

#### **II. EXECUTIVE SUMMARY**

#### 1.INDUSTRY OVERVIEW

Introduction
Moving Beyond Silicon
Outlook

**Table 1.** World Recent Past, Current & Future Analysis for Strained Silicon - Independently Analyzed with Annual Sales Figures in US\$ Million for Years 2006 through 2015 (includes corresponding Graph/Chart)

**Understanding Semiconductors** 

The Heart of Any Electronic Device

Keeping Pace with Moore's Law

And Going Beyond...

Key Factors Influencing the Market

The Cyclical Growth Demand Within the Industry

Industry Keeping Pace with Gordon Moore's Predictions

**End-Market Demand Characteristics** 

Increasing Content Within the Semiconductor

**Environmental Factors** 

**Key Market Drivers** 

Technology Migration: A Pre-requisite to Survive Competition

New Materials hold the Key

Copper for Superior Electrical Conductivity

**Key Market Constraints** 

Growing Payback Periods on Invested Capital: A Prime Concern

Strained Silicon: Market Research Report



Lack of Standards Acts Spoilsport

Need for Greater Collaboration Among the Players

Technological Innovations

The 32-nm Generation Processor is Here

Target '22-nm Generation Microprocessors', by 2011

UMC Announces the Validation of High-K/Metal-Gate Technology

FEI Unveils the New TrueCrystal Package for Error-Free Strain Profiling

The Revolutionary Smart Cut™ Layer Transfer Technology From SOITEC

Smart Cut<sup>™</sup> in the Manufacturing of Strained Silicon on Insulator (sSOI)

NGS (Next-Generation Strain): A Technology Revolution By SiGen

New Process for Epitaxial Germanium Growth on Silicon Oxide

New Technique to Evaluate the Degree of Strain

**Technological Barriers** 

Faster Adaptation of holistic manufacturing practices: A Challenge

Controlling Threading Dislocation: A Major Barrier

Future Directions: The Shape of Things to Come

To Spearhead the Future Advances in Ultra High-Speed Computing

Put a Firm Check on Investment Requirements

Strained Silicon Technology To Spearhead the Future in High-Performance Devices

**Project DECISIF** 

Consolidation Gets Underway

Landmark Deals Announced or Completed by Companies Engaged in Strained Silicon and Semiconductor devices, During the Year 2007 & 2008

Competition Scenario

The Historical Intel-IBM Rivalry

Intel and AMD Battle it out in the 45-nm Processor Servers Market

SiGen: The Leader in Silicon-on-Insulator (SOI) Technology

#### 2.PRODUCT OVERVIEW

Strain Engineering: A Primer

Uni-Axial Strain and Bi-Axial Strain

Straining Methods

Strained Silicon Based Technologies

Strained Silicon-Germanium (sSiGe)

Hand in Hand with the Wireless Revolution

Simplified Manufacturing Process

Silicon on Insulator (SOI)/ Strained Silicon on Insulator (sSOI)

Strained Silicon-on-Insulator (sSOI): The New Industry Benchmark



SOI Technology Acts as a Complementary to Strained Silicon Technology SOI Tests China Waters Fabricating Methods of Strained Silicon Transistors Strained Silicon Multi-layer Structures

#### 3.PRODUCT & TECHNOLOGY LAUNCHES/ DEVELOPMENTS

Advantage of Strained Silicon Multi-layered structure Over Others

Maxim's Single-Conversion Silicon Tuner Replaces Canned Tuner for Hybrid Applications

IQE Expands Manufacturing Processes Portfolio

International Rectifier Launches DirectFET® MOSFET Chipset

Jazz Semiconductor Introduces SiGe BiCMOS Tech for Next-Generation Green Analog ICs

AWR and austriamicrosystems Launch Process Design Kit for SiGe BiCMOS Process Technology

StrataLight Develops Silicon Germanium (SiGe) Chipset for 100GbE Transponders Tokyo Instruments Develops Basic Technology for Non-Destructive Strain-Measuring Instrument

Silicon Genesis Unveils the First 20 mm Solar Cell Foils

Silicon Genesis Unveils the New PolyMax™ Process Technology

Fujitsu Unveils New Power-Saving CMOS Technology

UMC Announces the Launch of 65nm Customer Silicon, Using the Proprietary URAM Technology

Renesas Launches New Affordable Fabrication Technology

Renesas Unveils New Technology for SRAM Implementation in 45nm Generation Devices

Epson Commences Large-Scale Production of 0.7inch Full HD HTPS Panels Intel and UC Santa Barbara Develops the First Hybrid Silicon Laser

Maxim Integrated Products Launches DS1091L Silicon EconOscillator™

Oki Electric Creates Extremely Low Cost-Effective µBOSA Chips for FTTH Modules

Texas Instruments Launches SiGe Process Based Op-Amps

Sony, Toshiba and NEC Electronics Releases High Performance System LSI

Epson and JSR Pioneers Micro-Liquid Processes

SiGen Presents Single Crystal Silicon Film Transfer on Substrate

#### 4.STRATEGIC CORPORATE DEVELOPMENTS

Silicon Genesis Enters into Agreement with REC



Silicon Genesis and NorSun Enter into Agreement

Soitec Inaugurates New Fab Facility in Singapore

AMCC Enters into Strategic Alliance with Silicon Image

CopperGate Communication Acquires the HomePlug AV Business from Conexant

AMG Invest Acquires Stakes in Graphit Kropfmuhl

Globe Specialty Metals Acquires Stakes in Solsil

Intrinsiq Materials Takes Over pSiNutria from pSiVida

Permatex Acquires Anaerobicos

AmberWave Acquires Aonex Technologies

IBM Adopts the QuickCap NX Parasitic Extraction Software from Magma

IMEC Selects SOI MEMS Technology From Tronics Microsytems

Silex System to Acquire Minority Stake in Translucent Photonics

LSI Corp Takes Over Tarari

E-Ton Solar Tech Takes Over ADEMA Technologies

Gintech and MEMC Completes Agreement for Solar Wafer Supply

MEMC, Suntech Signs Letter of Intent for Solar Wafer Supply

AmberWave Signs License Agreement with LG Siltron on Strained Silicon IP

**ARM Acquires Soisic** 

Sumco to Takeover KEM

Samsung and Siltronic to Construct New Fab Facility

ARM Collaborates with Soitec (France)

#### **5.FOCUS ON SELECT GLOBAL PLAYERS**

Advanced Micro Devices, Inc. (USA)

Applied Materials, Inc. (USA)

ASM International NV (Netherlands)

Atmel Corporation (USA)

AmberWave Systems Corporation (USA)

Canon, Inc. (Japan)

CEVA, Inc. (USA)

Chartered Semiconductor Manufacturing Ltd (Singapore)

Honeywell International, Inc. (USA)

International Business Machines Corp. (USA)

Isonics Corporation (USA)

Infineon Technologies, AG (Germany)

Intel Corp. (USA)

International Rectifier Corp. (USA)

KLA Tencor Corporation (USA)



Maxim Integrated Products, Inc. (USA)

MEMC Electronic Materials, Inc. (USA)

Micron Technology Inc. (USA)

Mitsubishi Materials Corporation. (Japan)

**NEC Electronics Corporation (Japan)** 

Oki Semiconductor Company Co. Ltd. (Japan)

Peregrine Semiconductor Corp. (USA)

Renesas Technology Corporation (Japan)

Sandia National Laboratories (USA)

Soitec S. A. (France)

STMicroelectronics N.V. (Switzerland)

Shanghai Simgui Technology Co., Ltd (China)

Shin-Etsu Handotai Co., Ltd (Japan)

Silicon Genesis Corporation (USA)

Siltronic AG (Germany)

Texas Instruments Incorporated (USA)

Toshiba Corporation (Japan)

Taiwan Semiconductor Manufacturing Company Limited (Taiwan)

United Microelectronic Corporation (Taiwan)

Vitesse Semiconductor Corporation (USA)

#### III. COMPETITIVE LANDSCAPE

Total Companies Profiled: 66 (including Divisions/Subsidiaries - 70)

Region/CountryPlayers

The United States

Japan

Europe

France

Germany

The United Kingdom

Rest of Europe

Asia-Pacific (Excluding Japan)



## I would like to order

Product name: Strained Silicon: Market Research Report

Product link: https://marketpublishers.com/r/S99ECE11F4FEN.html

Price: US\$ 3,450.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer

Service:

info@marketpublishers.com

## **Payment**

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <a href="https://marketpublishers.com/r/S99ECE11F4FEN.html">https://marketpublishers.com/r/S99ECE11F4FEN.html</a>