

TSMC 2013 Corporate Responsibility Report

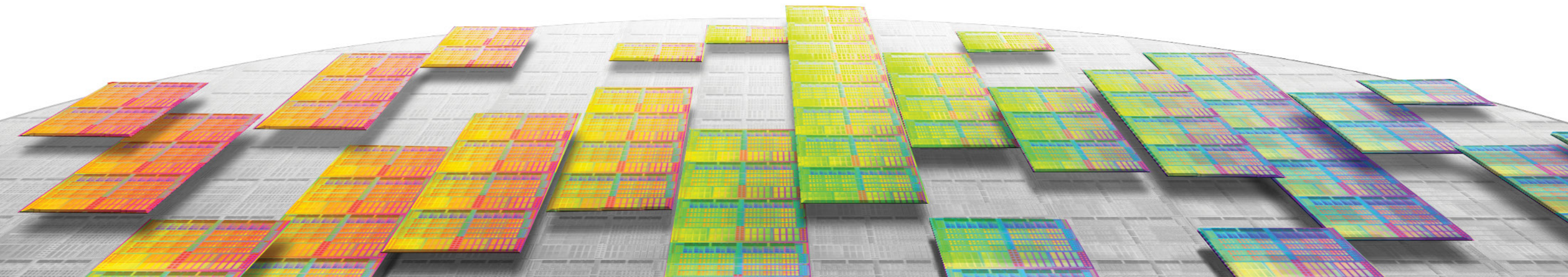
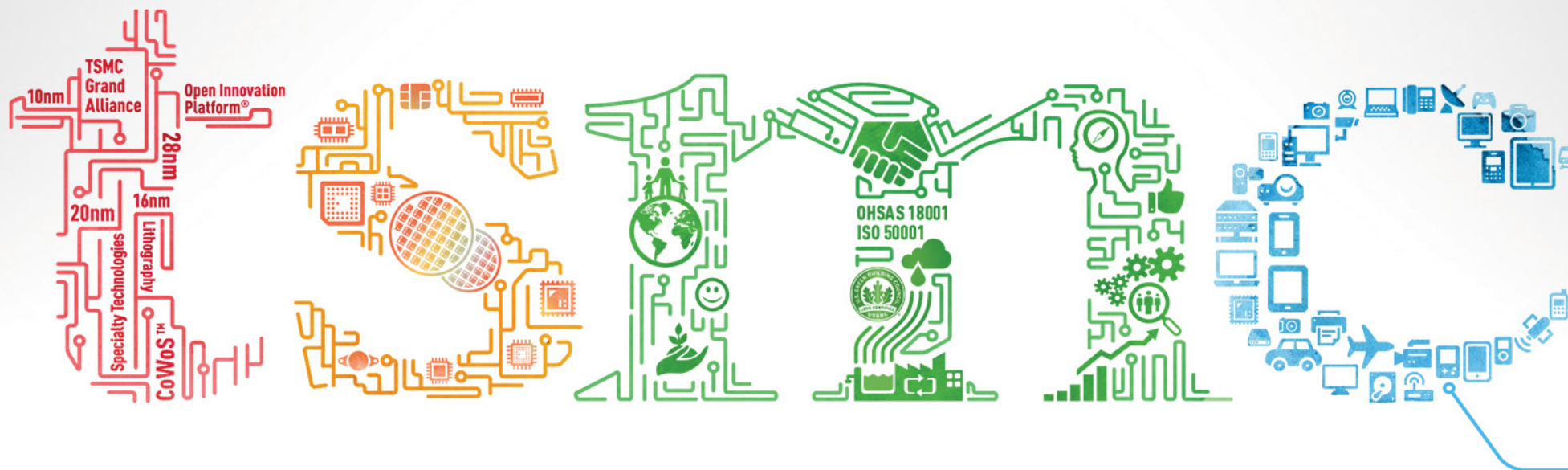


Table of Contents

Overview	1	A Great Place to Work	39	Environmental Protection	88
Letter from the Chairman	10	5.1 Right People with Shared Vision and Values	40	8.1 Environmental Protection Major Activities in 2013	90
Company Profile	13	5.2 Encourage a Balanced Life	46	8.2 From Green Buildings to Green Sustainability	91
2.1 Market/Business Summary	14	5.3 Employee Engagement	49	8.3 Climate Change	94
2.2 Innovation Management	15	5.4 Employees' Physical and Mental Wellbeing	51	8.4 Water Resource Management	100
2.3 Proprietary Information Protection	21	5.5 Safety and Health	54	8.5 Green Products	104
2.4 Membership in Industry Associations	22	Customer Service and Supplier Management	61	8.6 Pollution Prevention	108
2.5 Investor Engagement	22	6.1 Customer Service and Satisfaction	62	8.7 Environmental Management System	114
2.6 Financial Highlights	24	6.2 Supplier Management	63	8.8 Green Promotion and Ecological Preservation	117
Stakeholder Engagement	26	Social Participation	71	Appendix	120
Corporate Governance	32	7.1 TSMC Education and Culture Foundation	73	• Performance Summary	121
4.1 Governance Structure	32	7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation	73	• Assurance Statement	123
4.2 Board of Directors	33	7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics	79	• GRI G3.1 Index	124
4.3 Audit Committee	34	7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities	80	• ISO 26000 Index	137
4.4 Compensation Committee	34	7.5 TSMC Volunteer Program	81	• United Nation Global Compact Comparison Table	140
4.5 Corporate Social Responsibility Committee	34			• Contact Information	141
4.6 Political Contributions	34				
4.7 Code of Ethics and Business Conduct	35				
4.8 Regulatory Compliance	36				
4.9 Risk Management	38				

How to Use This Report

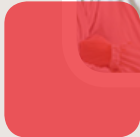
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TSMC Core Values



Integrity

Integrity is our most basic and most important core value. We tell the truth. We believe that the record of our accomplishments is the best proof of our merit. Hence, we do not brag. We do not make commitments lightly. Once we make a commitment, we devote ourselves completely to meeting that commitment. We compete to our fullest within the law, but we do not slander our competitors and we respect the intellectual property rights of others. With vendors, we maintain an objective, consistent, and impartial attitude. We do not tolerate any form of corrupt behavior or politicking. When selecting new employees, we place emphasis on the candidates' qualifications and character, not connections or access.

Commitment

TSMC is committed to the welfare of customers, suppliers, employees, shareholders, and society. These stakeholders all contribute to TSMC's success, and TSMC is dedicated to serving their best interests. In return, TSMC hopes all these stakeholders will make a mutual commitment to the Company.

Innovation

Innovation is the wellspring of TSMC's growth, and is a part of all aspects of our business, from strategic planning, marketing and management, to technology and manufacturing. At TSMC, innovation means more than new ideas, it means putting ideas into practice.

Customer Trust

At TSMC, customers come first. Their success is our success, and we value their ability to compete as we value our own. We strive to build deep and enduring relationships with our customers, who trust and rely on us to be part of their success over the long term.

Overview

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

TSMC believes a company's corporate social responsibility is to uplift society. As an important part of the technology industry, looking to the future, we not only aim to maintain our leadership in worldwide competition and promote Taiwan's globalization and economic growth, but we will also continue to carry out our corporate social responsibility and do our utmost to be good corporate citizens.

CSR Guidelines

Our 10 principles for practicing corporate social responsibility are important standards for continuing to support positive change in society:

1. We insist on honesty and integrity. We are honest to our shareholders, employees, customers, and to the public alike.
2. We respect the rule of law and always obey the law.
3. We abhor cronyism. We do not seek favoritism from the government or any government official, and we do not bribe.
4. We practice good corporate governance, and balance the interests of shareholders, employees, and all stakeholders in the Company.
5. We do not engage in politics.
6. We provide good job opportunities with a safe, comfortable, and intellectually challenging environment to give our employees both physical comfort and mental stimulation.
7. We do our part to control climate change and place great importance on the protection of the environment.
8. We emphasize and reward innovation, and actively manage the risks that innovation may bring.
9. We invest in green businesses such as solid state lighting and solar to contribute to a greener world.
10. We support educational and cultural activities, and care for our communities over the long term.



Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

CSR Management Approach

TSMC's decision-making and operations in corporate social responsibility (CSR) are led by the Company's Chief Financial Officer, who was appointed by the Chairman to act as an overall coordinator for the entire Company's CSR activities. To better carry out and coordinate sustainability efforts, the Company founded the "Corporate Social Responsibility Committee" in 2011, which brings together representatives from all of TSMC's CSR-related business segments. Since 2012, CSR has been a topic on TSMC's Board meeting agenda. Annual CSR performance is reported to the Board.

The CSR Committee holds quarterly meetings to discuss related topics, led by the CFO and the President of the Volunteer Program. The quarterly CSR meeting systematically and effectively carries out our corporate social responsibilities by following a "Plan-Do-Check-Act" cycle to regularly review interaction with stakeholders and the issues that concern them, discuss progress in CSR activities and set future plans. Through close cooperation between organizations, CSR is now an integral part of TSMC's daily operations.

Stakeholder Engagement

TSMC's stakeholder management procedure is divided into four stages: identification, analysis, plan, and engagement. In order to pursue sustainable operations, TSMC establishes individual communication channels with each of our stakeholders according to their influence and issues of concern. We communicate with stakeholders through multiple channels established by CSR-related units, and compile their economic, social and environmental concerns.

As we carry out our CSR principles, it is our firm belief that customers will trust us more because of our honesty and integrity, respect for the law, and good corporate governance. Investors will be more willing to invest over the long term because of our clear core values, and employees will feel closer to the Company as they identify with those values. Carrying out TSMC's social responsibilities brings us greater competitive advantage, creates greater value for shareholders, and benefits all of our stakeholders.

DJSI Industry Group Leader

In 2013, TSMC was recognized by the Dow Jones Sustainability Indexes (DJSI) as the Semiconductors and Semiconductor Equipment Industry Group Leader, setting a milestone for the Company's achievements in sustainability and corporate social responsibility. TSMC is the first Taiwan company, and one of just four Asian companies, to win the highest score out of its industry peers in the DJSI's 24 industry groups, made up of the 2,500 largest companies in the world. Moreover, TSMC is one of only two semiconductor companies chosen as index components for 13 consecutive years.



ROBECOSAM
Sustainability Award
Industry Leader 2014

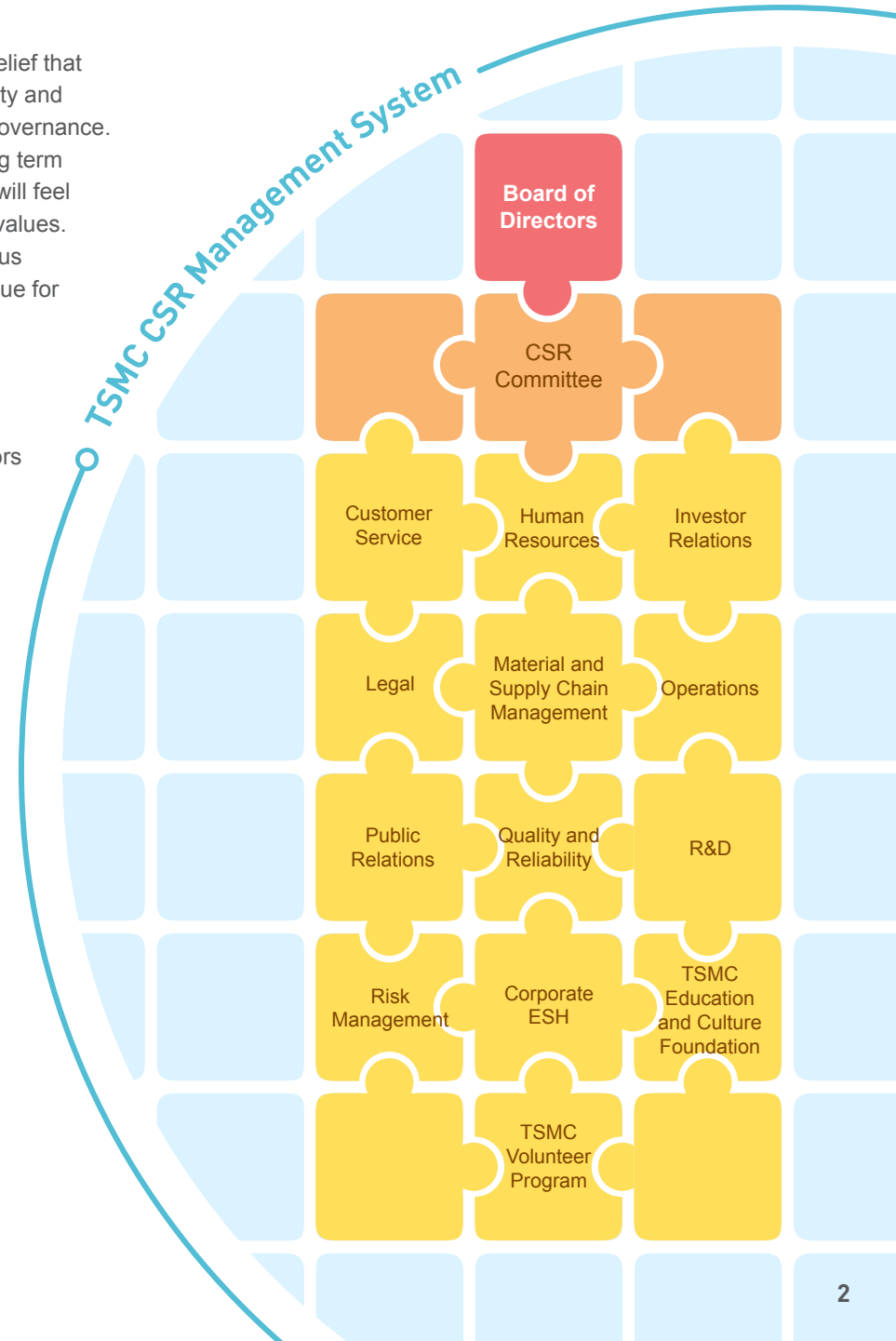


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

2013 CSR Achievements, Awards, Recognitions, and Future Goals

The Summary of TSMC CSR Achievements and Goals on Material Topics

TSMC CSR Goals and Achievements in 2013 are summarized as follows:

CSR Material Topics	Commitments or Goals	Performance Indexes or Guidelines	2013 Achievements	Future Focuses
Shareholder Value Creation	Achieve profitable growth	Financial objectives: <ul style="list-style-type: none"> Average ROE across cycle greater or equal to 20% 10% profit before tax compounded annual growth rate from 2010 to 2015 	<ul style="list-style-type: none"> 2013 ROE reached 24.0%, profit before tax increased 18.6% Dividend-adjusted share price increased 12% during 2013 and market capitalization reached a record US\$91 billion 	<ul style="list-style-type: none"> Execute our growth strategies, protect structural profitability and return on investments Continue to enhance corporate governance and maintain good relationship with investors
Innovation Management	Advanced technology	Extend Moore's Law	TSMC's 16nm (16-FinFET) entered risk production in November 2013 and is firmly on track to complete manufacturing qualification in early 2014. Meanwhile, we are developing an enhanced transistor version of this technology, 16-FinFET+, that will offer an additional 15% performance improvement and which we believe will be the highest performance technology among all available 16/14nm technologies in 2014.	<ul style="list-style-type: none"> 10nm 3rd generation FinFET technology for both digital and analog products 7nm CMOS platform technology for SoC EUV and multiple e-beam to extend Moore's Law
	Specialty technology	TSMC continues to conduct research and development on a broad mix of capabilities. The Company enhanced its SoC (System-on-Chip) roadmap, with higher integration and more variants.	<ul style="list-style-type: none"> TSMC has successfully verified customer products in the 28nm technology for RF CMOS applications (28LP-RF) that are aimed at next generation RF transceivers (e.g. 4G LTE). TSMC released the 0.13BCD technology, the first BCD technology to be implemented in a 12-inch fab. 	Special SoC technology (including new NVM, MEMS, RF, analog)
Customer Satisfaction	Maintain TSMC's position as the most advanced and largest provider of semiconductor manufacturing technologies and foundry services	Customer satisfaction rating on overall technology	95% customers who gave high rating on the survey question of "Overall Technology" (>4) ^{Note} Note: Rating scale is from 1 (extremely dissatisfied) to 7 (extremely satisfied)	Maintain TSMC's leadership in the semiconductor industry

(continues on next page)

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

CSR Material Topics	Commitments or Goals	Performance Indexes or Guidelines	2013 Achievements	Future Focuses
Supply Chain Management	Single plant rate reduction	To have multiple supply sources for raw materials	Reached annual goal for single plant reduction	Continuously reduce single plant rate for advanced nodes, particularly for N28 and N20
	Increase local supply	Purchasing amount and ratio from local suppliers	Increased local supply ratio of raw material in 2013	Decentralize manufacturing sites from the high-risk areas (e.g. frequent natural disaster areas) and increase backup source
	Conflict-free sourcing for raw materials	To comply with U.S. SEC's and other relevant rules on conflict minerals	Completed smelter information survey for 15 identified raw material suppliers in 2013	To ensure suppliers' full compliance according to conflict-free smelter list updated by GeSI/EICC
	Green supply chain	Continuously improve supplier's sustainability scoring	52 critical suppliers' sustainability scores reached 2013 target	Ensure supplier's sustainability score reaches annual target
Greenhouse Gas Reduction	Reduce PFC emission intensity to 30% below the year 2010 level by 2020	Tons of CO ₂ equivalent/8-inch wafer equivalent	PFC emissions intensity in 2013 were 30% less than 2010	Adoption of best practices recognized by the World Semiconductor Council
Energy Conservation	Reduce power usage intensity to 2% below the year 2010 level by 2015	kWh/8-inch wafer equivalent—mask layer	Reduced power consumption by 3.5% from 10.5 kWh in 2012 to 10.2 kWh in 2013.	<ul style="list-style-type: none"> Continuous promotion of ISO 50001 Energy Management System Continuous promotion of the adoption of green building and green factory standards Enhancement of daily management to avoid energy waste Continuous installation of energy saving and recovery systems
Water Conservation	Reduce water usage intensity to 2% below the 2010 level by 2015	Liter/8-inch wafer equivalent—mask layer	Water usage reduced by 12.4% from 58.9 liters in 2012 to 51.5 liters in 2013	<ul style="list-style-type: none"> Continuous promotion of process optimization to reduce water usage Continuous development and installation of water recycling system
Waste Management	Achieve 95% waste recycling rate by 2015	Waste Recycling Rate (%)	Achieved a waste recycling rate of 92% in 2013.	<ul style="list-style-type: none"> Continuous promotion of waste recycling and waste reduction at the source Requiring process tool vendors to provide low chemical consumption tools Collaborating with suppliers to develop new waste recycling technologies

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Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

CSR Material Topics	Commitments or Goals	Performance Indexes or Guidelines	2013 Achievements	Future Focuses
Talent Acquisition	Expand talent to support business growth and provide job opportunity	Quantity and quality of new hires	<ul style="list-style-type: none"> In 2013, TSMC recruited over 4,600 employees, not only successfully fulfilling our business needs but also providing more job opportunities for our society TSMC actively took innovative approaches to create more job opportunities for the disabled. By the end of 2013, the Company hired 369 disabled persons; a 16% increase compared with 2012 	<ul style="list-style-type: none"> Continuously attract talent in Taiwan and around the world Continuously strengthen the connections with schools and communities
Talent Retention	Maintain a healthy turnover rate and ensure the growth momentum of the Company	Turnover rate	In 2013, the turnover rate for all employees was 5.3%; this continued to fall within the range of our definition for a healthy turnover rate between 5% and 10%	Continuously enhance management excellence and downward engagement to make our employees bring all their potential into full play in the right position
Employee Engagement	Establish a positive employee relationship and a highly engaged work environment	Participation rate for company-wide activities	In 2013, more than 33,000 of employees and their family members attended TSMC Sports Day; while 32,000 of employees and their family members enjoyed the various activities held by the Company on other occasions.	Continuously reinforce the Company's core values, maintain unobstructed communication channels, and foster an encouraging environment
Work-Life Balance	Maximize our employees' productivity and promote a balanced life	<ul style="list-style-type: none"> The growth of revenue per headcount (RPH) Reasonable weekly working hours 	<ul style="list-style-type: none"> TSMC had over 10% Compound Annual Growth Rate of RPH from 2009 to 2013 In 2013, the weekly working hours were maintained within a reasonable range with the same high-quality work performance 	Continuously enhance the efficiency and effectiveness of our employees via human resources practices and improvement actions
Volunteer Program	Expand volunteer program influence	Volunteer number; Volunteer service hour	<ul style="list-style-type: none"> 6 major regular volunteer programs (initiate "Fab/ Division Volunteer Program") Volunteer number increased by 35% from 1,570 in 2012 to 2,119 in 2013. Volunteer service hours increased by 172% from 38,749 hours in 2012 to 105,430 hours in 2013. 	<ul style="list-style-type: none"> Integrate each function voluntary events Discover personal voluntarily activities, build up register platform
Social Contribution	<ul style="list-style-type: none"> Narrow the gap in educational resources between rural and urban areas Inspire the youth's interest in Arts and Science 	The number of the participants of the education and art programs	<ul style="list-style-type: none"> 87,000 students from remote townships have participated in the "TSMC Aesthetic Tour" and "TSMC Science Tour" to cultivate their appreciation of art and experience the charisma of science. "Lifting the Ability of High School Physics Experiments", providing professional development for 282 science teachers, reaching over 50,000 high school students nationwide. 188 teams in total over the nation participated in the "TSMC Cup – Competition of Scientific Story Telling," gaining overwhelmingly positive responses from high school students and teachers. 	Continuous promotion of arts and Chinese culture, and inspiring the science potential of talents.

2013 CSR Awards and Recognitions

TSMC actively participated in various CSR-related awards to share experience and gain external feedback. Through this participation, we gain a better understanding of external concerns and are able to review internal performance for continuous improvement. TSMC has been honored with many awards over the years, and our awards and recognitions received in 2013 are as follows:

Category	Awards and Recognitions
Overall CSR	Dow Jones Sustainability Index (DJSI) <ul style="list-style-type: none">First Taiwan company to be recognized as the DJSI Semiconductors and Semiconductor Equipment “Industry Group Leader” (i.e. the company with the highest sustainability score out of its industry peers in the DJSI’s 24 industry groups, made up of 59 industries and the 2,500 largest companies in the world)RobecoSAM Sustainability Award “Gold Class”Membership in the Dow Jones Sustainability World Index for a 13th consecutive year
	Goldman Sachs <ul style="list-style-type: none">Membership on the GS SUSTAIN Focus List, which incorporates 59 global industry leaders
	CommonWealth Magazine <ul style="list-style-type: none">Most Admired Company Rank No.1 in TaiwanExcellence in Corporate Social Responsibility Award
	Globalviews Magazine <ul style="list-style-type: none">Excellence in Corporate Social Responsibility, Occupational Health First Prize
	Taiwan Institute for Sustainable Energy <ul style="list-style-type: none">Award for Corporate Sustainability Reports – Excellent for Manufacturing IndustryModel Award for Corporate Sustainability Development Performances – Category of Transparency and Integrity
	FinanceAsia <ul style="list-style-type: none">Best Corporate Social Responsibility – Ranked No. 2 in Taiwan
	R.O.C. Ministry of Culture <ul style="list-style-type: none">“Wenxin Award” for the 10th consecutive year

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Report Scope and Profile

Through our 2013 Corporate Responsibility Report, we would like to share with you our continuing efforts in sustainable development along the economic, environmental and social dimensions.

This report outlines our performance in the full 2013 calendar year for the most relevant CSR issues to our stakeholders and our business. It contains CSR-related data and activities of all TSMC fabs located in Taiwan, and a portion of the content covers our overseas subsidiaries TSMC China, WaferTech in the United States and overseas offices, where noted. Financial figures in this report are expressed in NT dollars unless otherwise specified. Environmental performance is expressed in commonly accepted benchmarks.

We publish this report annually, and the previous report was published in June 2012. This report is compiled based on the Global Reporting Initiative (GRI) G3.1 framework; a table is attached in the appendix for the readers’ reference. In addition, we refer to ISO 26000 Guidance on Social Responsibility and United Nations Global Compact, and also provide a reference table in the appendix. This report is published in both English and Chinese and is available on TSMC’s corporate website.

Report Assurance


DNV Business Assurance reviewed this report against the AccountAbility AA1000 Assurance Standard and the GRI G3.1 guideline on materiality, inclusivity and responsiveness, and verified that this report complies with GRI Application Level A+. Financial data and Greenhouse Gases (GHG) emission/reduction data have been acquired from a verified financial report and GHG Inventory report. [DNV’s Report Assurance Statement](#)  can be found in the Appendix of this report.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Category	Awards and Recognitions
Economy, Governance	Institutional Investor <ul style="list-style-type: none"> • Best CEO (Technology/Semiconductors) – 1st Place (buy-side) • Best CEO (Technology/Semiconductors) – 1st Place (sell-side) • Best CFO (Technology/Semiconductors) – 1st Place (buy-side) • Best CFO (Technology/Semiconductors) – 2nd Place (sell-side) • Best IR Team (Technology/Semiconductors) – 1st Place (buy-side) • Best IR Team (Technology/Semiconductors) – 1st Place (sell-side) • Best IR Professional (Technology/Semiconductors) – 1st Place (buy-side) • Best IR Professional (Technology/Semiconductors) – 1st Place (sell-side)
	IR Magazine <ul style="list-style-type: none"> • Best corporate governance and disclosure • Best overall IR by a Taiwanese company • Best IRO – Taiwan
	EUROMONEY <ul style="list-style-type: none"> • Asia Best Managed Companies 2013 – IT/software/technology
	FinanceAsia <ul style="list-style-type: none"> • Asia's Best Managed Companies – Hong Kong, Korea and Taiwan • Best Managed Company – Ranked No. 1 in Taiwan • Best Corporate Governance Company – Ranked No. 1 in Taiwan • Best CEO – Ranked No. 1 in Taiwan • Best CFO – Ranked No. 2 in Taiwan • Most Committed to a strong Dividend Policy – Ranked No. 1 in Taiwan • Best Investor Relations – Ranked No. 1 in Taiwan
	Global IR Awards <ul style="list-style-type: none"> • Global Top 50 Gold – Ranked No. 12
	International Law Office <ul style="list-style-type: none"> • Asia-Pacific Counsel Awards 2013 – General Counsel of the Year
	R.O.C. Securities & Futures Institute <ul style="list-style-type: none"> • 10th Information Disclosure of Public Companies Ranking – Ranked A+

(continues on next page)

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Category

Awards and Recognitions

Environment,
Safety and
Wellness

U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) certification

- “Gold” certification in LEED-Existing Building: Operation and Maintenance (LEED-EB O&M) – Fab 14 Phase 1 Office Building, Fab 14 Phase 1/2 Manufacturing Facility
- “Gold” certification in LEED-NB – Fab 12 Phase 6 Manufacturing Facility, Fab 15 Phase 1/2 Manufacturing Facility

Note: Up to the end of 2013, TSMC received 11 U.S. LEED certifications (1 “Platinum” class, 10 “Gold” class)

R.O.C. Ministry of the Interior “Ecology, Energy Saving, Waste Reduction and Health (EEWH)” certification

- Diamond class “Green Building” certification – Fab 12 Phase 6 Manufacturing Facility, Fab 14 Phase 3 Office Building

Note: Up to the end of 2013, TSMC received 1 Taiwan EEWH Diamond class “Intelligent Green Building”, 6 Taiwan EEWH Diamond class “Green Building” certifications.

R.O.C. Ministry of Economic Affairs Industrial Development Bureau

- “Green Factory Label” – Fab 12 Phase 5

ISO 50001 Energy Management System certification

- Fab 12 Phase 6, Fab 15

R.O.C. Environmental Protection Administration

- “Annual Enterprise Environmental Protection Award” – Fab 15
- “Energy Conservation and Carbon Reduction Action Mark” – Fab 6, Fab 8, Fab 12 Phase 6, Advanced Backend Fab 2
- “Excellence in Toxic Substance Management Award” – Fab 14B
- “Enterprise Green Procurement Award” – Headquarter

R.O.C. Ministry of Economic Affairs

- “Excellence in Carbon Reduction Award” – Fab 8, Fab 12 Phase 4/5
- “Water Conservation Award” – Fab 3, Fab 12 Phase 4/5, Fab 15
- “National Sustainable Development Award” – Fab 3

Hsinchu Science Park Administration

- “Low Carbon Enterprise Award” – Fab 12 Phase 6
- “Excellence in Environmental Protection” – Fab 12 Phase 1/2
- “Excellence in Labor Safety and Hygiene Award” – Fab 3 and Fab 12A

Note: Fab 12A includes Fab 12 Phase 1/2/3.

(continues on next page)

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Category	Awards and Recognitions
	Southern Taiwan Science Park Administration <ul style="list-style-type: none">• “Excellence in Environmental Protection” – Fab 14A
	Hsinchu County Environmental Protection Bureau <ul style="list-style-type: none">• “Enterprise Green Procurement Award” – Fab 2 and 5• “Mobile Pollution Sources Control” – Fab 2 and 5
	Hsinchu City Environmental Protection Bureau <ul style="list-style-type: none">• “Mobile Pollution Sources Control” – Fab 12 Phase 1/2• “Environmental Education Award” – Fab 12 Phase 1/2
Employees	Ministry of Labor (Former Council of Labor Affairs), Executive Yuan <ul style="list-style-type: none">• Large Enterprise Award of National TrainQuali Prize (NTQP)
	Health Promotion Administration, Ministry of Health and Welfare <ul style="list-style-type: none">• Health Management Award• Healthy Weight Management Award• Pioneering Weight Management Award
	GlobalView Magazine <ul style="list-style-type: none">• First place in CSR Award for Workplace Health

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

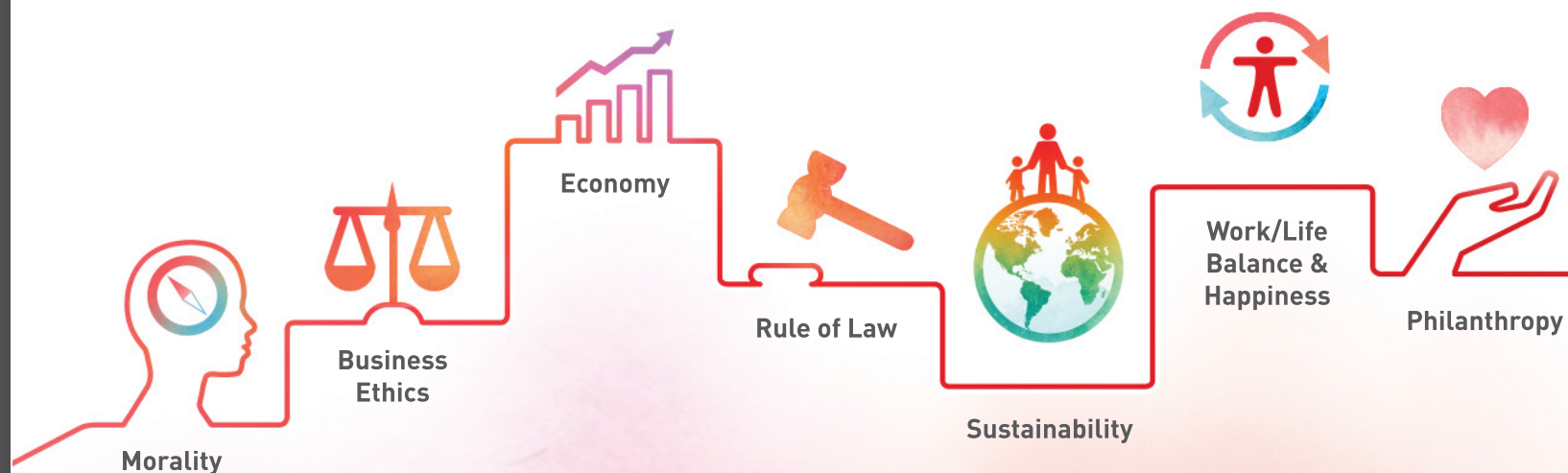
Letter from the Chairman

As the world's largest dedicated IC foundry, TSMC is keenly aware that as a company grows bigger, it also exerts a greater influence on industry and society. We place great importance upon integrity, respect the rule of law, and hope that the way we do business serves as a benchmark for sustainability and a positive force in society.

A corporation's social responsibility is to make society better. To carry out our corporate social responsibility more effectively, we established a Corporate Social Responsibility Committee in 2011. Representatives from each function in the company report on their interactions with employees, customers, shareholders, investors, communities, suppliers, the government and other stakeholders each quarter to understand the trends and topics that concern these stakeholders and create value for them.

Improving Economic and Business Standards

Since TSMC was established 27 years ago, we have insisted on strong corporate governance, focused on our core business, and fortified our trinity of strengths: Technology Leadership, Manufacturing Excellence, and Customer Trust. In 2013, we employed 202 different technologies to help more than 440 customers manufacture more than 8,600 different types of chips.



Morris Chang
Chairman

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Our manufacturing has brought wave after wave of new applications to the global information technology industry, and our strong financial results have brought solid returns to shareholders and stimulated the economic development of society.

As a member of the ever-changing semiconductor industry, TSMC never stops innovating. After pioneering the dedicated IC foundry business model, TSMC once again changed the rules of the game by joining with its customers and key suppliers to form the “Grand Alliance”. We hope that this open platform will galvanize more semiconductor innovations that will make daily life more convenient and work more productive, and at the same time offer growth opportunities to members of the our alliance.

Caring for the Earth and Generations to Come

As a leader in green manufacturing, TSMC is always seeking ways to move forward. Since establishing our Green Fab Committee in 2010, the company has launched 228 environmental projects which have not only effectively lowered the waste generated and power and water consumed per wafer area, but also generated more than NT\$3.68 billion in economic benefit for the company.

At the same time, we also ask our suppliers to establish environmental management systems with the same standards as TSMC, creating a green supply chain for the global semiconductor industry.

Besides caring for the environment in our operations, we actively develop new process technologies that reduce power consumption, and optimize our production process to help customers make their green products a reality. Designs made on our 20nm process, for example, consume one third less power than those using our 28nm process. IC products using our 16nm FinFET process consume only 40% of the power required by our 28nm process.

Living a Happy, Balanced Life, and Commitment to Charity

TSMC’s vision for society is one that works together towards sustainable development, equality and justice, and a harmonious environment to live and work. Providing opportunities to work in good jobs is one of the ways that we act to improve society.

In 2013, we hired more than 4,600 new colleagues around the world through fair and open recruitment channels.

Employees are TSMC’s most important asset, and we have pledged to provide them with total compensation above the industry average, as well as a challenging and fun work environment with opportunities for continuous learning. We are committed to work/life balance to offer our colleagues a happy life at home. At the same time, we hope for their full dedication at work because they are the solid foundation on which we build the company’s future growth.

TSMC’s growth also requires support from the business environment and from society. We delight in acting as a good corporate citizen and giving back to society. In 2013, TSMC focused on developing future generations of semiconductor talent; We established joint research centers with leading universities in Taiwan to encourage students and professors to use the most advanced semiconductor technology and lower the barriers to developing the newest IC designs. We hope that these centers will nurture technology breakthroughs that fuel the unceasing innovation of the semiconductor industry.

In addition, the long-established TSMC Volunteer Program and TSMC Education and Culture Foundation bring together the Company’s resources and our

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

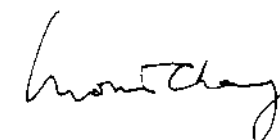
Appendix

Corporate Social Responsibility: Uplift Society

TSMC \ Society	Morality	Business Ethics	Economy	Rule of Law	Sustainability	Work/Life Balance Happiness	Philanthropy
Integrity	✓	✓					
Law Compliance				✓			
Anti-Corruption Anti-Bribery Anti-Cronyism	✓	✓		✓			
Environmental Protection Climate Control Energy Conservation				✓	✓		
Corporate Governance		✓	✓	✓			
Provide Well-paying Jobs			✓			✓	
Good Shareholder Return			✓				
Employees' Work-life Balance						✓	
Encourage Innovation		✓	✓				
Good Work Environment						✓	
Volunteers Organization					✓	✓	✓
Education and Culture Foundation							✓

employees' passion to perform a diverse range of in-depth charity work in the areas of aesthetic education, arts and culture, science education, environmental protection, power conservation, community building, and caring for the disadvantaged. In 2013, the number of TSMC volunteers grew 35% and the number of service hours reached 105,430, a sharp increase of 172% from 2012. Our employees' pro-active participation in volunteer service shows that they believe in our business principles, and also helps to build a spirit of teamwork within TSMC.

Sustainable business is a fundamental principle of TSMC. In 2013, TSMC was honored to be named the "Semiconductors and Semiconductor Equipment Industry Group Leader" by the Dow Jones Sustainability Index. This is an affirmation of our efforts that we value very deeply. We will persist in encouraging our employees to keep innovating and seeking new ways to improve our sustainability. If we can achieve this in all areas of our operations, we will never stop being a company full of vitality, and continue to reach new heights.



Morris Chang
Chairman

Table of Contents

Overview

Letter from the Chairman

Company Profile

- 2.1 Market/Business Summary
- 2.2 Innovation Management
- 2.3 Proprietary Information Protection
- 2.4 Membership in Industry Associations
- 2.5 Investor Engagement
- 2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Company Profile

Founded on February 21, 1987 and headquartered in Hsinchu, Taiwan, TSMC pioneered the foundry business model by focusing solely on manufacturing customers' semiconductor designs. As a pure-play semiconductor foundry, the Company does not design, manufacture, or market semiconductor products under its own brand name, ensuring that TSMC does not compete directly with its customers. Today, TSMC is the world's largest pure-play semiconductor foundry, manufacturing more than 8,600 different products using 202 different technologies for over 440 different customers in 2013.

With a diverse global customer base, TSMC-manufactured semiconductors are used in a wide variety of applications covering various segments of the computer, communications, consumer, industrial and standard semiconductor markets.

Annual capacity of the manufacturing facilities managed by TSMC and its subsidiaries totaled 16.4 million 8-inch equivalent wafers in 2013. TSMC's managed manufacturing facilities include three 12-inch wafer GIGAFAB™, four 8-inch wafer fabs, and one 6-inch wafer fab in Taiwan, as well as two 8-inch fabs at wholly owned subsidiaries: WaferTech in the United States and TSMC China Company Limited.

TSMC provides customer service through its account management and engineering services offices in North America, Europe, Japan, China, South Korea, and India. The Company employed more than 40,000 people worldwide at the end of 2013.

Open Innovation Platform®

10nm

Lithography

16nm

Specialty Technologies

20nm

CoWoS™

28nm

TSMC Grand Alliance

Table of Contents

Overview

Letter from the Chairman

Company Profile

2.1 Market/Business Summary

2.2 Innovation Management

2.3 Proprietary Information Protection

2.4 Membership in Industry Associations

2.5 Investor Engagement

2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

TSMC continued to lead the foundry segment of the semiconductor industry in both advanced and specialty process technologies. By leveraging the experience of 65nm and 40nm, TSMC successfully reached mass production of 28nm with excellent yield performance in 2013 featuring 28HP and 28HPM for high performance and 28LP and 28HPL for low power. Furthermore, TSMC delivered 20nm SoC and 16nm FinFET technology nodes on-schedule and successfully received initial customer tape-outs of 20nm technology.

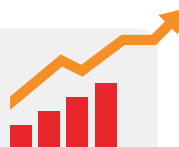
In addition to general-purpose logic process technology, TSMC supports the wide-ranging needs of its customers with embedded non-volatile memory, embedded DRAM, Mixed Signal/RF, high voltage, CMOS image sensor, MEMS, silicon germanium technologies and automotive service packages.

TSMC's subsidiaries TSMC Solid State Lighting Ltd. and TSMC Solar Ltd. also engage in researching, developing, designing, manufacturing and selling solid state lighting devices and related products and systems, and solar-related technologies and products, respectively.

The Company is listed on the Taiwan Stock Exchange (TWSE) under ticker number 2330, and its American Depositary Shares trade on the New York Stock Exchange (NYSE) under the symbol "TSM".

91 Billion

Record High
Market Capitalization
at over US\$91 Billion.



2.1 Market/Business Summary

2.1.1 TSMC Achievements

In 2013, TSMC maintained its leading position in the total foundry segment of the global semiconductor industry, with an estimated market segment share of 49%. TSMC achieved this result amid intense competition from both established players and relatively new entrants to the business.

Leadership in advanced process technologies is a key factor in TSMC's strong market position. In 2013, 50% of TSMC's wafer revenue came from manufacturing processes with geometries of 40/45nm and below.

2.1.2 Market Overview

TSMC estimates that the worldwide semiconductor market in 2013 reached US\$322 billion in revenue, a 5% growth compared to 2012. Total foundry, a manufacturing sub-segment of the semiconductor industry, generated total revenues of US\$37 billion in 2013, or 11% YoY growth.

2.1.3 Industry Outlook, Opportunities and Threats

Industry Demand and Supply Outlook

Following 16% growth in 2012, foundry segment growth again accelerated by double digits, to 11% in 2013, mainly driven by fabless market share gains over IDM and process technology advancement.

TSMC forecasts total semiconductor market to grow 5% YoY in 2014. Over the longer term, due to: increasing semiconductor content in electronics devices, continuing market share gain of fabless, and increasing in-house

Application-Specific Integrated Circuits (ASIC) from system companies, foundry sales are expected to display much stronger growth than the projected 4% compound annual growth rate (CAGR) for the total semiconductor industry from 2013 through 2018.

As an upstream supplier in the semiconductor supply chain, the condition of the foundry segment is tightly correlated with the market health of the 3Cs: communications, computer and consumer.

- **Communications**

The communications sector, particularly the handset segment, posted a modest 4% growth in unit shipments for 2013. Smartphones, which have much stronger growth and higher semiconductor content, have been leading the growth of the sector.

The continuing transition to 4G/LTE and LTE-Advanced handsets will bring positive momentum to the market. Smartphones with increasing performance, lower power and more intelligent features will continue to propel the buying interest of new handsets in 2014. The growing popularity of mid- to low-end smartphones in the emerging countries is also a new catalyst driving the growth of the sector.

Low power IC is an essential requirement among handset manufacturers. The SoC design for more optimized cost, power and form-factor (i.e. device footprint), plus the appetite for higher performance to run complicated software, will continue to accelerate the migration to advanced process technologies in which TSMC is already the leader.

Table of Contents

Overview

Letter from the Chairman

Company Profile

2.1 Market/Business Summary

2.2 Innovation Management

2.3 Proprietary Information Protection

2.4 Membership in Industry Associations

2.5 Investor Engagement

2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

- **Computer**

The computer sector's unit shipment dropped 10% YoY in 2013 after a decline year in 2012. Cautious spending in developed countries, lack of innovations, and budget competition from tablets were among the factors causing the weak demand.

Moving into 2014, Personal Computer (PC) market will continue to decline. Meanwhile, increasing affordability of Ultrabooks, the introduction of new operating systems, and corporate replacement are expected to stimulate PC demand.

Requirements of lower power, higher performance and integration for key computer components such as CPU, GPU, Chipset, etc., should drive product design demand for leading process technologies.

- **Consumer**

The consumer sector faced the sharpest decline ever in 2013: aggregated unit shipment fell 7% YoY. The sales of handheld consumer electronics, such as digital camera, MP3 player, and handheld game console, were significantly impacted by the growth of mobile computing (e.g. smartphones, tablets, etc.), while the home consumer electronics, such as DTV and DVD player, were reaching the plateau of their sales.

Consumer electronics may start to regain growth momentum in 2014, thanks to the launch of new-generation game consoles and the emerging smart wearable devices. Riding on the strong growth of mobile computing and the support from the world's leading companies, smart wearable devices are expected to leap in the coming years.

Meanwhile, increasing innovations in the consumer sector have also encouraged new usage models, such as integration of touch sensing, motion recognition, high-resolution and 3D display. Besides the need for advanced technologies, specialty technologies such as CMOS Image Sensor (CIS), High-Voltage (HV) drivers, embedded memory, micro-controller and MEMS are becoming prominent requirements. With its comprehensive technology portfolio, TSMC will be able to capitalize on these trends.

Tablets

As a fast-growing application, tablets are increasing their contributions to foundry segment revenue. Led by major OEMs and China tablet makers, around 256 million tablets shipped in 2013 compared with 165 million units in 2012. The strong sales momentum will continue in 2014, driven by increasing penetration into emerging countries and more diversified applications of tablets, such as Point-of-Sale (POS), education, and medical. TSMC forecasts the tablet market will grow with a 16% CAGR from 2013 through 2018, and become a strong growth driver for both the semiconductor industry and the foundry segment.

Supply Chain

The electronics industry consists of a long and complex supply chain, the elements of which are highly dependent and correlated with each other. At the upstream IC manufacturing level, it is important for IC vendors to have sufficient and flexible supply to support the dynamic market situation. The foundry vendors are playing an important role to ensure the health of the supply chain. As a leader in the foundry segment, TSMC provides leading technologies and large-scale capacity to complement the innovations created along the downstream chain.

2.2 Innovation Management

Innovation is the wellspring of TSMC's growth, and is a part of all aspects of our business, from strategic planning, marketing and management, to technology and manufacturing. At TSMC, innovation means more than new ideas, it means putting ideas into practice.

2.2.1 Innovation at TSMC

In 2013 TSMC continued to invest in R&D with total R&D expenditure amounting to 8% of revenue, a level that equals or exceeds the R&D investment of many other high technology leaders. Along with the increase in budget, R&D staffing increased by 11%. TSMC has built an innovative working atmosphere to encourage employees to make their innovation ideas come true. The awards from around the world that TSMC has received demonstrate the outstanding performance of our talents.

2.2.2 Technology Leadership

TSMC recognizes that the technology challenge required to extend Moore's Law, the business law behind CMOS scaling, is becoming increasingly complex. The efforts of the R&D organization are focused on enabling the Company to continuously offer its customers first-to-market, leading edge technologies and design solutions that contribute to their product success in today's complex and challenging market environment. In 2013 the R&D organization met these challenges by introducing into manufacture an industry-leading 20nm technology. The 16nm technology, which is TSMC's first integrated technology platform to make use of 3D FinFET transistors, has also met its development goals and is now in risk production. The R&D organization continues to strengthen the pipeline of technology innovations that are required to maintain technology leadership. Advanced

Table of Contents

Overview

Letter from the Chairman

Company Profile

2.1 Market/Business Summary

2.2 Innovation Management

2.3 Proprietary Information Protection

2.4 Membership in Industry Associations

2.5 Investor Engagement

2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

development of 10nm technology was completed, and entered full development, while 7nm technology is in the early development stage.

In addition to CMOS logic, TSMC conducts research and development on a wide range of other semiconductor technologies that provide the functionality our customers require for mobile SoC and other applications. Highlights achieved in 2013 include: production ramp of the CoWoS™ (Chip on Wafer on Substrate) 3D packaging technology; extension of the 28nm technology for RF and embedded flash technologies; the first industry introduction of the BCD power technology into a 12-inch fab environment and, manufacturing readiness of TSMCs' first wide band gap Gallium Nitride (GaN) semiconductor technology for high frequency power applications.

TSMC maintains a network of important external R&D partnerships and alliances with world-class research institutions such as IMEC, the respected European R&D consortium, where TSMC is a core partner. TSMC also provides funding for nanotechnology research at leading universities worldwide to promote innovation and the advancement of nanoelectronic technology. In 2013, TSMC announced the formation of collaborative research centers with National Taiwan University and National Chiao-Tung University in Taiwan, and anticipates announcing the establishment of additional research centers in Taiwan in 2014.

1st Delivered the world's first 28nm High-k/Metal Gate triple gate oxide technology (28HPT)



Advance Technology Innovations

As the semiconductor foundry leader, TSMC continued to provide technology innovations to lead the foundry segment of the semiconductor industry in both advanced and “More-than-Moore” process technologies. Not only was it the first foundry to provide 65nm and 40nm production capacity, TSMC also became the first foundry to offer volume production of 28nm, with our first-to-market 28nm high-k/metal gate (HKMG) technology portfolio. Furthermore, TSMC delivered the world's first 28nm High-k/Metal Gate triple gate oxide technology (28HPT) in 2013.

- **28nm Technology**

TSMC delivered the world's first 28nm High-k/Metal Gate triple gate oxide technology (28HPT). This technology provides 10% faster speed compared to the 28HPM technology while keeping the same leakage power. 28HPT is qualified for production in both Fab 12 and Fab 15 with equivalent yield to 28HPM.

- **20nm Technology**

TSMC's 20nm technology was successfully qualified for volume manufacture.

- **16nm Technology**

The 16nm technology features FinFET transistors with a third generation High-k/Metal Gate process, a fifth generation of transistor strain process, and advanced 193nm lithography. FinFET transistors offer substantial power reduction at the same chip performance compared to transistors built with the traditional planar structure, which is essential for advanced mobile applications. In 2013, the R&D organization successfully verified the process development test vehicle (TV1R), provided customers with version 1.0 design kits (design rules and SPICE models) and offered two public cyber shuttles.

More than 10 customers and IP vendors took the shuttles and verified their IP. The 16nm technology has completed manufacturing qualification with good yield.

Awards Over the Years

- 7 IEEE Fellows (Incl. 1 life fellow)
- 1 U.S. National Academy of Engineering Member
- 1 IEEE Medal of Honor
- 1 IEEE Andrew S. Grove Award
- 1 IEEE Clelio Brunetti Award
- 1 IEEE Robert N. Noyce Medal
- 1 IEEE Corporate Innovation Award
- 1 “Stars of Asia” from Business Week
- 1 Robert N. Noyce Award from the SIA
- 1 Akira Inoue Award from SEMI
- 1 Nikkei Asia Prize for Regional Growth
- 1 Outstanding Scientific and Technological Worker Award from the Executive Yuan of the Republic of China
- 1 First-ever Outstanding Nano-Tech Award from the Ministry of Economic Affairs of the Republic of China
- 16 National Industrial/Enterprise Innovations Awards, the Taiwan government's most prestigious award for innovation achievement.



Table of Contents

Overview

Letter from the Chairman

Company Profile

2.1 Market/Business Summary

2.2 Innovation Management

2.3 Proprietary Information Protection

2.4 Membership in Industry Associations

2.5 Investor Engagement

2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix



Technology leadership and manufacturing excellence are the bedrock of TSMC's competitive advantage.

- **10nm Technology**

In 2013, saw the introduction of 10nm technology into development. This 10nm technology will offer substantial power reduction for the same chip performance compared to earlier technology generations. Development activities in 2014 will focus on manufacturing baseline process setup, yield learning, transistor performance improvement, and reliability evaluation. TSMC will enter 10nm risk production in 2015 and mass production in 2016.

- **Lithography**

2013 was a productive year in 16nm lithography development with the technology reaching the risk

production stage. Several novel patterning techniques were developed for 48nm pitch Fin patterning. These techniques overcame the challenge of high aspect ratio topography of 3D device structures. Besides patterning challenges, defect reduction on the high aspect ratio topography also required special engineering efforts. Several key solutions were developed in 2013, such as improvement in tool and process recipe co-optimization, and enhanced defect-monitoring methodology. The development of optimum automation and Advanced Process Control systems, including enhanced tool control and stability, resulted in significant reduction of rework rate and cycle time, helping to drive faster learning in both defect reduction and yield improvement.

Several new techniques were introduced during 2013 to enable the successful launch of 10nm development. While the immersion lithography process will be extended to the 10nm node, the double patterning technique that was developed for the 20nm and 16nm nodes is insufficient to meet 10nm requirements. Multiple patterning becomes essential to enable high yield manufacturing. To further stretch the patterning capability of optical lithography, significant learning in material processing, image modeling, and defect control has been achieved to make the 10nm process viable.

In 2013, TSMC took delivery of a NXE3300 extreme ultraviolet (EUV) scanner, and exposed its first wafers after successful installation. While we see a clear advantage in process simplification by the use of EUV as opposed to multiple patterning with optical immersion lithography, insufficient power of the EUV light source is our major concern.

Multiple e-beam direct-write lithography (MEB DW) not only has the potential for economical imaging critical layers, but it also may offer cost reduction potential for non-critical layers and 450mm wafers. It is being developed to meet the need of 7nm node imaging and beyond. A TSMC team from the design, CMOS, MEMS, and packaging areas is jointly developing and fabricating the digital pattern generation (DPG) module for the Reflective E-Beam Lithography (REBL) system of KLA-Tencor. The first DPG test chip, which was a collaborative effort between TSMC and KLA-Tencor, was taped out in the third quarter of 2013.

- **Mask Technology**

Mask technology is an integral part of our advanced lithography. In 2013, we completed the development of mask technology for the 16nm node and made solid

Table of Contents

Overview

Letter from the Chairman

Company Profile

2.1 Market/Business Summary

2.2 Innovation Management

2.3 Proprietary Information Protection

2.4 Membership in Industry Associations

2.5 Investor Engagement

2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

progress on development for the 10nm node. In the meantime, continued progress is being made on the mask technology for EUV lithography. Working with suppliers, we continue to drive down counts of native defects on mask blanks. In addition TSMC continues to work with several industrial consortia in developing the infrastructure of EUV mask technology.

Integrated Interconnect and Packaging

- **3D IC**

TSMC achieved a new industry landmark in 2013 with the ramp up to volume production of a new turnkey system integration solution called CoWoS™ (Chip on Wafer on Substrate). The CoWoS™ solution is integrated with TSMC's advanced silicon technologies to provide customers with alternatives for system level integration compared to the traditional SoC approach. The technology has passed customer product qualifications with 28nm FPGA products. At 20nm, development continues and we expect customer tape-outs in the first half of 2014. We successfully demonstrated 3D IC stacking of an application processor and wide I/O DRAM in 28HPM technology through transistor stacking (TTS) TSV technology, and completed 16nm TSV process development.

- **Advanced Package Development**

TSMC offers a wide variety of lead-free flip chip packaging technologies. In 2013 TSMC qualified for manufacture at 20nm an innovative Bump-on-Trace (BoT) packaging technology with an ultra-fine pitch (80μm) copper (Cu) bump that is suitable for mobile/handheld devices. Additionally, lead-free flip chip packaging was enhanced for ultra large die size ($\geq 600 \text{ mm}^2$) for high performance applications (GPU/CPU/FPGA/Networking Processor).

- **Advanced Interconnect**

Development of low resistance Cu and low capacitance dielectric continued to be the primary focus in 2013. At the 16nm node, a novel dielectric scheme has been developed that reduces the capacitance between copper lines. For the 10nm node and beyond, we have developed a new spacer-patterning scheme that allows copper line spacing to be reduced and minimizes signal delay. The effective resistivity of copper lines developed with these advanced processes is highly competitive and is lower than that projected by the International Technology Roadmap for Semiconductors (ITRS).

Advanced Transistor Research

The increased performance and lower power requirements of advanced logic technologies require constant innovation in transistor architecture and materials. TSMC is at the forefront of research in these areas, with particular focus on non-silicon channel materials such as germanium and III-V compounds because of their desirable performance and power characteristics. As an example of the progress being made in this area, our research team recently announced at the 2013 International Electron Devices Meeting world record-breaking transistor performance for both Germanium (Ge) channel PMOS FinFET and Indium Arsenide (InAs)



TSMC's technology is moving forward thru innovative information technology and excellent team collaboration.

Table of Contents

Overview

Letter from the Chairman

Company Profile

2.1 Market/Business Summary

2.2 Innovation Management

2.3 Proprietary Information Protection

2.4 Membership in Industry Associations

2.5 Investor Engagement

2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

(III-V) channel NMOS. New concepts of transistor structures employing innovative nanotechnology are also under intensive investigation.

Specialty Technology

TSMC offers a broad mix of technologies to address the wide range of applications that customers are engaged in. The Company enhanced its SoC roadmap to address the needs of specialty applications in the mixed-signal, RF markets, high voltage power management ICs, high voltage IC's for display, MEMS, and embedded memory.

- **Mixed Signal/Radio Frequency (MS/RF) Technology**

TSMC has successfully verified customer products in 28nm technology for RF CMOS applications (28LP-RF) that are aimed at next generation RF transceivers (e.g. 4G LTE). Higher performance analog and RF solutions are also in development at the 20nm node. TSMC developed and transferred to manufacturing a first generation 0.18μm complementary buried channel MOS (CBCMOS) technology.

- **Power IC/BCD Technology**

TSMC released 0.13BCD technology, the first BCD technology to be implemented in a 12-inch fab. The R&D team also completed development and qualified for manufacture the wide band gap material GaN in a high electron mobility transistor (HEMT) configuration for high power, high frequency applications. The 55HV technology was qualified targeting high quality mobile displays, while C015HV was released targeted at the large panel market. TSMC has also developed a 0.18μm HV embedded flash technology for touch panel applications.

- **Micro-electromechanical Systems (MEMS) Technology**

A variety of products were qualified for manufacturing ramp in 2013, including products aimed at: giga-level pixel display density; BioMEMS applications such human genome sequencing; second generation motion sensor products; and high-resolution noise cancellation microphones.

- **Flash/Embedded Flash Technology**

TSMC achieved several important milestones in embedded flash technologies. At the more mature 65nm/55nm node, NOR based cell technologies including 1-T cell and Split-Gate cell successfully completed customer qualification. At the 40nm node, the split-gate cell technology has been shipped for both automotive and consumer applications. Embedded flash development for the 28LP and 28HPM platforms is underway for low leakage applications such as smartcard, MCU and Automobile.

2.2.3 Open Innovation Platform® (OIP)

Innovation has long been both an exciting and challenging proposition. Competition among semiconductor companies is becoming more active and intense in the face of increasing customer consolidation, and the commoditization of technology at more mature, conventional levels. Companies must find ways to continue innovating in order to prosper further. Companies innovating openly from the “outside in” as well as from the “inside out” accelerate innovation through active collaborations with external partners. This active collaboration of TSMC with external partners is known as Open Innovation. TSMC has adopted this path to innovate via the Open Innovation Platform® (OIP) initiative. OIP is a key part of the TSMC Grand Alliance.

The TSMC Open Innovation Platform® (OIP) initiative is a comprehensive design technology infrastructure that encompasses all critical IC implementation areas to reduce design barriers and improve first-time silicon success. OIP promotes the speedy implementation of innovation amongst the semiconductor design community and its ecosystem partners with TSMC's IP, design implementation and DFM capabilities, process technology and backend services.

A key element of OIP is a set of ecosystem interfaces and collaborative components initiated and supported by TSMC that more efficiently empowers innovation throughout the supply chain and, in turn, drives the creation and sharing of newly created revenue and profits. TSMC's Active Accuracy Assurance (AAA) initiative is critical to OIP, providing the accuracy and quality required by the ecosystem interfaces and collaborative components.

TSMC's Open Innovation model brings together the innovative thinking of customers and partners under the common goal of shortening design time, minimizing time-to-volume and speeding time-to-market and, ultimately, time-to-revenue. It features:

- The foundry segment's earliest and most comprehensive EDA certification program delivering timely design tool enhancement required by new process technologies; and
- The foundry segment's largest, most comprehensive and robust silicon-proven intellectual properties (IPs) and library portfolio; and
- Comprehensive design ecosystem alliance programs covering market-leading EDA, library, IPs, and design service partners.

Table of Contents

Overview

Letter from the Chairman

Company Profile

2.1 Market/Business Summary

2.2 Innovation Management

2.3 Proprietary Information Protection

2.4 Membership in Industry Associations

2.5 Investor Engagement

2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

TSMC's OIP Alliance consists of 28 electronic design automation (EDA) partners, 41 IP partners, and 25 design service partners. TSMC and its partners proactively work together, and engage much earlier and deeper than before in order to address mounting design challenges at advanced technology nodes. Through this early and intensive collaboration effort, TSMC OIP is able to deliver the needed design infrastructure with timely enhancement of EDA tools, early availability of critical IPs, and quality design services when customers need them. This is critical to success for the customers to take full advantage of the process technologies once they reach production-ready maturity.

In October 2013, TSMC hosted an OIP Ecosystem Forum at the San Jose Convention Center in California, with keynote addresses from TSMC executives as well as OIP ecosystem partners. The forum was well attended by both customers and ecosystem partners and demonstrated the value of collaboration through OIP to nurture innovations.

TSMC's OIP Partner Management Portal facilitates communication with our ecosystem partners for efficient business productivity. This portal is designed with an intuitive interface and can be linked directly from TSMC-Online.



WATCH VIDEO

The TSMC Open Innovation Platform® (OIP) initiative is a comprehensive design technology infrastructure that encompasses all critical IC implementation areas to reduce design barriers and improve first-time silicon success.

2.2.4 TSMC University Collaboration Programs

TSMC University Research Centers in Taiwan

TSMC has significantly expanded its interaction with universities in Taiwan with the establishment of several new research centers located at the nation's most prestigious universities. The mission of these centers is twofold: to increase the number of highly qualified students who are suitable for employment at TSMC, and to inspire university professors to initiate research programs that focus on the frontiers of semiconductor device, process and materials technology; semiconductor manufacturing and engineering science; and specialty technologies of relevance to the semiconductor industry. Two of these research centers were established in 2013 at National Taiwan University and National Chiao Tung University, and two additional centers will be established at National Cheng Kung University and National Tsing Hua University in 2014. These centers are funded jointly by governmental agencies together with a commitment from TSMC of several hundred million Taiwan dollars and in-kind university shuttles. In 2013, about 300 high caliber students across Electronics, Physics, Materials Engineering, Chemistry, Chemical Engineering and Mechanical Engineering disciplines joined these research centers.

A Vehicle to Make Ideas Come True – TSMC University Shuttle Program

The TSMC University Shuttle Program was established to provide professors at leading research universities worldwide with access to the advanced silicon process technologies that are needed to research and develop innovative circuit

design concepts. This program links motivated professors and graduate students with enthusiastic managers at TSMC with the goals of promoting excellence in the development of advanced silicon design technologies, and the nurturing of new generations of engineering talent in the semiconductor field.

The program provides access to silicon process technologies including the 65nm and 40nm nodes for digital, analog/mixed-signal circuits and RF design, and the 0.11μm/0.18μm process nodes for micro-electromechanical system designs. Select research projects utilize the 28nm technology node. Participants in the TSMC University Shuttle Program include major university research groups in the United States: M.I.T.; Stanford University; UC Berkeley; UCLA; University of Texas at Austin; and University of Michigan. In Taiwan, participants are: National Taiwan University; National Chiao-Tung University; and National Tsing-Hua University. Other participants include: Tsing-Hua University in Beijing; Hong Kong University of Science and Technology; and Singapore's Nanyang Technological University.

TSMC's University Shuttle Program university participants recognize the importance of the program in allowing their graduate students to implement exciting designs ranging from: low-power memories; analog-to-digital converters; and advanced radio-frequency and mixed-signal bio-medical systems. This is truly a "win-win" collaboration. In 2013, TSMC received specific letters of appreciation from professors at M.I.T., Stanford University, UC Berkeley, UCLA, University of Michigan, National Taiwan University and National Chiao-Tung University.

Table of Contents

Overview

Letter from the Chairman

Company Profile

- 2.1 Market/Business Summary
- 2.2 Innovation Management
- 2.3 Proprietary Information Protection
- 2.4 Membership in Industry Associations
- 2.5 Investor Engagement
- 2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

2.2.5 Future R&D Plans

In light of the significant accomplishments of TSMC’s advanced technologies in 2013, the Company plans to continue to grow its R&D investments. The Company plans to reinforce its exploratory development work on new transistors and technologies, such as 3D structures, strained-layer CMOS, high mobility materials and novel 3D IC devices. These studies of the fundamental physics of nanometer CMOS transistors are core aspects of our efforts to improve the understanding and guide the design of transistors at advanced nodes. The findings of these studies are being applied to ensure our continued industry leadership at the 28nm and 20nm nodes and to extend our leadership to the 10nm and 7nm nodes. One of TSMC’s goals is to extend Moore’s Law through both innovative in-house work and by collaborating with industry leaders and academia. We seek to push the envelope in finding cost-effective technologies and manufacturing solutions.

TSMC R&D Future Major Project Summary

Project Name	Description	Risk Production (Estimated Target Schedule)
10nm logic platform technology and applications	3 rd generation FinFET technology for both digital and analog products	2015
7nm logic platform technology and applications	CMOS platform technology for SoC	2017
3D IC	Cost-effective solution with better form factor and performance for SIP	2014 – 2016
Next-generation lithography	EUV and multiple e-beam to extend Moore’s Law	2014 – 2019
Long-term research	Special SoC technology (including new NVM, MEMS, RF, analog) and 5nm transistors	2014 – 2019

Note: The above plans accounted for roughly 70% of the total R&D budget in 2014. The total R&D budget is currently estimated to be around 8% of 2014 revenue.

TSMC intends to continue working closely with international consortia and lithography equipment suppliers to ensure the timely development of 193nm high-NA scanner technology, EUV lithography, and multiple- e-beam direct-write technologies. These technologies are increasingly important to TSMC’s process development efforts at the 10nm, 7nm, and smaller nodes.

Similarly, TSMC continues to work with mask writing, inspection, and repair equipment suppliers to develop viable mask-making technology to help ensure that the Company maintains its leadership position in mask quality and cycle time and continues to meet aggressive R&D, prototyping, and production requirements.

With a highly competent and dedicated R&D team and its unwavering commitment to innovation, TSMC is confident of its ability to deliver the best and most cost-effective SoC technologies for its customers, thereby supporting the Company’s business growth and profitability.

2.3 Proprietary Information Protection

We understand the critical value of proprietary information and how crucial it is to safeguard it in order to protect our company’s competitive advantages. Therefore, we established a *Proprietary Information Protection (PIP) Program*, which governs how proprietary information (including trade secrets, intellectual property, etc) will be protected to preserve the best interests of our company, our shareholders, our customers, our suppliers, and our employees.

Different approaches are adopted to ensure our proprietary information is adequately and effectively protected as described below.

- Security and surveillance systems are used to continuously monitor and control access of personnel and vehicles in and out of our company’s premises. More importantly, these systems help to prevent prohibited items from being used to smuggle any proprietary information out of the premises.
- PIP-related messages are promoted to all employees on a regular basis; we also gather feedback, offer online training courses, and conduct internal compliance checks. This helps to maintain appropriate behavior from top level management down to every single individual employee.
- Severe PIP violations reported will be treated seriously and handled appropriately. Severe violators can face termination of employment and even legal actions.
- We regard our suppliers as our partners, and thus provide security training and management to help them fit in our security management policy. Each individual supplier must take PIP and work safety training, sign a nondisclosure

Table of Contents

Overview

Letter from the Chairman

Company Profile

- 2.1 Market/Business Summary
- 2.2 Innovation Management
- 2.3 Proprietary Information Protection
- 2.4 Membership in Industry Associations
- 2.5 Investor Engagement
- 2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

agreement, and pass the PIP and work safety exam before receiving a working badge. We also hosted a security symposium for suppliers to share successful experiences and review improvement plans. This symposium successfully helped our suppliers to follow our PIP regulations.

As a whole, the scope of PIP program can be summarized as follows:

- Established PIP policies
- Defined PIP management procedures and guidelines
- Implementation physical security measures and controls for PIP
- Leveraging IT security capabilities to deploy innovative PIP solutions
- Providing mandatory PIP training
- Promoting PIP best practices
- Conducting internal compliance checks
- Rewarding PIP-related innovations
- Dealing with PIP violation incidents

We will continuously seek practical ways to better protect our proprietary information.

2.4 Membership in Industry Associations

As a semiconductor industry leader, TSMC actively participates in trade and industry associations. TSMC executives have been nominated to and hold senior positions

in associations including the Taiwan Semiconductor Industry Association, the Association of Industries in Science Parks, the Chinese National Association of Industry and Commerce, the Taiwan Electrical and Electronic Manufacturers' Association, the Mount Jade Science and Technology Association of Taiwan, and the Taiwan Business Council for Sustainable Development, holding positions such as Chairman or Executive Board Director. In addition, many TSMC employees also contribute to the semiconductor industry and professional associations by serving in industry associations as committee chairman or vice chairman in various committees.

2.5 Investor Engagement

TSMC's business strategies and financial policies aim to uphold and increase shareholder value. We align ourselves with international standards that demonstrate our position and reputation as a sustainability champion. In 2013, TSMC was recognized by the Dow Jones Sustainability Indexes (DJSI) as the Semiconductors and Semiconductor Equipment Industry Group Leader, setting a milestone for the Company's achievements in sustainability and corporate social responsibility.

TSMC is the first Taiwan company, and one of just four Asian companies, to win the highest score out of its industry peers in the DJSI's 24 industry groups, made up of 59 industries and 2,500 largest companies in the world. Moreover, TSMC is one of only two semiconductor companies chosen as index components for 13 consecutive years. Of the Semiconductor and Semiconductor Equipment Industry Group companies, TSMC scored highest in categories including Supply Chain Management, Environmental Policy and Management

System, Operational Eco-Efficiency, Water-Related Risks, Human Capital Development, Labor Practice Indicators and Human Rights, Social Reporting, and Stakeholder Engagement.

TSMC Leads Semiconductors and Semiconductor Equipment Industry Group at Dow Jones Sustainability Indexes (DJSI)

Total Score: 2013 Semiconductor Sector

	TSMC	Average
Total Score	88	50

Dimensional Score: 2013

	Weighting	TSMC	Average
Economic	40%	85	59
Environmental	35%	95	47
Social	25%	85	42



Table of Contents

Overview

Letter from the Chairman

Company Profile

- 2.1 Market/Business Summary
- 2.2 Innovation Management
- 2.3 Proprietary Information Protection
- 2.4 Membership in Industry Associations
- 2.5 Investor Engagement
- 2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

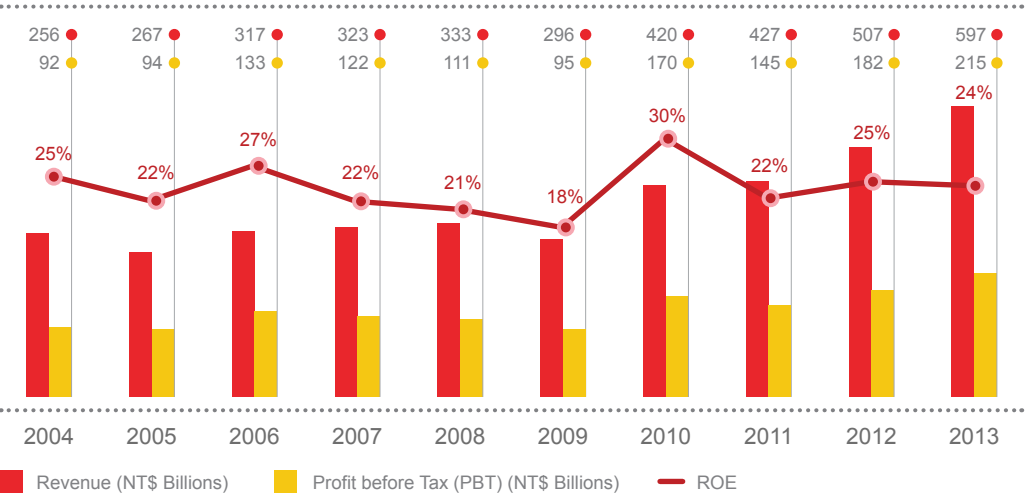
Social Participation

Environmental Protection

Appendix

Financial Performance

10 Year Averaged ROE = 24%; PBT CAGR = 15%

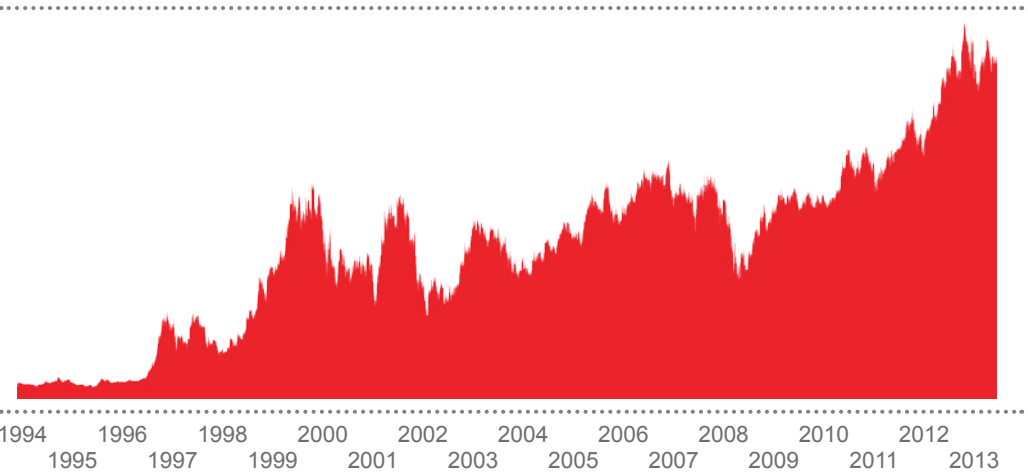


Note: TSMC prepared 2004-2011 financial performance in accordance with R.O.C. GAAP.

Market Capitalization

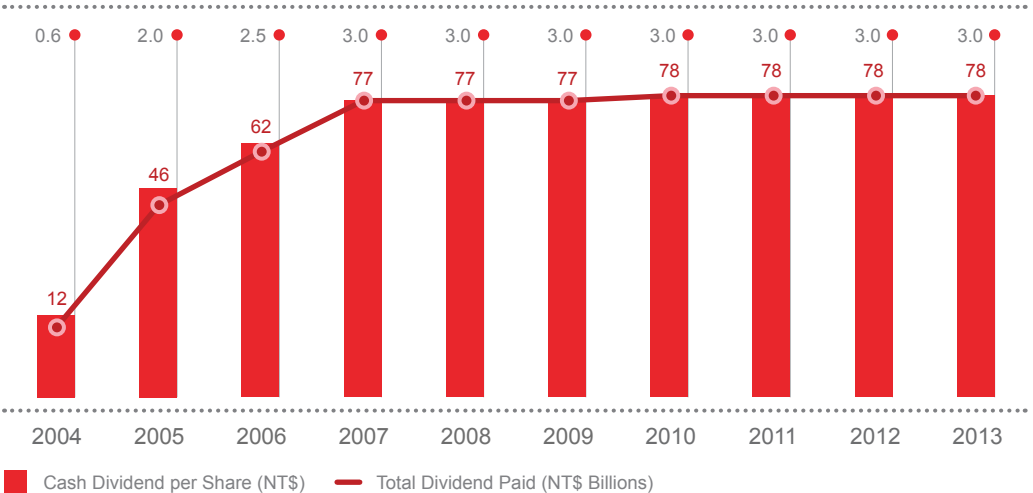
Over NT\$2.7 Trillion

Unit: NT\$ Trillion



Cash Dividend

Over NT\$660 Billion from 2004 to 2013



Since becoming a publicly listed company in 1994, TSMC has consistently delivered value to shareholders through cash dividends and share price appreciation, maintaining a strong balance sheet, and keeping one of the highest credit ratings among global semiconductor companies and Taiwan companies (Standard & Poor's (S&P) Ratings: A+; Moody's Ratings: A1; Taiwan Ratings: twAAA). In our core semiconductor business, we invest in opportunities that will expand our leadership in technology and capacity. In 2013, in addition to a record R&D budget of US\$1.6 billion, TSMC spent an unprecedented US\$9.7 billion on capital expenditures to meet the capacity needs of our customers. Moreover, we actively pursue new revenue opportunities in solid state lighting and thin film solar photovoltaic technology, which leverage our technological strengths and engineering capabilities. We believe these investments will fuel TSMC's future growth and maximize our shareholder value.

In order to serve investors and the investment community, TSMC has established a highly effective communication system to disseminate information. Each quarter, our CEO and CFO jointly hold an earnings conference, which combines face-to-face interactions with an audio conference call, to report and discuss company performance with investors worldwide. Replays and transcripts of these conferences are then made available on the Company website for investors' reference. Each year, our Investor Relations team holds hundreds of investor

Table of Contents

Overview

Letter from the Chairman

Company Profile

- 2.1 Market/Business Summary
- 2.2 Innovation Management
- 2.3 Proprietary Information Protection
- 2.4 Membership in Industry Associations
- 2.5 Investor Engagement
- 2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

and analyst meetings and conference calls, and actively participates in broker-sponsored investor conferences and non-deal roadshows, extending our reach throughout Asia, Europe and North America. In 2013, more than 260 such meetings and conference calls were held with investors worldwide. All these efforts are focused on serving worldwide investors with accurate, timely, and transparent information and financial data regarding TSMC business strategy, operations and performance. In addition, E-mail updates covering all business activities and key events are regularly sent to thousands of members of the investment community. Information regarding TSMC’s business fundamentals, summaries of analysts’ recommendations, credit ratings, and important filings with regulatory authorities are posted on TSMC’s corporate website in a timely manner.

In order to increase shareholder value, TSMC has established clear strategic financial objectives. These strategic financial objectives include: (1) average return on equity (ROE) across cycle greater or equal to 20%; (2) 10% compounded annual growth rate (CAGR) for profit before tax (PBT) from 2010 to 2015. These financial objectives can help investors better understand TSMC’s long-term investment value, while our financial track record gives investors higher confidence in TSMC’s capability to achieve these financial objectives. For example, during the past 10 years, TSMC’s averaged ROE was 24% and CAGR for profit before tax was 15%, both of which met our long-term financial objectives. Supported by solid financial performances, TSMC’s share performance including cash dividends increased 12% during 2013, marking

12%

Dividend-adjusted share price increased 12% in 2013




24%

2013 ROE reached 24.0%, profit after tax increased 13.1%



five consecutive years of annual growth. Since the Company went public in 1994, TSMC’s market capitalization has grown steadily. As of December 31, 2013, TSMC’s market capitalization reached above NT\$2.7 trillion, or US\$91 billion.

Annual investors’ surveys conducted by media have recognized the transparency of TSMC’s disclosure policies, corporate governance commitment, and equitable treatment of shareholders. Furthermore, in 2013, TSMC continued to receive various awards from globally noted institutions such as Institutional Investor and IR Magazine. For more information on awards and recognition in 2013, please refer to “2013 Awards and Recognitions”  on page 6.

2.6 Financial Highlights

Dividend Policy

TSMC’s profits may be distributed by way of cash dividend and/or stock dividend. The preferred method of distributing profits is by way of an annual cash dividend. Under TSMC’s Articles of Incorporation, stock dividends shall not exceed 50% of the total dividend distribution in any given fiscal year. TSMC does not pay dividends when there is no profit or retained earnings. TSMC has distributed cash dividends every year to its shareholders since 2004 and maintained dividends per share (DPS) at NT\$3.0 every year since 2007. TSMC intends to maintain a stable dividend policy, and will consider raising DPS when the free cash flow significantly exceeds NT\$3.0 per share.

For 2012 earning distribution, TSMC paid dividends of NT\$3.0 in cash per common share in 2013.

Tax Policy

TSMC supports tax policies and incentives that encourage innovation and foster economic growth. In R.O.C., such policies include measures that enable companies to compete globally and incentivize research and development activities.

TSMC’s payments to the governments are primarily for corporate income tax. In 2013, TSMC paid a total of corporate income tax at NT\$14.5 billions, over 90% of which was paid to the Taiwan R.O.C. government, and was the largest corporate taxpayer in the main country of our operations.

Based on previous expansion, the purchase of production equipment and research and development expenditures, TSMC was entitled to tax incentives such as tax exemption and investment tax credits in 2013 as follows:

Law/Statute	Item	(In Billions of NT\$)
Article 9 of the Statute for Upgrading Industries	5-year tax exemption	8.6
Article 6 of the Statute for Upgrading Industries	Purchase of machinery and equipment	4.8
Article 6 of the Statute for Upgrading Industries	R&D and personnel training expenditures	4.0
Article 10 of the Statute for Industrial Innovation	R&D expenditures	3.1

Table of Contents

Overview

Letter from the Chairman

Company Profile

2.1 Market/Business Summary

2.2 Innovation Management

2.3 Proprietary Information Protection

2.4 Membership in Industry Associations

2.5 Investor Engagement

2.6 Financial Highlights

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

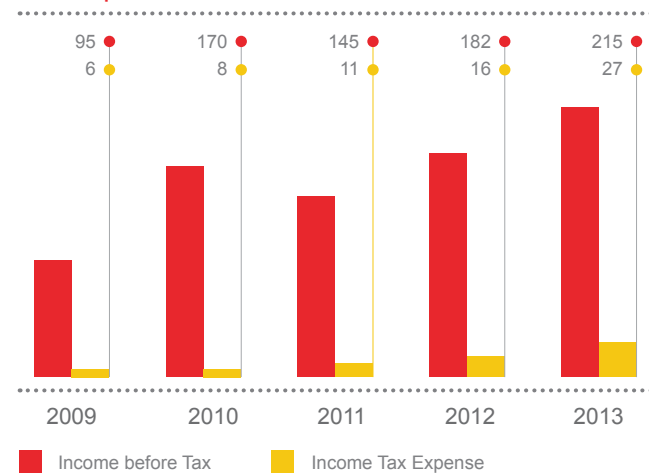
Social Participation

Environmental Protection

Appendix

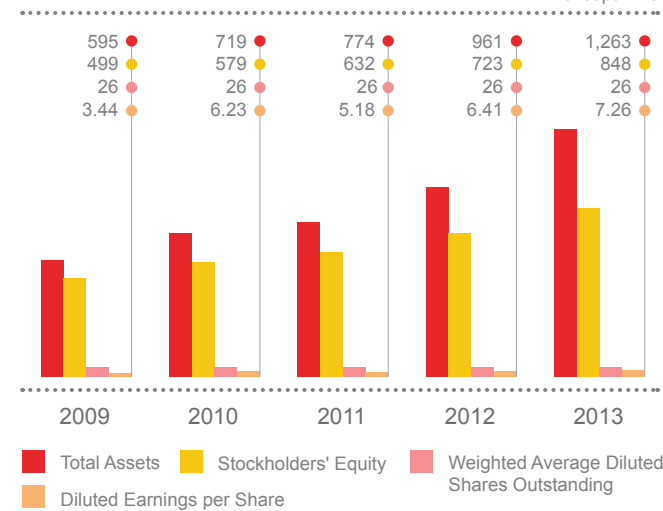
Income before Tax and Income Tax Expense

Unit: NT\$ Billions



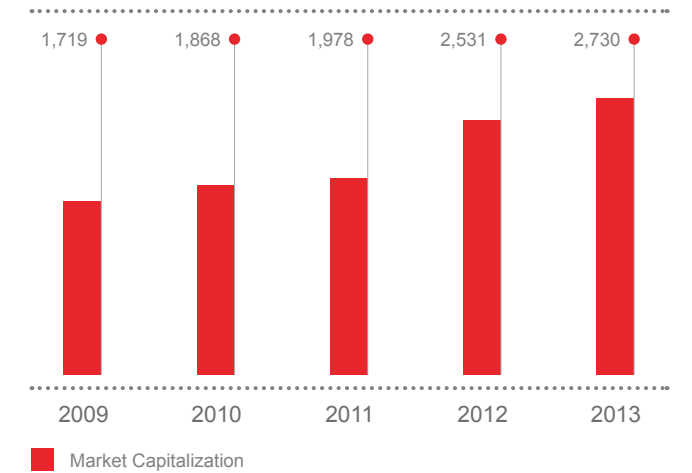
Assets and Capitalization – Year End

Unit: NT\$ Billions except EPS



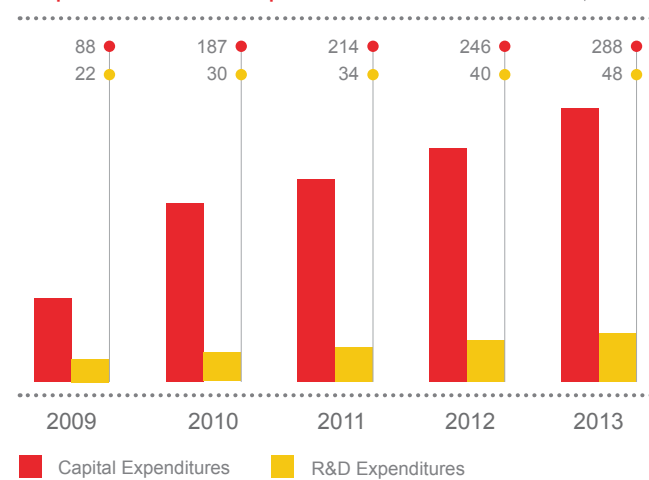
Market Capitalization – Year End

Unit: NT\$ Billions



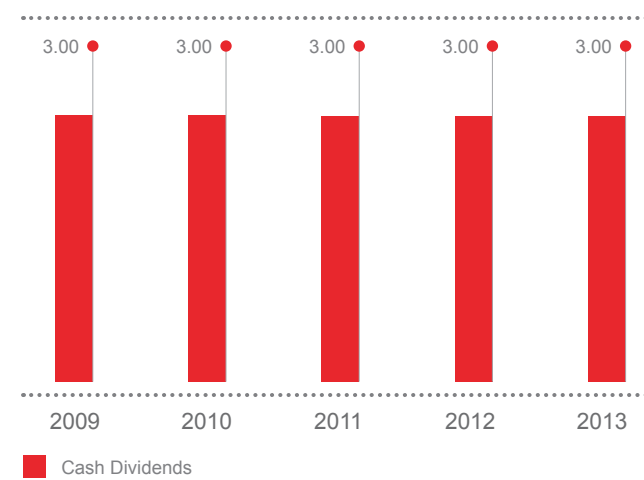
Capital and R&D Expenditures

Unit: NT\$ Billions



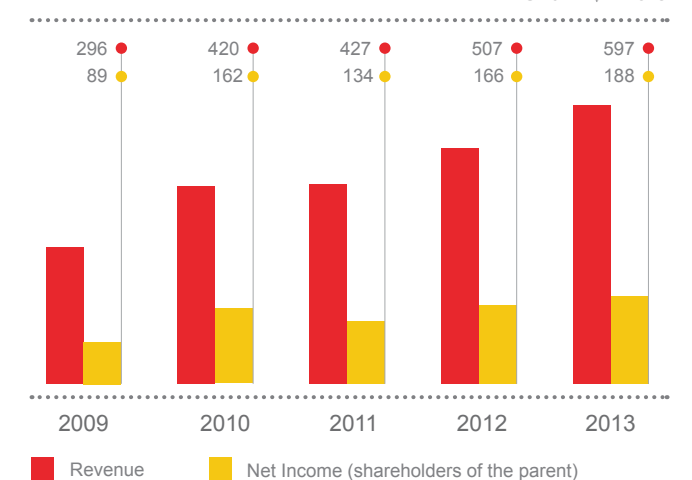
Dividends Distribution

Unit: NT\$



Revenue and Net Income

Unit: NT\$ Billions



Note: TSMC prepared 2009-2011 financial performance in accordance with R.O.C. GAAP.

Stakeholder Engagement

TSMC pursues sustainable operations and establishes multiple transparent and effective communication channels with stakeholders. These channels help TSMC understand their needs and expectations, which serve as important references for our CSR policy and plans.

In 2011, TSMC formed a CSR committee led by Senior Vice President Lora Ho and Volunteer Program President Ms. Sophie Chang. TSMC's CSR committee include representatives from Customer Service, Human Resources, Investor Relations, Legal, Material and Supply Chain Management, Operations, Public Relations, Quality and Reliability, R&D, Risk Management, Corporate ESH, and the independent TSMC Education & Culture Foundation. These representatives participate in our CSR quarterly meeting and compile stakeholders' concerns through various channels, communicate with them, and ensure implementation of appropriate initiatives and programs responsive to those interests and concerns.

In 2012, we included CSR in the Board meeting agenda at the first time. Our annual CSR achievements and projects will be reported in the Board meeting periodically so as to be an importance reference for decision making.

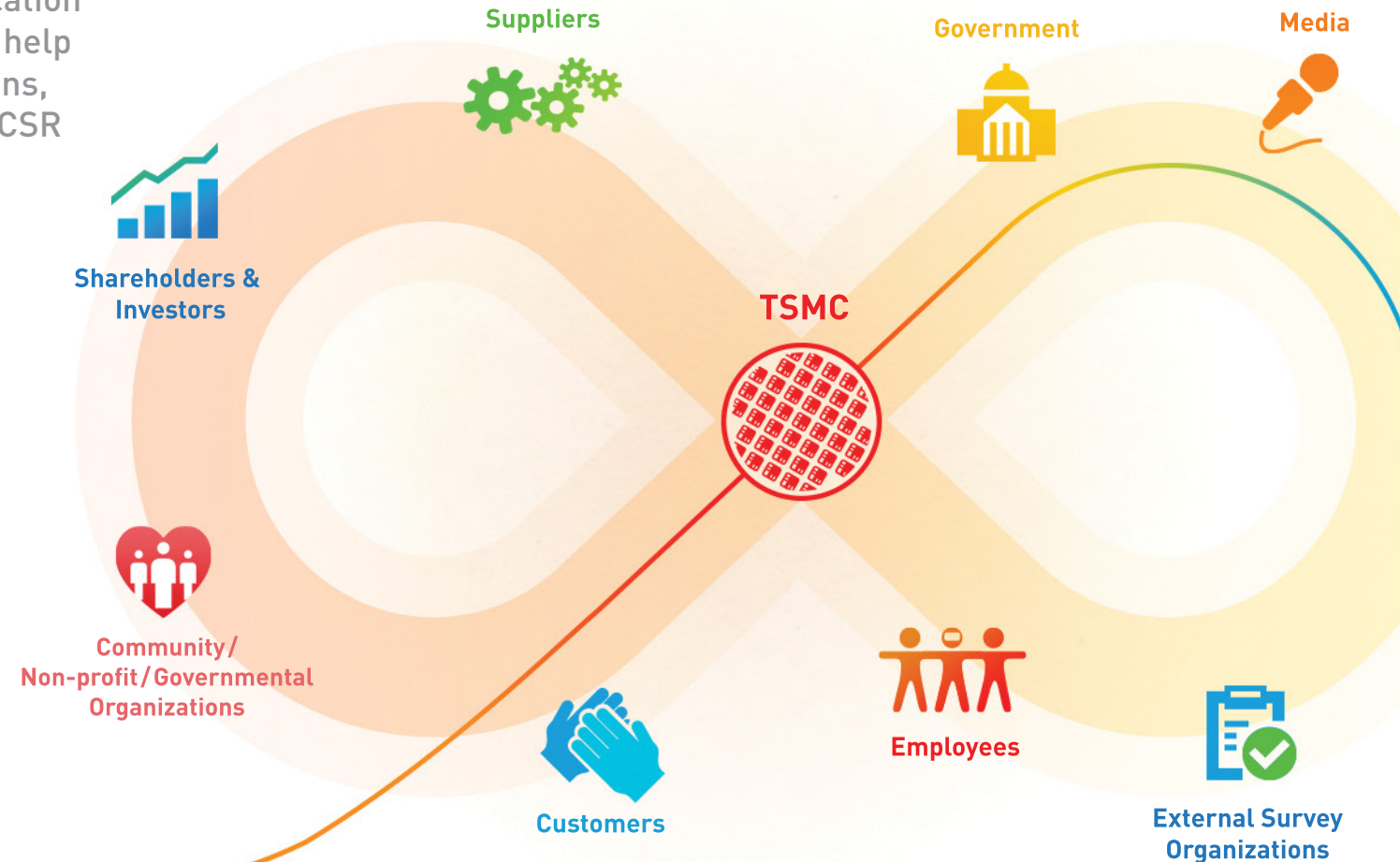


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

TSMC values the views and suggestions of all its stakeholders. Its long-term dedication has won recognition from external stakeholders and internal efforts to build a workplace of open communication and gather diverse viewpoints have also gained the trust and support of employees, who are willing to offer suggestions to benefit both TSMC and society. The “TSMC i-Charity” platform website launched in December 2013 is an example of TSMC and employees working together to make an innovative idea into reality.

Stakeholder Management Objectives

TSMC applies a “Plan-Do-Check-Act” model to improve social responsibility performance through continuous communication with stakeholders and invites them to participate in many of our activities. Our objectives for managing stakeholder concerns are as follows:

- Fully understand stakeholders’ concerns and continue to improve CSR-related performance.
- Obtain stakeholders’ trust and respect for TSMC.
- Disclose TSMC’s efforts and performance to maintain and enhance TSMC’s reputation.

Stakeholder Management Procedure

TSMC’s stakeholder management procedure is divided into four stages: identification, analysis, plan, and engagement.

• Stakeholder Identification

TSMC defines stakeholders as internal or external persons or organizations which can influence TSMC or be influenced by TSMC. According to this definition, we have identified TSMC’s stakeholders to include: employees, customers, suppliers, shareholders and investors, governments, communities/non-governmental/non-profit organizations, external survey organizations, and media.

• Stakeholder and Its Concerned Topics Analysis

After identifying our stakeholders, we establish individual communication channels with each of them according to their influence and issues of concern. We communicate with stakeholders through multiple channels established by CSR-related units, and compile their economic, social and environmental concerns. We then prioritize concerns according to their impact on the Company. Stakeholders’ concerns are divided into significant, secondary and general topics to be included in key annual projects.

• Stakeholder Related Projects

TSMC’s CSR-related units incorporate the results of the analyses described above into their daily work, annual plans, or cross-functional projects as a key reference for the Company’s sustainable development strategy.

• Stakeholder Engagement and Measurement

TSMC and its stakeholders have differing levels of interactions according to priority so as to use company’s resource efficiently and to create win-win relationships.



TSMC i-Charity: Behind the Scenes

Springing from a suggestion volunteered by an employee at the Fab 15 facility, “TSMC i-Charity” is an interactive online platform created with the support of the CSR Committee using company resources and made possible with cross-organizational support. It integrates philanthropic projects by the TSMC Volunteer Program, the TSMC Education and Culture Foundation, and other organizations, and also opens a channel for colleagues to report service projects, share results, and suggest new ideas for doing good.

To provide a more convenient way to help others, the platform’s donation system is linked with the Company’s compensation system and allows employees to set monthly deductions of no greater than NT\$1,000 for projects of their choice. Employees can also participate by donating their time and labor with volunteer service through this platform. TSMC hopes that the “TSMC i-Charity” platform can sow seed of love across Taiwan that will blossom into hope.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management



Social Participation

Environmental Protection

Appendix




In the interaction process with TSMC's stakeholders, we have set up various key performance indexes (KPI) for continuous improvement through periodical review.

TSMC also contacts stakeholders actively to understand their expectations and to help them understand our efforts

and performance. In addition to the multiple communication channels mentioned above, all persons or organizations can contact responsible people through the [TSMC website](#),  or submit questions or recommendations to our CSR taskforce through our [CSR mailbox](#). 

TSMC believes that maintaining good communication with stakeholders can not only help us understand our economic, social and environmental challenges, but also creates value for our company and society, and allows the Company to continue sustainable growth.

Summary for TSMC Stakeholders Engagement in 2013

Stakeholders	Stakeholders Engaged	Communication Channels	Topics of Concern	2013 TSMC's Actions
 Employees	<ul style="list-style-type: none"> All employees 	<ul style="list-style-type: none"> Corporate intranet Announcements Human resource representatives Regular/Ad-hoc communication meetings Employee voice channels, such as immediate response system/employee opinion box/wellness center/wellness website, etc. 	<ul style="list-style-type: none"> Legal compliance Labor relations Employee recognition Salary and benefits Occupational health and safety 	<ul style="list-style-type: none"> Successfully creating diversified job opportunities for disabled persons Quarterly labor-management meetings; as well as responsive submission channels to collect employees opinions Health promotional programs under the theme of "Infuse Lohas into Your Life"
 Customers	<ul style="list-style-type: none"> Customer-Foundry Operation and Quality organizations 	<ul style="list-style-type: none"> Annual customer satisfaction survey Customer quarterly business review meeting Customer quarterly technical review meeting Customer audits 	<ul style="list-style-type: none"> Process technologies Product quality and reliability Design support Customer service Delivery and capacity Price Green product Conflict mineral free survey Proprietary information protection 	<ul style="list-style-type: none"> Annual customer satisfaction survey Quarterly business review meeting Quarterly technical review meeting
 Suppliers	<ul style="list-style-type: none"> Raw material suppliers Facility/Equipment suppliers Tool suppliers Electronic parts suppliers 	<ul style="list-style-type: none"> Supplier quarterly business review meeting Supplier questionnaire survey Supplier on-site audit Annual supply chain management forum 	<ul style="list-style-type: none"> Supply chain management Environmental Safety & Health (ESH) management Regulatory compliance 	<ul style="list-style-type: none"> Supplier business review meeting Supplier questionnaire survey TSMC 2013 Supply Chain Management Forum

(continues on next page)

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix



Stakeholders	Stakeholders Engaged	Communication Channels	Topics of Concern	2013 TSMC's Actions
 Shareholders & Investors	<ul style="list-style-type: none">Shareholders who directly or indirectly participated in Annual Shareholder Meeting Investors and analysts who attend Quarterly Earnings Conferences in person or via telephone or the InternetInvestors or analysts who sent questions or feedback via telephone or emailsTaiwan Stock Exchange and U.S. SEC	<ul style="list-style-type: none">Hold Annual Shareholder MeetingHold Quarterly Earnings ConferenceParticipate in investor conferences and meetingsAnswer investors' questions and collect feedback via telephone and emails.Issue Annual Reports, Corporate Responsibility Reports, 20-F filings to U.S. SEC, material announcements to Taiwan Stock Exchange, and corporate news on company's website	<ul style="list-style-type: none">Semiconductor industry outlookCompany's competitive advantagesPotential for future growthContinuous profitability improvementDividend policyManagement change	<ul style="list-style-type: none">Highlight the fast growth of 28nm business and company's competitive advantagesReport current development progress of 20 and 16nm technologiesHighlight company's niche and growth potential in the mega trend of mobile computingReport company's status in achieving its 5-year strategic financial goalsCommunicate the considerations in raising cash dividend in the futureCommunicate the arrangements for CEO succession
	<ul style="list-style-type: none">The citizens of Hsinchu, Taichung and TainanThe CommonWealth Magazine Foundation/The Wu Chien-Shiung Foundation	<ul style="list-style-type: none">Holding arts events in communitiesSponsoring non-profit organizations to hold education programs	<ul style="list-style-type: none">Arts appreciation promotionNarrowing the gap in the educational resources between rural and urban areasScientific talent cultivation	<ul style="list-style-type: none">Holding TSMC Hsin-chu Arts Festival in Hsinchu, Taichung and TainanSponsoring the CommonWealth Magazine Foundation to donate books to schools of remote townshipsSponsoring the program "Raising the Level of High School Physics Experiments" of the Wu Chien-Shiung Foundation
 Community/ Non-profit/ Non-governmental Organizations	<ul style="list-style-type: none">The United Daily and the China Times	<ul style="list-style-type: none">Collaboration in holding literary and arts activities for youth	<ul style="list-style-type: none">The young generation's humanity cultivation	<ul style="list-style-type: none">Collaborated with the United Daily to hold the TSMC Literature AwardCollaborated with the China Times to hold the TSMC Calligraphy Contest
	<ul style="list-style-type: none">National Museum of Natural Science (Taichung)8 elementary schools in remote areasHsinchu Veterans HomeSt. Teresa Children CentreTainan Jacana Ecology ParkTaiwan Fund for Children and Families, Hsinchu BranchSociety of Jesus Hsinchu Social Service CenterHua-Shan Social Welfare FoundationSyin-Lu Social Welfare FoundationGenesis Social Welfare FoundationOthers (36 NPOs)	<ul style="list-style-type: none">Volunteer activitiesCorporate website	<ul style="list-style-type: none">Volunteer services	<ul style="list-style-type: none">Every weekend, volunteers docents guide visitors through "The World of Semiconductors" exhibit at the National Museum of Natural Science (Taichung)Book reading volunteers serve eight elementary schools in remote areas of Taiwan each month, reading stories to children and also reading with themEnergy saving volunteers help to develop energy-saving plans to improve energy efficiency and teach students energy-saving skillsCommunity volunteers regularly visit the elderly at the Hsinchu Veterans Home, and engage them in activities including karaoke and art projectsCommunity volunteers go to the St. Teresa Children's Centre each month and spend the weekend with childrenEcology volunteers serve as volunteer docents at the jacana ecology education park on weekends and holidays, introducing the jacanas and ecological knowledge to visitors.7 annual volunteer training camps2 holiday volunteer eventsNew volunteer service: Hsinchu ecology volunteersInnovative non-profit events

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix




Stakeholders	Stakeholders Engaged	Communication Channels	Topics of Concern	2013 TSMC's Actions
 Government	<ul style="list-style-type: none"> Science Park Administrations Environmental Protection Administration Local Environmental Protection Bureaus Water Resource Agency 	<ul style="list-style-type: none"> Through official correspondence Through meetings (such as communication meetings or public hearings) Communication with government authorities through industry organizations, including the Association of Science Park Industries, Taiwan Semiconductor Industry Association, World Semiconductor Council, and Chinese National Federation of Industries 	<ul style="list-style-type: none"> Greenhouse gas reduction Water resource management Green product Energy and water saving 	<ul style="list-style-type: none"> TSMC collaborated with the Council of Labor Affairs and the National Taiwan University to hold the third Labor Health Forum
	<ul style="list-style-type: none"> Taipei Fine Arts Museum 	<ul style="list-style-type: none"> Construction funded by TSMC Foundation 	<ul style="list-style-type: none"> Art Education Promotion 	<ul style="list-style-type: none"> TSMC Foundation and Taipei City Government jointly funded the Taipei Fine Arts Museum "Children's Art Education Center"
 External survey organizations	<ul style="list-style-type: none"> Dow Jones Sustainability World Index (DJSI) Carbon Disclosure Project Goldman Sachs Taiwan Institute of Sustainable Energy CommonWealth Magazine Globalviews Magazine 	<ul style="list-style-type: none"> Questionnaire surveys Corporate website Awards and competitions 	<ul style="list-style-type: none"> Sustainability Indexes Water resource management Ecological preservation 	<ul style="list-style-type: none"> Dow Jones Sustainability World Index: First Taiwan company to be recognized as the DJSI "Semiconductors and Semiconductor Equipment" Industry Group Leader GS SUSTAIN Focus List: One of the world's 59 Industry Leaders Taiwan Institute of Sustainable Energy: Award for Corporate Sustainability Reports – Excellent for Manufacturing Industry Taiwan Institute of Sustainable Energy: Model Award for Corporate Sustainability Development Performances – Category of Transparency and Integrity CommonWealth Magazine: Most Admired Company in Taiwan CommonWealth Magazine: Excellence in Corporate Social Responsibility Award Globalviews Magazine: Excellence in Corporate Social Responsibility, Occupational Health First Prize
 Media	<ul style="list-style-type: none"> Print Media Electronic Media 	<ul style="list-style-type: none"> Press conferences Interviews Press releases 	<ul style="list-style-type: none"> Economic status and operational growth New fab planning and expansion Employee recruitment Succession issue 	<ul style="list-style-type: none"> Collaborated with Commonwealth Publishing Group to publish 2 books: "TSMC Green Power", "TSMC Green Action". Distribution was more than 10 thousand in half a year. Published 2 books in simplified Chinese to share TSMC's green building experience with China in 2014 Fab 14 Media tour: opening our largest GIGAFAB™ cleanroom to the press for the first time, demonstrating our technology advantage and strengthen relationships with media Arranged print-media interviews for Chairman to talk about the CEO succession issue

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Stakeholder Materiality Analysis



Significant Topics

- 1 Pollution Prevention
- 2 Legal Compliance
- 3 Semiconductor Prospect
- 4 Corporate Governance
- 5 Continuous Increase of Profit
- 6 Water Resource Management
- 7 Greenhouse Gas Reduction
- 8 Employee-employer Relationship
- 9 Energy/Resource Usage
- 10 Future Growth
- 11 Company's Competitiveness
- 12 Compensation and Benefit
- 13 Waste Management
- 14 Human Right
- 15 Customer Trust
- 16 Green Product

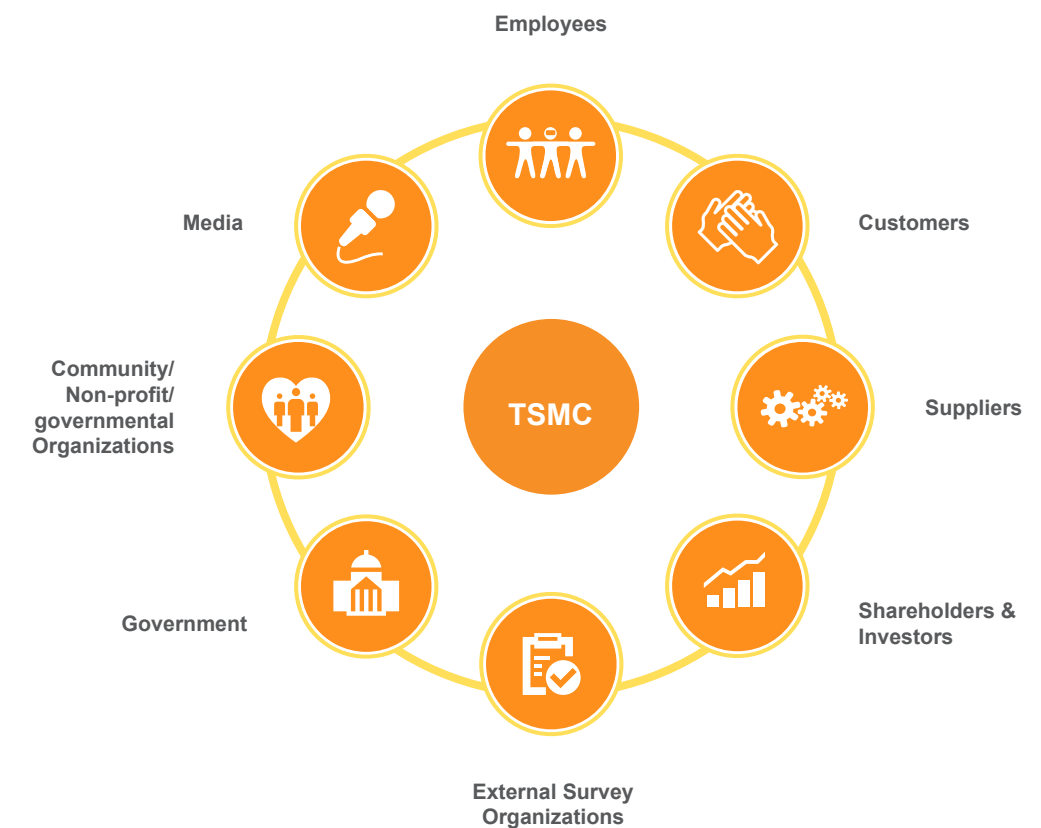
Secondary Topics

- 17 Trade Secret Protection
- 18 People Retention
- 19 Occupation Safety and Health
- 20 Supply Chain Management
- 21 Eco Preservation
- 22 Individual Development
- 23 Response to Organization Change
- 24 Recruiting
- 25 Employee Recognition

General Topics

- 26 Career Development
- 27 Environmental Accounting
- 28 Indirect Environmental Impact
- 29 Work Flow
- 30 Social Welfare
- 31 Manager Leadership
- 32 Dividend Policy
- 33 Employee Communication

Key Performance Indexes for Stakeholder Engagement



Corporate Governance

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

4.1 Governance Structure

4.2 Board of Directors

4.3 Audit Committee

4.4 Compensation Committee

4.5 Corporate Social Responsibility Committee

4.6 Political Contributions

4.7 Code of Ethics and Business Conduct

4.8 Regulatory Compliance

4.9 Risk Management

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

TSMC advocates and acts upon the principles of operational transparency and respect for shareholder rights. We believe that one basis for successful corporate governance is a sound and effective Board of Directors.

In line with this principle, the TSMC Board delegates various responsibilities and authority to two Board Committees, Audit Committee and Compensation Committee. Each Committee has a written charter approved by the Board. Each Committee's chairperson regularly reports to the Board on the activities and actions of the relevant committee.

TSMC Corporate Governance at a Glance

- Five of our eight Board members are independent directors
- One of the members of the Board Directors is female
- Audit Committee and Compensation Committee are made up of independent directors
- Committee Charters are publicly disclosed on TSMC's website
- Audit Committee self-assessment process is in place
- Average Board Meeting attendance rate is 97% and the attendance rate for the Audit Committee and Compensation Committee's Meetings are 95%

4.1 Governance Structure

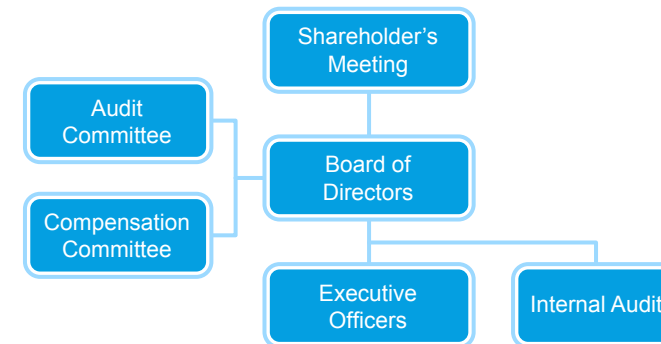


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

4.1 Governance Structure

4.2 Board of Directors

4.3 Audit Committee

4.4 Compensation Committee

4.5 Corporate Social Responsibility Committee

4.6 Political Contributions

4.7 Code of Ethics and Business Conduct

4.8 Regulatory Compliance

4.9 Risk Management

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

4.2 Board of Directors

4.2.1 Board Structure

As the highest governance body, TSMC's Board of Directors consists of nine^{Note} distinguished members with a great breadth of experience as world-class business leaders or scholars. We rely on them for their diverse knowledge, personal perspectives, and solid business judgment. Five of the nine members are independent directors: former British Telecommunications Chief Executive Officer, Sir Peter Bonfield; Acer Inc. Chairman, Mr. Stan Shih; former Texas Instruments Inc. Chairman of the Board, Mr. Thomas J. Engibous; Professor of Princeton University, Gregory C. Chow; and advisor to the Taiwan Executive Yuan and the Taipei City Government, Ms. Kok-Choo Chen. The number of Independent Directors is more than 50% of the total number of Directors.

We do have one major shareholder on our Board, i.e. the National Development Fund, Executive Yuan, R.O.C., which is also one of our largest shareholders. It has served as our director since our founding. As a corporate entity, the National Development Fund, Executive Yuan, R.O.C. is required to appoint a representative to act on its behalf.

The Chairman and Vice Chairman of the Board of Directors are not executive officers of the Company. The Board approved the appointment of two members of our senior management team to jointly serve as the President and Co-Chief Executive Officer of TSMC. These two Co-CEOs report to and perform such duties as designated by the Chairman of the Board.

Note: TSMC's Board of Directors originally consisted of nine directors. Since Dr. Rick Tsai resigned as a director of TSMC effective January 27, 2014, currently the number of Directors is eight. For further information on the composition and nature of our Board such as the number of each director's other significant positions and commitments and the nature thereof, please see our most recent Form 20-F filed with the U.S. SEC at http://www.tsmc.com/english/investorRelations/sec_filings.htm 

4.2.2 Board Responsibilities

Under the leadership of Chairman Morris Chang, TSMC's Board of Directors takes a serious and forthright approach to its duties and is a dedicated, competent and independent Board.

In the spirit of Chairman Chang's approach to corporate governance, a board of directors' primary duty is to supervise. The Board should supervise the Company's: compliance with relevant laws and regulations; financial transparency; timely disclosure of material information, and maintaining of the highest integrity within the Company.

TSMC's Board of Directors strives to perform these responsibilities through the Audit Committee and the Compensation Committee, the hiring of a financial expert for the Audit Committee, and coordination with the Internal Audit department.

The second duty of the Board of Directors is to provide guidance to the management team of the Company. Quarterly, TSMC's management reports to the Board on a variety of subjects. The management also reviews the Company's business strategies with the Board, and updates TSMC's Board on the progress of those strategies, obtaining Board guidance as appropriate.

The third duty of the Board of Directors is to evaluate the management's performance and to dismiss officers of the Company when necessary. TSMC's management has maintained a healthy and functional communication with the Board of Directors, has been devoted in executing guidance

of the Board, and is dedicated in running the business operations, all to achieve the best interests for TSMC shareholders.

We opened a new chapter in corporate social responsibility and formally added Corporate Responsibility Report to the agenda of the Board of Directors in 2012. The responsibility of implementing economic, environmental and social tasks is delegated to our team of experienced management. Every year the Board of Directors receive regular reports on the results of our CSR initiatives and future plans. We believe that this is an important step towards firmly establishing TSMC as a sustainable, evergreen company well into the future.

4.2.3 Election of Directors

As the highest governance body of our company, our directors hold a tenure of three years. Our Board members are nominated through a highly selective process that considers not only their respective professional technical competence but also their respective reputation for ethical behavior and leadership. The independence of each independent director candidate is also considered and assessed under relevant law such as the Taiwan "Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies". The final slate of candidates are put to the shareholders for voting at the relevant annual shareholders' meeting. Under Taiwan law, in which TSMC was incorporated, any shareholders holding one percent or more of our total outstanding common shares may nominate their own candidate to stand for election as a Board member. This democratic mechanism allows our shareholders to become involved in the selection and nomination process of Board candidates.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

4.1 Governance Structure

4.2 Board of Directors

4.3 Audit Committee

4.4 Compensation Committee

4.5 Corporate Social Responsibility Committee

4.6 Political Contributions

4.7 Code of Ethics and Business Conduct

4.8 Regulatory Compliance

4.9 Risk Management

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

4.2.4 Directors’ Compensation

TSMC’s Articles of Incorporation restricts the amount of compensation payable to its directors that the Company may make from its distributable earnings (defined as net income after required regulatory provisions). Over the years, TSMC directors’ compensation declined from 1% of TSMC’s distributable earnings to 0.3%, before being capped to no more than 0.3% of its distributable compensation. In addition, directors who also serve as executive officers of the Company are not entitled to receive any director compensation.

4.2.5 Avoiding Conflicts of Interests

The avoidance of conflicts of interests is governed by several corporate processes. First, any director or executive officer who, for him/herself or on behalf of another, wishes to engage in any business activity that overlaps with TSMC’s business must obtain the prior approval of our shareholder meeting or Board of Directors respectively in accordance with relevant laws. Second, each board member and executive officer must complete an annual declaration on related party transactions such as whether they or their family members have any interest in any TSMC transactions. Third, we are subject to strenuous reporting requirements on reporting any related party transactions under both Taiwan and U.S. security rules.

4.3 Audit Committee

TSMC’s Board of Directors established the Audit Committee in 2002. The Audit Committee assists the Board in fulfilling its oversight of the quality and integrity of the accounting, auditing, reporting, and financial control practices of the Company. The Audit Committee is responsible to review the Company’s: financial reports; auditing and accounting

policies and procedures; internal control systems; material asset or derivatives transactions; material lending funds, endorsements or guarantees; offering or issuance of any equity-type securities; legal compliance; related-party transactions and potential conflicts of interests involving executive officers and directors; Ombudsman reports; fraud investigation reports; corporate risk management; hiring or dismissal of an attesting CPA, or the compensation given thereto; and appointment or discharge of financial, accounting, or internal auditing officers.

Under R.O.C. law, the membership of the Audit Committee shall consist of all independent Directors. TSMC’s Audit Committee satisfies this statutory requirement. The Committee also engaged a financial expert consultant in accordance with the rules of the U.S. Securities and Exchange Commission. The Audit Committee annually conducts self-evaluation to assess the Committee’s performance and identify areas for further attention.

4.4 Compensation Committee

TSMC’s Board of Directors established the Compensation Committee in 2003. The Compensation Committee assists the Board in discharging its responsibilities related to TSMC’s compensation and benefits policies, plans and programs, and in the evaluation and compensation of TSMC’s directors of the Board and executives.

The members of the Compensation Committee are appointed by the Board as required by R.O.C. law. According to TSMC’s Compensation Committee Charter, the Committee shall consist of no fewer than three independent directors of the Board. Currently, the Compensation Committee is comprised

of all five independent directors; the Chairman of the Board, Dr. Morris Chang, is invited by the Committee to attend all meetings and is excused from the Committee’s discussion of his own compensation.

4.5 Corporate Social Responsibility Committee

Our experienced management team as guided by our independent board members help guide TSMC in implementing its corporate social responsibilities. The implementation of our corporate social responsibilities also rests on our CSR Committee. The CSR Committee has been appointed by the Chairman of the Board with primary responsibility for economic, environmental and social topics. This Committee reports to the Chairman of our Board directly. CSR Committee is jointly led by two individuals: our Chief Financial Officer and the President of the Volunteer Association. We believe that having this Committee be co-led by someone who is not an executive officer of TSMC will bring a more fresh and socially balanced perspective into the workings of our CSR Committee.

4.6 Political Contributions

TSMC has consistently remained politically neutral, but encourages employees to fulfill their duties as citizens and actively participate in politics and vote for the candidates the employees believe to be the best public servants. TSMC executives have also expressed concerns from time to time and have made public comments on certain matters affecting industry, the economy and our employees livelihood. In the past, TSMC made legally proper political donations to local political parties between 2000 and 2004 to support the development of

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

4.1 Governance Structure

4.2 Board of Directors

4.3 Audit Committee

4.4 Compensation Committee

4.5 Corporate Social Responsibility Committee

4.6 Political Contributions

4.7 Code of Ethics and Business Conduct

4.8 Regulatory Compliance

4.9 Risk Management

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

democracy in Taiwan. Due to a Taiwan legislation a few years ago, TSMC is now prevented from making political contributions because it is over 50 percent owned by foreign investors. TSMC has fully complied with this law.

4.7 Code of Ethics and Business Conduct

4.7.1 Ethics Values

Integrity is the most important core value of TSMC's culture. TSMC is committed to acting ethically in all aspects of our business; constantly and vigilantly promoting integrity, honesty, fairness, accuracy, and transparency in all that we say and do.

At the heart of our corporate governance culture is TSMC's Code of Ethics and Business Conduct (the "Code") that applies to TSMC and its subsidiaries, and this Code requires that each employee bears a heavy personal responsibility to preserve and to protect TSMC's ethical values and reputation and to comply with various applicable laws and regulations. In so doing, each of us:

- must not advance our personal interests at the expense of, or in conflict with the Company;
- must refrain from corruption, unfair competition, fraud, waste and abuse;
- must not undertake any practices detrimental to TSMC, the environment and to society;
- must procure all of our raw materials from socially responsible sources;
- must abide by both the spirit and letter of all applicable laws, rules and regulations; and

- must avoid any efforts improperly to influence the decisions of anyone, including government officials, agencies, and courts, as well as our customers, suppliers, and vendors.

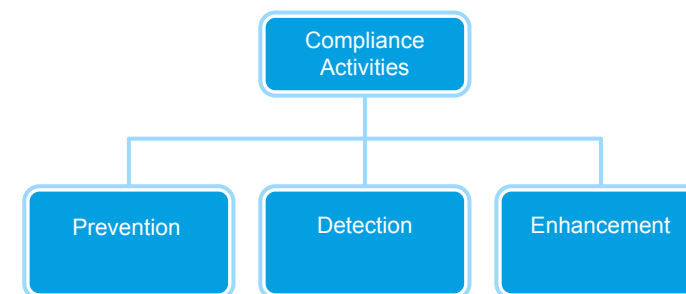
In order to continue to build an environment of innovation, technology leadership, and sustainable profitable growth, the Code requires that we must promote business relationships founded upon an unwavering respect for the intellectual property rights, proprietary information and trade secrets of TSMC, our customers, and others; and the proper use of the Company's assets, not for personal use, but for achieving TSMC's vision for many years to come.

All employees, officers and Board members must wholeheartedly embrace and practice the Code. TSMC's management must set the best example of integrity and ethical conduct. TSMC's officers, especially our CEO, CFO, and General Counsel, with oversight from our Board, are responsible for the full, fair, accurate, timely, and understandable financial accounting and financial disclosure in reports and documents filed by the Company with securities authorities and in all TSMC public communications and disclosures.

4.7.2 Code Administration and Disciplinary Action

All employees, officers and managers must comply with the Code and the other company policies, procedures, and regulations based on the Code. TSMC expects our customers, suppliers, vendors, advisors and others with which we come into contact to understand and respect the Company's ethics standards and culture.

As part of our ethics compliance program, all employees must disclose any matters that have, or may have, the appearance of undermining the Code (such as any actual or potential conflict of interest). Key employees and senior officers must periodically declare their compliance status with the Code. To encourage an open culture of ethics compliance, we also have implemented several related policies that allow employees or any whistleblowers with relevant evidence to report any financial, legal, or ethical irregularities through the "Complaint Policy and Procedures for Certain Accounting and Legal Matters" or "Procedures for Ombudsman System". When an employee finds or suspects a breach of this Code, he/she should report it immediately to any of the following persons: their supervisor; the Function Head of Human Resources; the Company's Ombudsman; or to the Chairman of the Company's Audit Committee, depending on the nature of the suspected breach.



In order to promote a culture of awareness, we have made all of our various policies available through easy access on our intranet and require all employees to be trained on our core values and compliance regime. Our compliance program for all employees includes regular live seminars

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

4.1 Governance Structure

4.2 Board of Directors

4.3 Audit Committee

4.4 Compensation Committee

4.5 Corporate Social
Responsibility Committee

4.6 Political Contributions

4.7 Code of Ethics and Business
Conduct

4.8 Regulatory Compliance

4.9 Risk Management

A Great Place to Work

Customer Service and Supplier
Management

Social Participation

Environmental Protection

Appendix

and online training on various topics on ethics, including the requirements to prevent bribery and to protect our intellectual property. Our intranet website posts various guidelines and informative articles on ethics and honorable business conduct. We also require our stakeholders such as our suppliers, vendors and other partners to accept and abide by the same high ethical standard to which we hold all of our officers and employees. For example, we require all of our suppliers, vendors and partners to declare in writing that they will not engage in any fraud or any unethical conduct when dealing with us or our officers and employees. We also promote our ethical culture to our business partners through regular live seminars to prevent any unethical conduct. We have established an online “hotline” that any relevant person may use to report any ethical irregularities to be investigated personally by designated senior management of TSMC.

The internal auditors of TSMC regularly audit the compliance by the Company, our vendors, suppliers, and customers, of relevant rules and regulations.

TSMC Internal Audit assists the Board of Directors and Management in inspecting and reviewing whether TSMC’s internal control system is adequate and effective in its design and operation to ensure that:

- Financial, managerial, and operating information is accurate, reliable, and timely.
- Legislative or regulatory issues impacting the organization are recognized and addressed properly.
- Employee’s actions are in compliance with policies, standards, procedures, and applicable laws and regulations.
- Resources are acquired economically, used efficiently, and adequately protected.

To achieve the above objectives, Internal Audit submits an annual audit plan incorporating the regulatory compliance audit projects to the Board of Directors for approval. Subsequent to the audits, Internal Audit reports the audit findings along with issue follow-up to the Board and Management on a regular basis.

We have a “zero tolerance” rule for any violation of any ethics rule. Simply put, any officer or employee, regardless of their seniority, will be severely punished (including immediate dismissal and judicial prosecution as appropriate) to the full extent of our policies and the law, for violations of our ethical standards. For example, in 2013, there are two ongoing legal actions filed by the Company against former employees for misappropriation of the Company’s intellectual property and violating other ethics rules. Additionally, the Company took severe disciplinary action against seven employees who committed major violations of our Proprietary Information Protection (“PIP”) rules, and terminated one employee for violating other ethics rules.

4.8 Regulatory Compliance

TSMC is committed to conducting business honestly and ethically. This commitment to integrity, our most basic and most important core value, has been the cornerstone of TSMC’s robust compliance efforts, which is comprised of legislation monitoring, compliance policies, training and an open reporting environment.

TSMC operates in many countries. Therefore, in order to achieve compliance with governing legislation, applicable laws, regulations and regulatory expectations, we closely monitor domestic and foreign government policies and regulatory developments that could have a material impact on TSMC’s business and financial operations. We are also a

proactive advocate for local legislative and regulatory reform and have achieved remarkable results in strengthening trade secret protection in Taiwan. TSMC is increasingly dedicated to identifying regulatory issues and will continue to be involved in advocating public policy changes that foster a positive and fair business environment.

In addition to TSMC’s Code of Ethics and Business Conduct, TSMC has also established policies, guidelines and procedures in other policy areas, including: Anti-bribery/ corruption, Anti-harassment/ discrimination, Antitrust (unfair competition), Environment, Export Control, Financial Reporting/Internal Controls, Insider Trading, Intellectual Property, Proprietary Information Protection (“PIP”), Privacy, Record Retention and Disposal, as well as procuring raw materials from socially responsible sources (“Conflict-free Minerals”). With respect to PIP, it is one of the six key corporate strategies of TSMC (as announced in June 2010). TSMC and its employees are expected to comply with all laws and regulations that govern our businesses.

Training is a major component of our compliance program, conducted throughout the year to refresh TSMC’s employees’ commitment to ethical conduct, and to get updated information on any changes to the law. Highlights of our compliance training program include the following:

- A wide range of on-line learning programs are designed to provide employees with an understanding of the law and key compliance issues. Topics available via on-line learning including Antitrust, Anti-harassment, Insider Trading, Export Control Management, PIP, to name just a few. The Antitrust course addresses common elements in antitrust and competition law that apply in the major jurisdictions in which we operate. It was updated in 2013 to add summaries of recent international antitrust investigations, enforcement

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

- 4.1 Governance Structure
- 4.2 Board of Directors
- 4.3 Audit Committee
- 4.4 Compensation Committee
- 4.5 Corporate Social Responsibility Committee
- 4.6 Political Contributions
- 4.7 Code of Ethics and Business Conduct
- 4.8 Regulatory Compliance
- 4.9 Risk Management

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

trend and court rulings. In combination with promotional campaigns, we have successfully raised awareness of improper behavior associated with antitrust laws in 2013.

- Live seminars are also offered for a variety of topics related to: Anti-bribery/corruption; Anti-harassment and discrimination; PIP; Insider Trading; Export Control; Financial Reporting; Contract Management; Intellectual Property; Conflict-free Minerals; and Privacy Law. A series of Export Control courses was introduced in 2013 to give an overview to TSMC’s export management system (“EMS”) and to introduce TSMC’s updated export control policy. The above courses are mandatory to managers and certain employees depending on the nature of the business activities they perform.
- As directed by our General Counsel, members of TSMC’s legal team regularly attend outside training in Taiwan and abroad to receive legal updates and stay current with new laws and regulatory developments. External legal professionals and industry experts are constantly invited to lecture on new areas of knowledge and the latest developments on industry-specific compliance matters. Licensed lawyers, including the General Counsel, maintain compliance with continuing legal education requirements of their licensing jurisdictions.
- To enhance compliance and risk management for our subsidiaries and affiliates, we regularly hold compliance meetings with them to ensure that all of our subsidiaries and affiliates (as appropriate) are aligned with the compliance standards of TSMC headquarters.

In addition to the above programs, a variety of resources and compliance campaigns are made available to our employees. For example, compliance education and articles on different

topics are published regularly on TSMC’s Legal Organization website. Furthermore, employees can familiarize themselves with TSMC’s internal policies through easy access to our intranet channels.

To ensure that our conduct meets the highest legal and ethical standards, TSMC provides multiple resources for reporting business conduct concerns. We encourage employees to report suspected wrongdoing within the organization or any parties with whom we do business. The system is also open to external reporting. Auditing employees for PIP policy compliance is conducted regularly to ensure protection of TSMC’s proprietary information, including information that suppliers, customers and others have entrusted to us. Disciplinary actions are taken against employees who have violated the policy. Below is a summary of the Number of Reported Incidents:

	FY 2012	FY 2013
Incidents submitted to the Ombudsman System ^{Note 1}	20	35
Incidents submitted to the Audit Committee Whistleblower System	0	0
Incidents reported to the “hotline”	8	19
Which were treated as plausible	3	1
Sexual Harassment Investigation Committee	6	7
Which were confirmed after investigations	0	5
PIP violations	108	84
Which resulted in warnings ^{Note 2}	104	84
Which resulted in dismissals	4	0

Note 1: There is no case for ethics, finance and accounting matters.

Note 2: More than one-third of the cases reported were for minor errors or noncompliance with our PIP Policy.

In 2013, the competent authorities fined a minor fine totaling NT\$27,433 for very few isolated incidents of administrative errors. TSMC has been implementing relevant remedial measures.

4.8.1 Major Accomplishments

In 2013, TSMC’s excellence in regulatory compliance achieved several major accomplishments, including:

- In addition to rigorously fulfilling our obligations to regulatory compliance matters, TSMC has discharged its civic duties as a responsible corporate citizen by advising the local government on law and policy reform. TSMC regularly urged the Government to amend any outdated laws and regulations, which may be inconsistent with global practice to improve our investment environment and economic development. For example, after Taiwan’s

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

4.1 Governance Structure

4.2 Board of Directors

4.3 Audit Committee

4.4 Compensation Committee

4.5 Corporate Social Responsibility Committee

4.6 Political Contributions

4.7 Code of Ethics and Business Conduct

4.8 Regulatory Compliance

4.9 Risk Management

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

legislature accepted TSMC's advice of imposing criminal liability on trade secret misappropriation in 2012, TSMC continued to be a strong advocate for heightening trade secret protection in 2013. We have been working closely with the relevant authorities, and provided our recommendations to subsequent reinforcement of relevant laws and regulations.

- Throughout 2013, TSMC offered a wide range of education courses on various compliance topics, including 19 topics via on-line education and 36 topics via live seminars. These courses were developed and conducted by compliance and legal professionals. TSMC will regularly review and update our training programs and identify additional areas of training if necessary.
- In order to prevent any unauthorized export of controlled items, a formal system, namely EMS, has existed for a number of years and continuously updated and sustained to reinforce TSMC's internal compliance measures, which measures are taken to ensure compliance by TSMC and all of its subsidiaries with all applicable regulations covering the export of information, technologies, products, materials and equipment. TSMC's EMS allows TSMC to streamline its complicated SHTC (Strategic High-Tech Commodities) export process and creates efficiency for both TSMC and its customers. TSMC's EMS was certified in September 2012 by the Bureau of Foreign Trade, the Taiwan regulator, as a qualified ICP (Internal Control Program) exporter. The successful implementation of TSMC's EMS also earned recognition by Dutch export control authority as best in class during its audit of TSMC's European subsidiary in March 2013.
- To reflect and reinforce TSMC's values of integrity, globalization, caring for employees and shareholders, and being a good corporate citizen, TSMC took measures to comply with the Personal Information Protection Act of

Taiwan that became effective in 2012. We prepared a privacy policy that provides TSMC and its worldwide subsidiaries with global standards for handling personal data and respecting personal privacy in the workplace. Furthermore, to educate TSMC individuals about the restrictions and procedures applicable to handling personal data and respecting personal privacy in the workplace, TSMC rolled out several privacy awareness initiatives. For example, TSMC developed a variety of training programs, including seminars, in-person training programs, and e-learning courses, which describe the policies and guidelines for individuals to follow when handling personal data. Through its assertive privacy promotional campaigns, TSMC is dedicated to bring awareness of the issues surrounding data protection and privacy to its employees and to create a culture whereby an individual's personal data and privacy are protected and handled in line with global standards.

4.9 Risk Management

Our Board of Directors plays a key role in helping the Company identify and manage economic risks. Our Risk Management organization periodically briefs our Audit Committee on the ever-changing risk environment facing TSMC, the focus of our enterprise risk management, and risk assessment and mitigation efforts.

TSMC and its subsidiaries are committed to the proactive and cost-effective integration and management of strategic, operational, financial and hazardous risks together with potential consequences to operations and revenue. TSMC established its Enterprise Risk Management (ERM) program based on both its corporate vision and its long-term sustainability and responsibility to both industry and society. ERM seeks to provide appropriate risks management by TSMC on behalf of all stakeholders. Risk maps considering likelihood and impact severity are applied to identify and

prioritize corporate risks. Various risk treatment strategies are also adopted in response to identified corporate risks.

To reduce TSMC's supply chain risks, a cross-function taskforce comprised of members from fab operations, material management, risk management and quality system management worked with TSMC's primary suppliers to develop business continuity plans and enhance supply chain resilience capability by effectively managing the risks faced by our suppliers. As a result of those efforts, there were no interruptions to TSMC's supply lines in 2013.

As TSMC expanded capacity in 2013, the Company initiated and implemented seismic protection engineering design, risk treatment practices, and green factory projects for all new fabs beginning in the design phase.

The Risk Management organization chart is as follows:



A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

A Great Place to Work

We believe that employees are our most important asset, and we are dedicated to providing them with a great place to work. Commitment is one of our core values and we are dedicated to fulfilling our commitment to our employees by providing them with good compensation, challenging work, and a comfortable work environment. This contributes to our aim of serving as an uplifting force driving society to a better standard.

Our trinity of strengths – technology leadership, manufacturing excellence, and customer trust – spring from our clear vision, strong core values, effective strategies and powerful execution. The lynchpin of our success is the ability to continuously attract and develop talent who recognize our vision and values, and work together for our sustainable growth.

Our core values are integrity, commitment, innovation and customer trust. Our actions are guided by these core values and our principles for human resources also stem from these values:

- Integrity is our fundamental belief. The first thing we consider when hiring is the candidate's character and qualifications, rather than his or her connections or access.
- We believe that all employees should be treated with dignity and respect. We respect and are committed to upholding labor regulations and internationally proclaimed human rights, namely the United Nations Universal Declaration on Human Rights and the International Labor Organization's fundamental conventions on core labor standards.



Work-Life Balance



Learning & Growth



Competitive Compensation & Rewards



Health & Safety

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

- We provide career opportunities that offer above-industry standard compensation because we are highly committed to our employees. At the same time, we hope our employees will commit themselves to our company and do their best to contribute to the success of our company.
- We encourage our employees to make valuable innovations because innovation is the wellspring of our growth.

Based on these principles, there is only one goal for all our human resources policies and practices: to enhance our company and employees' overall productivity and effectiveness. Therefore, we enable our employees to not only excel at their jobs, but can also balance their work and personal life, leading to an enjoyable and fulfilling life.

In 2013, we were named "Most Admired Company in Taiwan" by *CommonWealth Magazine* for the 17th consecutive year. This prestigious award affirms our commitment to providing employees with a challenging, enjoyable and rewarding work environment, as well as our unceasing efforts as an advocate for employees' work-life balance.

5.1 Right People with Shared Vision and Values

To attract, retain and develop the right people has always been the focus of our efforts in recruiting, staffing, compensation, and performance management, as well as our training and development. By "right people", we mean people who share our vision and values. "People with shared vision" means people aimed in the same direction as us, while "people with shared values" means people who do things based on the same principles as TSMC. Through a variety of human resources practices, our employees can bring all their potential into full play in the right position, which contributes to a win-win situation for both our company and employees.

5.1.1 Stable and Healthy Workforce

At the end of 2013, TSMC and its subsidiaries had 40,483 employees, including 4,078 managers, 17,205 professionals, 3,236 assistants, and 15,973 technicians.

TSMC Workforce Structure

Categories	Groups	Male		Female		Subtotal and Percentage by Groups	
		Number	Percentage of Group	Number	Percentage of Group	Number	Percentage of Total Employees
Employee Category	Managers	3,615	88.6%	463	11.4%	4,078	10.1%
	Professionals	14,255	82.9%	2,950	17.1%	17,205	42.5%
	Assistant Engineer/ Clerical	2,560	79.1%	676	20.9%	3,236	8.0%
	Technician	2,865	17.9%	13,108	82.1%	15,973	39.4%
Location	Taiwan	21,260	58.1%	15,344	41.9%	36,604	90.4%
	Asia ^{Note}	1,032	42.2%	1,412	57.8%	2,444	6.0%
	North America	966	69.4%	425	30.6%	1,391	3.4%
	Europe	37	69.8%	16	30.2%	53	0.1%
Age	16~20	26	12.7%	178	87.3%	204	0.5%
	21~30	7,694	57.5%	5,687	42.5%	13,381	33.0%
	31~40	11,210	56.4%	8,657	43.6%	19,867	49.1%
	41~50	3,668	61.5%	2,296	38.5%	5,964	14.7%
	51~60	615	63.1%	360	36.9%	975	2.4%
	60+	82	81.2%	19	18.8%	101	0.2%
Education	Ph.D.	1,505	92.7%	118	7.3%	1,623	4.0%
	Master's	12,437	82.1%	2,717	17.9%	15,154	37.4%
	Bachelor's	6,541	62.7%	3,887	37.3%	10,428	25.8%
	Other Higher Education	1,184	24.6%	3,626	75.4%	4,810	11.9%
	High School	1,628	19.2%	6,849	80.8%	8,477	20.9%
Employment Type	Regular	23,259	57.7%	17,081	42.3%	40,340	99.6%
	Temp	36	25.2%	107	74.8%	143	0.4%
Subtotal by Genders		23,295	57.5%	17,188	42.5%	--	
Total		40,483					

Note: Asia Region includes China, Japan and Korea.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

40,483

TSMC and its subsidiaries had 40,483 employees at the end of 2013



Females comprised 42.5% of all employees in 2013. In Taiwan, where most of our facilities are located, more men choose to major in semiconductor-related studies in universities and graduate schools compared with women. As a result, males comprised almost 84% of all managers and professionals in our company.

In terms of geographical distribution, over 90% of our employees are located in Taiwan. In addition, we have overseas subsidiaries in China, the United States, Europe, Japan, and Korea. Among these, China and the United States provide manufacturing, business and technical service, while Europe, Japan and Korea provide the business and technical support.

Taiwan's Labor Standards Act states that companies may not employ workers under the age of 15, and that children between the age of 15 and 16 are not permitted to perform heavy or hazardous work. In addition, child labor is also strictly forbidden under International Labour Organization's (ILO) standards. Our Company fully comply with the above-mentioned laws and standards, we have never hired employees under 16 years of age since the Company's establishment and we will not do so in the future.

All resumes received are thoroughly checked to confirm that the applicants are over the age of 16; in addition, identification documents of hired employees are checked to ensure that they meet the minimum age requirement. Demographically speaking, employees aged 20 to 40 comprised 82% of our total employees.

In terms of educational background, over 70% of our managers and professionals hold master's degrees or above.

In a knowledge-intensive field such as the semiconductor industry, the innovation of our employees contributes greatly to our leadership position.

Taiwan's Labor Standards Act states that no employer shall, by force, coercion, detention, or other illegal means, compel a worker to perform work; in addition, the fundamental convention of ILO prohibits all forms of forced or compulsory labor. TSMC stands firmly with local regulations and internationally-recognized protocols; we have never forced the labor from involuntary person with menace of any penalty.

For the past five years, the average annual turnover rates are all within the range of 5% to 10%, which is fairly healthy under current circumstances. In 2013, the turnover rate for all employees was 5.3%. By gender, the turnover rate for males was 4.9% and 5.4% for females. By age group, the turnover rate for age under 30 was 8.4%, 3.5% for age between 30 and 50, and 4.6% for those above 50.

Turnover Rate by Gender

Gender/Year	2009	2010	2011	2012	2013
Male in Avg.	10.2%	7.4%	6.0%	5.2%	4.9%
Female in Avg.	9.8%	9.0%	5.8%	6.3%	5.4%
Total in Avg.	10.0%	8.2%	5.9%	5.7%	5.3%

Turnover Rate by Age Group

Age Group/Year	2009	2010	2011	2012	2013
Under 30	11.4%	11.1%	8.5%	7.7%	8.4%
30~50	8.2%	5.8%	5.3%	4.1%	3.5%
Above 50	11.7%	4.7%	8.6%	8.2%	4.6%
Total	10.0%	8.2%	5.9%	5.7%	5.3%

Note: The total of the annual turnover rate is the sum of monthly turnover rates.

5.1.2 Recruiting the Right People

We recruit talent in a fair and open way, considering an applicant according to his or her qualification for the position, rather than race, gender, age, religion, nationality, or political affiliation. Although global economic recovery was slow in 2013, our growth continued to outperform our competitors and we recruited over 4,600 new employees globally for our business needs. Our commitment to providing quality jobs to these employees is a concrete contribution to society.

We hire talents not only from the local labor market but also actively recruit from countries with strong supplies of semiconductor talent, namely United States, India, and Singapore; this adds to the diversity of our workforce. Apart from continual participation in "HiRecruit", an annual event organized by the Taiwan government for recruiting international talents; in 2013, we independently hosted 26 job fairs in top global universities for talent recruitment via face-to-face interaction between our Executives and talented students from overseas.

Distribution of New Hires by Age and Location in 2013

Categories	Groups	Male	Female
Age	Under 30	2,361	1,171
	31~50	735	382
	Above 50	22	3
Location	Taiwan	2,878	1,307
	Asia ^{Note}	146	206
	North America	91	39
	Europe	-	4
Total		3,118	1,556

Note: Asia Region includes China, Japan and Korea.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees’ Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

University Relations Transformation in Taiwan

A significant transformation of university relations programs in 2013 was the birth of the TSMC University Program of which the mission is two-fold: to motivate high-flying undergraduates to pursue their advanced studies in solid-state electronics research that has lost attraction to top undergraduates for years and to consolidate resources for academic research on frontier devices, novel materials, manufacturing science, and tools development. Two university research centers were established in the National Taiwan University and the National Chiao Tung University respectively in 2013; and the other two research centers with the National Tsing Hua University and the National Chen Kung University will be established in 2014. In 2013, the two centers in NTU and NCTU sponsored more than 50 faculty and 250 students across the fields of Electronics, Material Engineering, Physics, Chemistry, Chemical Engineering and Mechanical Engineering. These centers also help advance novel or innovative academic semiconductor research.

The university research centers, using our hundreds of millions TWD seedfund, received more than 350 million TWD contributions from Taiwan’s National Science Council and the partnering universities. Altogether, the funding enables each university research center to launch the Student Program that sponsors and supports students who are interested in novel semiconductor research 10 to 15 years ahead of industry. The Student Program includes international training, scholarship, internship, student paper award and liberal art training. In 2013 more than 80 undergraduate and graduate students were granted significant scholarships , registration fees, and travel sponsorship to attend the IEDM conference in Washington D.C, U.S.

An Innovative Platform for Early Engagement of Talents

In order to cultivate a young talent pipeline for recruitment, “University Relations” under Human Resources of TSMC deploys a number of recruiting activities and university programs; its strategic actions ensure the continuous commitment to R&D of the semiconductor industry, which in terms supports TSMC in maintaining its competitive advantage globally. The missions for “University Relations” are as follows:

- **Inspiring Students to Aim High for Themselves**
We endeavor to inspire young students to continually aim high for themselves. Related programs are as follows:

Program	Achievement
Summer Internship	Each year, we open hundreds of summer internship jobs for domestic and overseas students. The internship program is meant to provide opportunities for students to apply what they have learned from their studies, to experience the industry environment, and to make early connection with our teams so these young students can be prepared for future careers and enhance their competitiveness.
On-Site Visits	These visits give students from domestic and overseas university an early understanding of the semiconductor industry work environment and reinforce interaction between schools and TSMC.

4,600

Recruited over 4,600 new employees globally in 2013



Career Talks in Campus

Our top executives and esteemed professionals share their aspiration and career experiences with young people, inspiring them to aim high and to devote themselves to research or engineering that will benefit global society.

- **Long-Term Support for Technology Innovation**
Through our renowned University Shuttle Program and the University Joint Development Project (JDP) programs, we partnered with academia and research institutions to support advanced research and innovations in IC design and manufacturing. Related programs are as follows:

University Shuttle Program

This program provides free advanced (up to 28nm) and/or mature silicon process areas to academic researchers. This makes it possible for them to test new chip designs without manufacturing cost and enables them to engineer their innovative research into applied results for the industry.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix



One of the many campus career talks – held in University of Texas at Austin



TSMC proactively attracted graduating class students in the campus recruitment in NTU, Taiwan.

Cross-function interns participated in the final competition that enhanced sharing of learning among all interns. In 2013, the competition took place in F7 in Hsinchu.

Joint Development Project (JDP)

This program provides funding to university faculty members for nearly 100 research projects, totaling around NT\$200 million every year.

This program enables continuous innovative semiconductor research, and in turn has attracted more students to join these research labs for their advanced studies. About 80% of participating students have joined our company after graduation.

Successfully Creating Diversified Job Opportunities for Disabled Persons

We aim not only to be a leader in the semiconductor industry;

but also hold ourselves to the highest standards in equitable hiring. As of the end of 2013, we hired 369 disabled persons; translating to a 16% increase compared with 2012. The number of disabled employees we hired has exceeded the number required by Taiwan law despite the fact that the limited pool of disabled persons has always posed a challenge for sourcing. Our achievement was featured in a news release issued by the Bureau of Employment and Vocational Training, recognizing our continuous efforts in complying with the law and serving as an uplifting force for society.

In 2013, we proactively collaborated with 30 universities and 8 community institutions to create more diversified and high-quality job opportunities for disabled persons. In addition to

369

The Company employed 369 disabled persons by end-2013; a 16% increase compared with 2012



existing job positions, we integrated external resources to develop suitable jobs for disabled persons; such jobs include “Recruitment Service Representative” and “Community Service Representative.”

Besides providing new jobs, we also take the initiative to strengthen the connection between our company and employees. For example, we held two training sessions and eight campus symposiums for Recruitment Service Representatives in 2013. A total of 163 participants were invited with positive feedback gained on activities building up their insight on future career planning. The TSMC CSR Committee receives quarterly updates on the status of the disabled hiring project, and our senior management team have endorsed and supported this project.

We are committed to building a workplace where disabled people can make contributions to our company and benefit to their future career. At the same time, we can strengthen our connections with schools and communities, building win-win relationships with both parties. By creating more opportunities for disabled persons and providing them the environment to excel, we have continued to fulfill our aim in being a role model in diverse fields.

5.1.3 Compensation and Rewarding People for Long-term Growth

Based on our belief that “employees are our most important asset” and our principle of “maintaining balance between

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

the interests of employees and shareholders,” we provide competitive compensation packages for attracting and retaining the best talent. Our performance has excelled and our shareholders have gained above-average returns. The total compensation of our employees is better than the average of our peer companies in the semiconductor industry and the majority of other Taiwanese companies as well.

Our total compensation includes base salary, cash bonus and profit sharing, which is based on individual expertise, job responsibility, performance, commitment, and our company's operational achievement. As a global company, we provide employees of overseas subsidiaries with a competitive localized salary plan in accordance with local regulations, industry practices and labor market status. At the same time, we design bonus programs as part of our compensation package based on the operational performance of our company and each overseas subsidiary to encourage overseas employees' continuous contribution in the future growth of our company.

In order to maintain the competitiveness of our total compensation, we appropriately adjust employees' salaries annually, taking the results of global salary surveys, market salary scales, and economic indices into consideration. Salary adjustment, cash bonus and profit sharing for our employees are reviewed by the Board of Directors' Compensation Committee and are connected to our financial, operational performance and future growth. The cash bonus is distributed quarterly, as we believe this balances our employees' cash flow and provides a timely reward, and the profit sharing is distributed in the following year to encourage our employees' continuous contribution.

In 2013, despite slow recovery in the global economy, we increased all employees' salaries in April based on our record-high operational performance and profit. In addition, the total amount of cash bonus and profit sharing in 2013 is expected to exceed NT\$20 billion. The total compensation of a newly-graduated engineer with a Masters degree in our company would be equal to 26 months' salary, including 12 months' base salary, 2 months' year-end fixed bonus and around 12 months' profit sharing, outperforming our industry peers.

5.1.4 The Engine of Employee Growth

Our company operates in a competitive industry and environment, and our employees' knowledge and capabilities have to be continually enhanced to successfully respond to our business challenges. We combine performance management and employee development, providing diversified and rich learning resources to enhance our employees' capability. In 2013 the Council of Labor Affairs awarded our company the Large Enterprise Award of National TrainQuali Prize (NTQP) (Ministry of Labor, effective Feb. 17th, 2014), recognizing our continuous enhancement in training and development.

Comprehensive Performance Management and Development

Our performance management and development system aims to fully develop employees to their maximum potential. It provides an environment for employee development, and facilitates ongoing engagement and communication between supervisors and employees. We approach performance management along the dimensions of strategy, integration and development. The five principles of our performance management are:

- Personal accountability for individual performance
- Partnership and cooperation between supervisors and employees
- Ongoing engagement and communication
- Equal importance given to performance appraisal and development
- Performance differentiation

Through goal-setting and execution by the organizations and the employee, as well as mid-year and year-end performance evaluations, we assess the status of goal achievement and set each employee's development focus.

Rich and Diverse Learning Resources

Based on the nature of the individual's job, work performance



TSMC received the Large Enterprise Award of National TrainQuali Prize (NTQP) in 2013.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

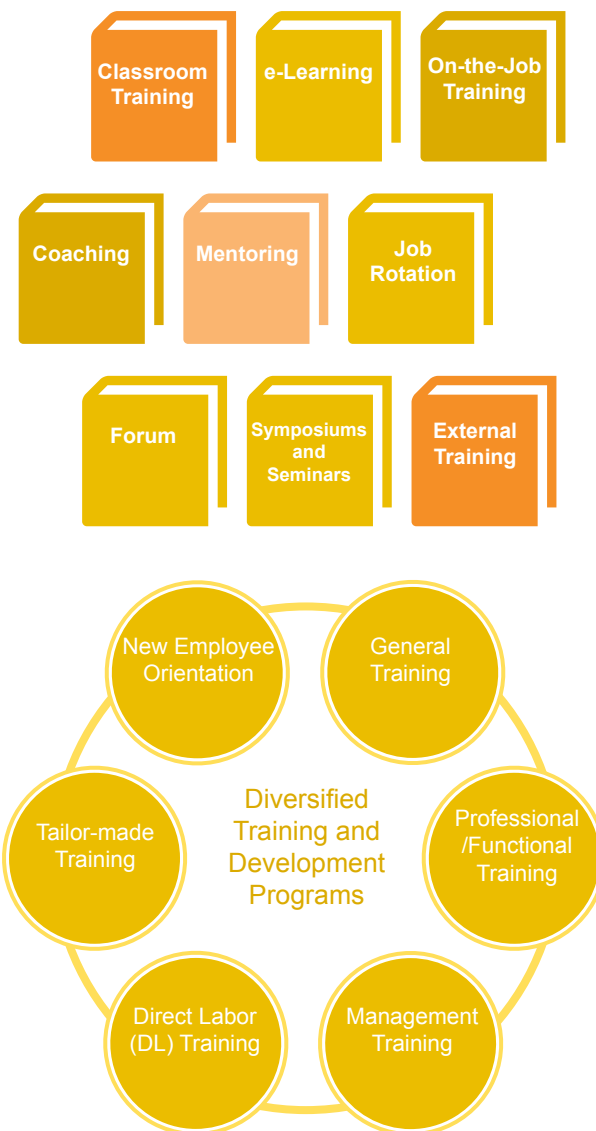
Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

The Variety of Employee Training Approaches



	2009	2010	2011	2012	2013
(A) Headcount as of 12/31	24,466	33,232	33,669	37,149	40,483
(B) Training Hours ^{Note}	561,403	968,457	795,448	779,442	889,184
(C=B/A) Average Training Hours per Employee	22.95	29.14	23.63	20.98	21.96

Note: Includes data of Taiwan and oversea subsidiaries (including WaferTech).

and career development path, the Company provides employees a comprehensive network of learning resources, including on-the-job training, classroom training, e-learning, coaching, mentoring, and job rotation. For each employee, a tailor-made Individual Development Plan (IDP) is provided.

In 2013, we spent 83 million on the training and development of our employees; with the inclusion of personnel expense such as salaries and benefits of dedicated training staffs, as well as compensation for internal instructors and participants during the training, the amount totaled to 705 million. We provided a total of 536,500 attendees participated in training sessions; on average, our employees attended 22 hours of training in 2013.

Our e-learning system offered 2,294 courses, covering Engineering and Technical courses, Functional and Professional courses, management courses, and others. In 2013, e-learning training hours comprised 29% of total training hours.

Apart from internal training courses, we also encourage employees to attend external training programs. In 2013, a total of 1,642 employees took short-term courses; totaling up to 22,329 training hours. Moreover, 272 employees took credit courses and degrees with the accumulation of 37,085 training hours. Finally, 336 employees took language courses in English, Chinese and Japanese for 9,846 training hours. The training hours for external training comprised 12% of total training hours.

A Cradle for TSMC Teachers — the Internal Instructor Program

To facilitate knowledge sharing and leverage internal know-how, we cultivate internal instructors through a well-established internal instructor development system. In 2013, 132 internal instructors completed their required training, which contributed a total of 853 qualified internal instructors by the end of 2013.

Since 2001, our company has shown our appreciation for internal instructors through the TSMC Excellent Instructor Award and a series of related activities to enhance our learning culture.

Pursuing Better Learning Effectiveness

To ensure training quality, we evaluate training effectiveness

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix



Technology forums were held to provide our employees with more diversified knowledge of the semiconductor and technology industry.



Award ceremonies were held to express our appreciation for the contribution of our internal instructors.

5.2 Encouraging a Balanced Life

Employees are one of the Company's key stakeholders. Apart from above-industry compensation and a challenging work, we are also committed to providing our employees with a comfortable work environment. Following the goal of "50 hours per week", our company continues to streamline the working process to enhance the efficiency and effectiveness of our employees, enabling them to spend more time with their family.

To ensure a balanced life for our employees, our company provides a variety of social and cultural activities as well as services and benefits to promote employee productivity, morale, and healthy family life.

5.2.1 Expanding Interpersonal Relationships

We consider each of our employees as an individual as well as a part of a social network. Our employees obtain support from their work environment, which acts as a positive influence. Our company established the Employee Welfare Committee and provides a platform for employees who have similar interests to form or attend clubs. Through this channel, our employees can cultivate their interests after work, and gain opportunities to develop interpersonal relationships with one another. In 2013, we assisted employees in forming and operating 77 clubs, such as running, cycling, extreme sports, dance, aikido, calligraphy, cooking, Chinese music, and others. More than 12,410 employees have attended club activities in 2013, translating to a 21% year-on-year growth.

Family is also part of our interpersonal network. We hold many regular parent-child activities and encourage our employees to participate. Employees can balance their family life and expand their social networks through these activities.

In 2013, more than 32,000 employees and family members attended and enjoyed these activities.

5.2.2 Encouraging Appreciation for the Arts

We promote arts and culture events in our company, and encourage employees to attend these events. In 2013, we held three concerts, 19 speeches, 34 plays for children, and 130 movie screenings. In addition to enjoying performances by popular artists, employees also enjoyed speeches on diverse topics such as current events, relationships, legal matters in everyday life, and inspirational stories.

In addition, our galleries display works such as traditional Chinese painting, oil painting, block prints, calligraphy, ceramics, and photography. They not only provide a beautiful and relaxing work environment, but also reinforce employees' appreciation for the world of art. In 2013, more than 2,040 works of art were displayed.

5.2.3 Convenient and High-Quality Employee Services

Dining Service

Our cafeterias provide a great diversity of dining options and comfortable environments. The food court in our cafeterias provide Taiwanese, Southeast Asian, and Japanese cuisine, etc. We also provide healthy vegetarian and non-vegetarian buffets. To enhance the concept of nutritional balance, we initiated the "Nutrition Class" campaign, which includes a "Calorie Diary" to provide guidance on healthy eating, and "Dietetic Therapy Classes", featuring pregnancy and postnatal care, liver care, massage, and menstrual and menopause care. Through these activities, we successfully promoted appropriate dietary habits, and raised employees' awareness of their own health, building a healthy workplace.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

In order to maintain and improve employee dining satisfaction, an electronic dining satisfaction survey system was introduced in 2009. With this system, we can easily understand employees' preferences and satisfaction levels and make timely enhancements on food quality and service based on the results. In 2013, the satisfaction rate was 96.8%, 0.4% higher than the previous year.

Convenient Services

Our company provides services such as fitness centers, bookstores, coffee shops, 24-hour convenience stores, juice bars, dental clinic, and health centers on site to support our employees' daily needs. In addition, weekly on-site services include laundry, banking, telecommunications, insurance, household appliances and others.

Preschool Service

TSMC provides a healthy and safe environment for the preschool education of our employees' children. Our kindergartens were built with green construction materials and are fireproofed; in addition, there are no sharp angles in the interior designs to ensure students' safety. We also minimize the threat of influenza with separated air conditioning in every room. With our award-winning preschool service, we not only give our employees' children a great place to learn, but also help employees to be better and happier parents.

Transportation Service

To save energy, reduce carbon emissions and provide better service, our company offers regular shuttle bus service

between fabs and sites. All shuttle buses are installed with GPS systems to ensure safety and monitor driving status. Also, we were the first company in Taiwan to adopt electric cars to replace company vehicles beginning in 2012; we continue to use electric cars in 2013 as part of our efforts in reducing carbon emission to make the world a greener place.

Accommodation Service

Accommodation service is provided for employees who are on business trips between different sites and for employees who live far from our company in consideration of their safety and convenience. In addition to providing a comfortable living environment, the "Dormitory Caring System" was established to ensure safe access to dormitories and to respond to potential emergencies.

5.2.4 Benefits – Safeguarding Employees' Rights

Employee wages and benefits mainly are salaries, cash bonus, profit sharing and pension expenses. TSMC recognized employee wages and benefits of NT\$67,345,569 thousand in 2013.

A Comprehensive Insurance Plan

Our employees are insured by Labor and National Health Insurance and are eligible for their statutory benefits. In addition to the statutory Labor Insurance and National Health Insurance, we provide comprehensive insurance plans to employees. Each employee is covered by our group insurance plans from the first day they come on board. Coverage includes life insurance, accident insurance, hospital insurance, cancer insurance, and business travel insurance. Employees also have the flexibility to participate in self-pay insurance plans for their family with lower prices to obtain better protection.



Employees and their families were encouraged to spend quality time and have fun together at TSMC Family Day.



Running club: TSMC employees enjoy a colorful life by taking part in clubs.



Electric cars were adopted to replace company vehicles.



Juice bar: TSMC employees enjoy a variety of conveniences in the work environment.



TSMC kindergartens emphasized happy learning.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Pension Plan

Our employee pension plan is set in accordance to the Taiwan Labor Standards Act and Labor Pension Act. With our company's sound financial system, we ensure employees a solid contribution and regular pension payments. In addition to statutory contributions, we also invite professional accountants and consultants to conduct precise calculations of our company's pension fund, so as to assure sufficient funding for employee pension payments in the future. In addition, our Board of Directors Meeting approved the revision of TSMC's "Procedure of Retirement" in 2013 and set the mandatory retirement age at 67. This resolution provides the managerial principle for employee retirement, which also help our employees prepare for their retirement plan accordingly.

The pension contribution under Labor Standards Act and Labor Pension Act are as follows.

- Pension Contribution under Labor Standards Act**
TSMC provides a defined benefits plan based on an employee's length of service and average monthly salary for the six-month period prior to retirement under the Labor Standards Law. TSMC contribute an amount equal to 2% of salaries paid each month to their respective pension funds, which are administered by the Labor Pension Fund Supervisory Committee (the Committee) and deposited in the Committee's name in the Bank of Taiwan. Amount of fair value of plan assets was NT\$3,527,847 thousand as of December 31, 2013. Accordingly, TSMC recognized expenses of NT\$235,761 thousand for the years ended December 31, 2013. Insufficient funding was included in accrued pension cost of balance sheet and amounted to NT\$7,589,926 thousand as of December 31, 2013.

- Pension Contribution under Labor Pension Act**
TSMC provides a defined contribution plan under the Labor Pension Act (the "Act"). Pursuant to the Act, TSMC makes monthly contributions equal to 6% of each employee's monthly salary to employees' pension accounts. Furthermore, TSMC's oversea subsidiaries also make monthly contributions at certain percentages of the basic salary of their employees. Accordingly, TSMC recognized expenses of NT\$1,590,414 thousand for the years ended December 31, 2013.

Flexible Leave Programs

Our company provides flexible leave programs which exceed the requirements of Taiwan's Labor Standards Act. Our employees are eligible for annual leave after completing three months of service. Furthermore, they are granted 120 hours fully-paid and 120 hours half-paid sick leave per year. In

addition to affairs leave and homecare leave, granted based on the Labor Standards Acts, employees are entitled to 90 days of special personal leave with approval by authorized supervisors if they must attend to important personal affairs. Our employees can also apply for leaves of absence for reasons such as childcare, military service, and medical treatment for serious illness or injury. They can also apply to return to our company before the end date of his or her leave of absence.

Taking parental leave as an example, in 2013, 442 employees took parental leave, and the average return-to-work rate was 67% with a retention rate of 82%. Among the 38 employees who are not listed as employed at least 12 months after they returned to work from parental leave, 22 have applied for parental leave for a second time, illustrating their confidence in our company in protecting their legitimate right to return to work.

Number of employees that took parental leave in 2013	Total	Male	Female
	442	47	395
Number of employees that should return to work in 2013 (A)	398	47	351
Number of employees that returned to work in 2013 (B)	265	31	234
Return to Work Rate (B/A)	67%	66%	67%
Number of employees that returned to work in 2012 (C)	209	20	189
Number of employees that returned to work in 2012 and are still employed at least 12 months in 2013 (D)	171	16	155
Retention Rate (D/C)	82%	80%	82%

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Other Welfare Benefits

The TSMC Employee Welfare Committee provides other benefits, including:

- Financial assistance to help employees who encounter difficult circumstances
- Subsidies for marriage, childbirth, and funerals
- Cash gifts for birthdays and major festivals
- Travel subsidies
- Discounts provided by over 8,000 designated vendors
- Online platform for shopping and exchanging information

Benefits of Overseas Subsidiaries

The insurance plan, pension plan, leave programs and other welfare benefits for the employees of our overseas subsidiaries all comply with or exceed local regulations to ensure a secure and carefree life for our employees worldwide.

5.3 Employee Engagement

We are dedicated to maintaining constructive and harmonious employee relationships and creating a highly engaged work environment; this is our commitment to employees, and in return, our employees are highly committed and loyal towards our company. These positive factors all generate productivity and higher performance.

5.3.1 Reinforcing Employees' Sense of Belonging

Our employees share common vision and values, and thus can work toward the same goals. We hold "Sports Day" every year to reinforce employees' cohesion and the spirit

of teamwork. Our employees interact and cooperate with one another through a variety of sports competitions. More than 33,000 of our employees and family members attended Sports Day in 2013.

To cope with the different needs of our diverse employee groups, we offer a variety of caring programs. With more and more international talents joining our company, we have rolled out a customized communication and caring program that aims to reduce the stress of moving from a foreign country to Taiwan, as well as to shorten the time needed in adjusting to a new environment. In turn, these efforts encourage our overseas-hired employees to stay with us.

A dedicated team is in place to support our overseas-hired employees in applying for visas and other related documents. For those who need to buy or rent a house, we provide

support in connecting them with English-speaking housing agents. We can also refer our overseas hires to English-speaking doctors.

Moreover, in order to strengthen the rapport and personal networks of our overseas-hired employees and their families, we have a variety of regular activities such as "spouse gatherings" for spouses to meet one another, meet-and-greet "small group gatherings" for new overseas-hired employees, as well as "coffee talks", in which we invite veteran overseas-hired employees to share their experiences to inspire newcomers. Last but not least, our "Global Family Day" serves as a great networking opportunity for all overseas-hired employees and their families to get together. The event combines learning about Taiwan's culture with fine food; it is both fun and informative. Whether it is an outdoor activity or gala dinner, a great time can always be expected.



Our employees showed the utmost cohesion and team spirit throughout TSMC Sports Day.

■ Sports Day torch relay ■ Relay race competition ■ Cheerleading performance

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

5.3.2 Open Communication Channels, Unobstructed Employee Participation, Harmonious Labor Relations

We value two-way communication and are committed to open and transparent communication channels between management and their staff, as well as among peers. Our continuous efforts lie in reinforcing mutual and timely employee communication, which in turn fosters harmonious labor relations and creates win-win for our company and the employees.

We leverage a variety of channels to maintain the unobstructed flow of information between the managers and the employees, including:

- Regular communication meetings held for various levels of managers and employees.
- Periodic employee satisfaction surveys are conducted, with follow-up actions based on the survey findings.
- The corporate intranet, myTSMC, delivers to employees the Chairman's speeches, corporate messages, Executive interviews, and other messages of interest to employees.
- Our online internal publication, eSilicon Garden, is updated on a bi-weekly basis with inspirational content featuring outstanding teams and individuals, as well as the major activities of our company.

To ensure that employees' opinions and voices are heard, and their issues are addressed effectively, impartial and smooth opinion submission mechanisms are in place to provide timely support. For example, in 2013, a total of over 7,000 questions and suggestions were issued and solved via one of our many employee voice channels, 185 Fab Caring Circle. Furthermore, with our continuous efforts in connecting this system with the Suggestion System for quality improvement, more than 140 enhancement actions were taken and brought the Company a benefit of over NT\$90 million. 185 Fab Caring Circle was awarded first place in Workplace Health for the GlobalViews Magazine 2013 CSR Award.

Employees' rights to form labor unions are protected by Taiwan's law; in addition, the principle of freedom of association is at the core of ILO's values. The company respects employees' rights entitled by the law and does not impede their freedom of association. Over the years, the relationship between our management level and employees has remained harmonious. Also, we offer multiple and well-structured communication channels and implement quarterly labor-management meetings to ensure that employees voices are heard and issues are solved timely. So far, no employee has issued a request to form a labor union.

Globalviews Magazine:
Excellence in Corporate Social Responsibility Award, First Prize in Occupational Health



Our company also sets and promotes policies and measures to ensure gender equity, fostering a fair work environment for employees of both genders.

The comprehensive communication channels provided by our company are detailed in the following chart:

Internal Communication Structure

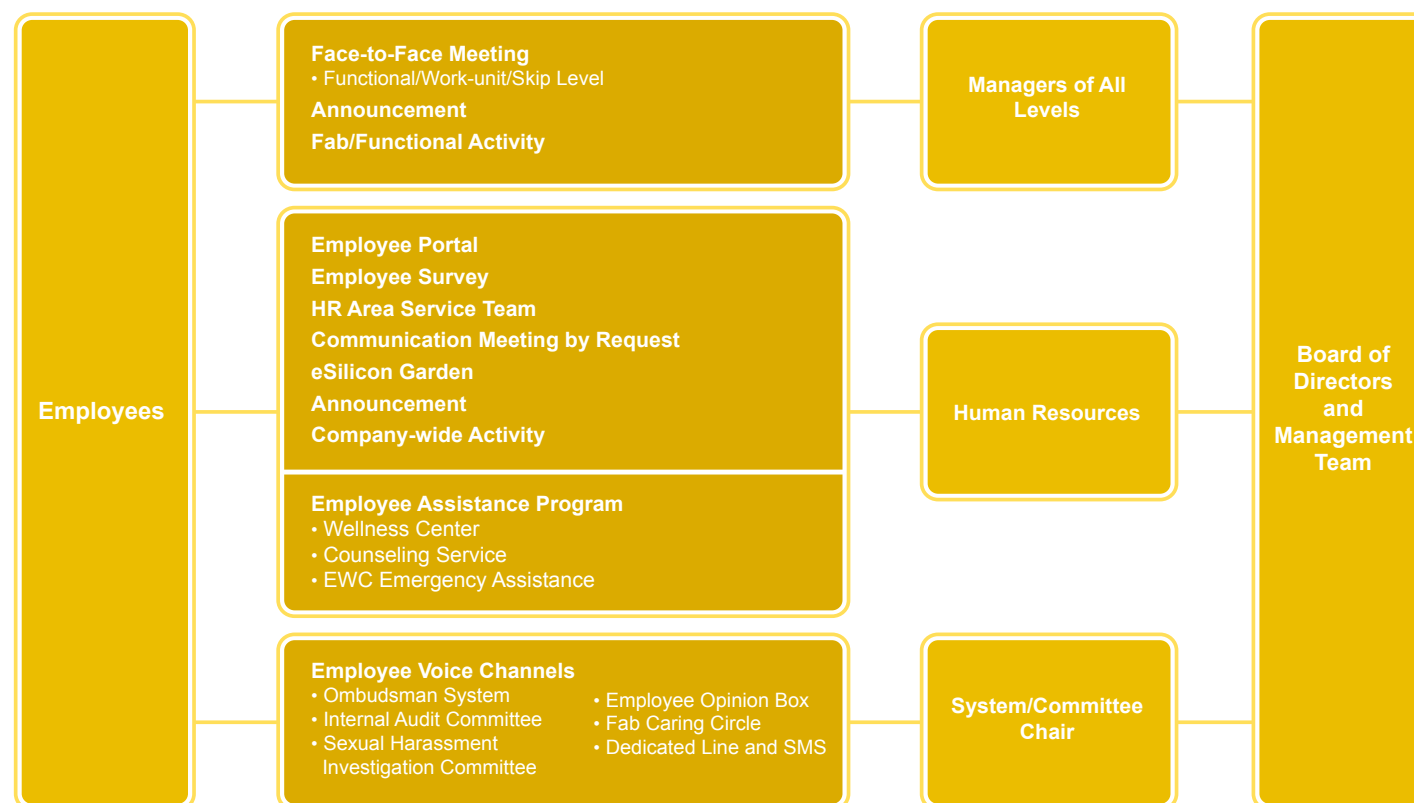


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

5.3.3 Recognizing Employees' Dedication, Fostering an Encouraging Work Environment

We sponsor various internal award programs to recognize employees' outstanding achievements, both as a team or on the individual level. With these award programs, we aim to encourage employees' sustainable development, which in turn adds to our company's competitive edge.

In addition to day-to-day recognition of the employees' contribution from managers, our various award programs include:

- TSMC Medal of Honor, presented exclusively by the Chairman for those who contribute significantly to our business performance.
- TSMC Academy recognizes outstanding internal scientists and engineers whose individual technical capabilities make significant contributions to our company.
- Outstanding Engineer Award for each fab and Total Quality Excellence Award recognizes employees' continuous efforts in creating value for our company.
- Service Award and Retirement Appreciation represent the Company's appreciation for senior employees' devotion and commitment.
- Excellent Instructor Award praises the outstanding performance and contribution of our internal instructors in training courses for employees.

In 2013, a new initiative was added to recognize employees' ability to convert their ideas for doing good deeds for others into actions. Under the theme of "Doing Good is So Easy",

a "Do Good" website was launched for employees to submit their ideas for good deeds. Among more than 180 good ideas submitted, three selected employees "do good" were publically recognized in the Annual Do Good Sharing event as they shared with other employees what had inspired them and how they have been helping others since.

In addition to internal awards, it is our unceasing endeavor to recognize our employees' outstanding performances through prestigious external awards; in 2013, our employees continued to be recognized through a host of prestigious national awards, including the National Outstanding Managers Award, the Outstanding Young Engineer Award, the National Model Worker Award, and the National Industrial Innovation Award.



Employees attending the Do Good Sharing were inspired by the good deeds shared by the presenters.

5.4 Employees' Physical and Mental Wellbeing

Productivity underscores the balance between our employees' work and life. To maintain or reinforce employee productivity, physical and mental well-being is essential. Our company works proactively to build a healthy work environment via health promotion activities, assistance programs, and multi-dimensional practices.

5.4.1 A Multi-Dimensional Caring System – Safeguarding Employees' Health

TSMC Wellness centers at each fab operate 24 hours daily to ensure that our employees receive appropriate high-quality care. Usages of the variety of services offered by our Wellness Centers are detailed below.

We offer on-site health examinations to all employees each year, and provide specialized examinations to help employees who work on special tasks to manage their health. The examination items for all employees include complete blood count, liver (SGPT, AFP) and renal function (BUN, Creatinine, Uric acid), blood lipid (Total cholesterol, Low-density lipoprotein, Triglycerides), and chest X-ray. The participation rate for the past four years is 96%, demonstrating that employees consider the health examination a useful way to manage their health.

Every citizen in Taiwan receives medical coverage through National Health Insurance. Beyond this, our company proactively follows up on our employees' health examinations result one by one based on hyperlipidemia, hepatitis B & C, metabolic syndrome and other health issues. We continue to develop our employees' self-management capabilities in personal health. Furthermore, we actively follow up and

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

conduct related promotions based on the examination results for our overseas employees as well.

5.4.2 Promoting a Healthy Lifestyle

We organize a variety programs to promote a healthier lifestyle for our employees. "Health Age" is our key index for evaluating health service performance.

Our analysis showed that, in 2013, the average health age for our employees is 2.11 years younger than their real age in average; this illustrates positive progress of our health promotion activities.

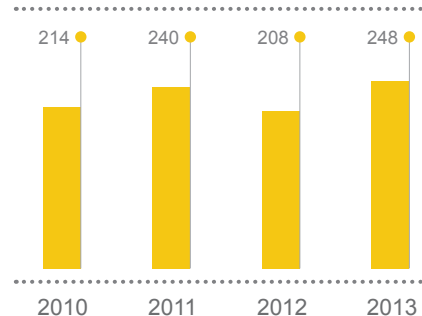
2011~2013 Health Age

	Real Age	Health Age	Difference
2011	32.0	29.47	-2.53
2012	33.7	31.06	-2.64
2013	34.1	31.99	-2.11

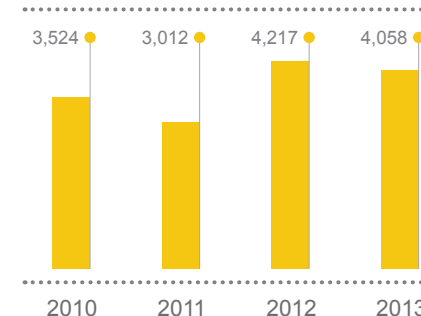
We analyze the health issues that concern our employees the most and the population rates gained by health examination results. According to these results, we continue to emphasize health management and build a supportive environment to encourage and reinforce the healthy behavior of our employees.

	2011	2012	2013
Overweight (BMI ≥ 24)	39.80%	39.60%	40.39%
Total Cholesterol Too High	30.60%	28%	32.30%
High Density Lipoprotein Too Low	48.90%	26.60%	12.69%

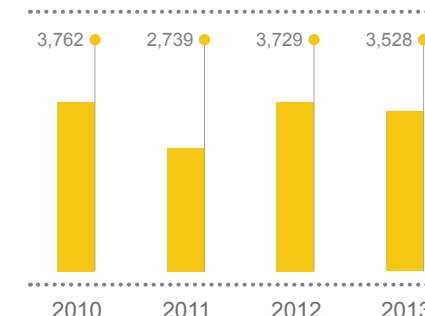
Number of Employees Filing for Work-related Injury



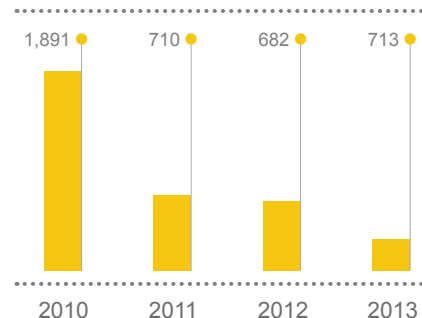
Number of Emergency Medical Team Members Trained



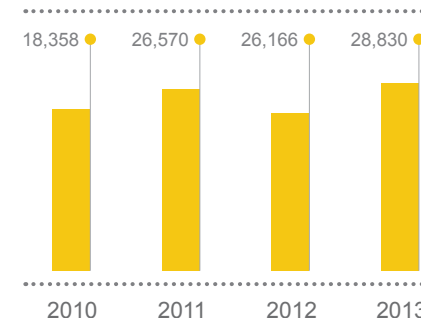
Medical Clinic Visitors



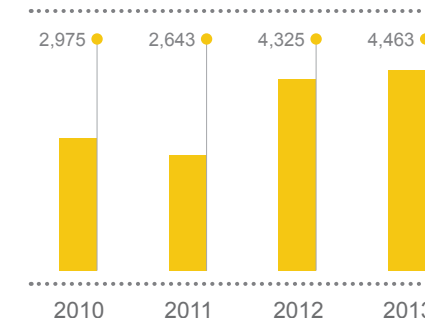
Number of First Aid and Medical Transfers



Number of Annual Health Examination for On-job Employees



Dental Clinic Visitors



Employees continue to seek for medical support provided by our diverse services with qualified medical practitioners.

We have onsite sports centers, swimming pools and fitness centers with over 75 fitness courses, such as aerobics, yoga and cycling. In 2013, around 12,500 employees and their family members enjoyed these activities per month.

To encourage a culture of regular exercise, we regularly hold intramural sports competitions. In 2013, we held 624 sports games, including basketball, table tennis, badminton, billiards, and swimming; participants for these games totaled more than 8,381 employees.

In terms of health promotion activities, we launched the theme "Infuse Lohas into Your Life" in 2012 and related activities continued to flourish in 2013. An exclusive Taiwan map was introduced on our iCare website in 2013 to encourage employees to record the time they spent exercising on the site; their exercise time then converted to loops round Taiwan. A total of 1,722 employees took part in the activity, and the total number of walks around Taiwan reached 158,000 kilometers from 5/16 to 7/27. These programs will continue

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

to be the key events for promoting healthier lifestyle in the coming year as well.

Other health promotion activities included a weight control program, women's health care, acupressure massage service, liver disease prevention, blood donation, flu vaccination, as well as lectures on physical and mental health. The total number of participants reached 11,325 in 2013.

Our continuous efforts in enhancing the health of our employees with programs such as "Weight Control Program" were recognized country-wide, earning us three national awards from the Health Promotion Administration Ministry of Health and Welfare in 2013.



Comprehensive facilities were provided and activities were held to encourage a culture of regular exercise.

5.4.3 Employee Assistance Program (EAP)

Our EAP system offers diverse programs to enhance our employees' physical and psychological health. Through a well-developed service network of systems covering work, life, and health, we are able to support our employees to maintain or regain their health. Our company has cooperated with the Hsinchu Lifeline since 2001, and we work together to provide professional consultations on issues of family, relationship, and marriage. We also began providing consultations on other issues including legal and financial matters since 2012. Moreover, we have organized speakers and provided on-line platforms and promotional video to encourage employees to make use of the services as per their needs.



Employees actively took part in cancer-prevention talks.

Cancer prevention talks were conducted by experts of the field to address employees' concern.

The usage trend for these services in recent years indicates that we have created an atmosphere where our employees are willing to ask for help when they need it, and care for the people around them.

Usage of Consultation Services

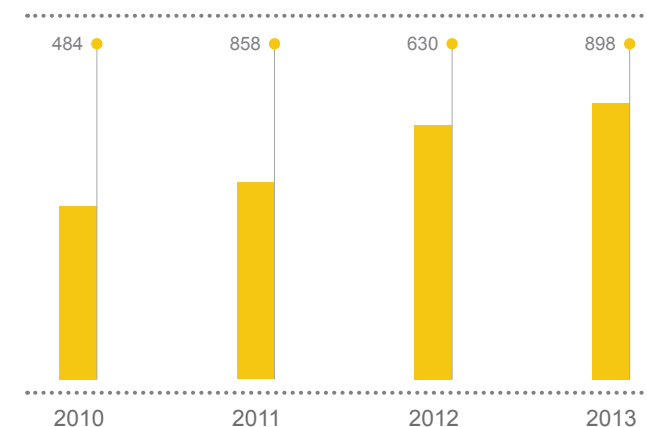


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

5.5 Safety and Health

One of TSMC Chairman Dr. Morris Chang's ten principles of corporate social responsibility is to not only provide good job opportunities, but also to provide good remuneration and work environments. TSMC revised its safety and health policy in 2010 and set zero accidents as a new safety and health goal. To meet this goal, TSMC practices strict safety and health management procedures, maintains stringent standards for facility and hardware operations, and promotes continuous improvement programs. Based on this principle, TSMC seeks to improve the safety and health management performance of the semiconductor industry and supply chain through active social engagement.

Selection of Material Safety and Health Topics

TSMC has a long record of assisting the government in establishing regulations and promoting health and safety projects, and pays close attention to the views of academia, media, customers, and employees concerning occupational safety and health to understand the topics of greatest concern our stakeholders. We have concluded that the most material occupational safety and health topics are occupational safety and health management, emergency response, and corporate contagious disease prevention. These are issues that TSMC has lengthy experience in addressing. Workplace stress and employee health have recently become new topics of concern for the government, society, employers, and employees, and are areas that requires further attention. Detailed measures are as follows.

5.5.1 Response to the Newly-amended R.O.C "Occupational Safety and Health Act"

Taiwan's Ministry of Labor (MLO) amended the "Occupational Safety and Health Act" in 2013 to improve occupational safety and health standards and further to protect workers' health and safety. These amendments were enacted into law on July 3, and 60 statutes under the Act are expected to be amended in the following year. As a corporate leader in Taiwan, will not only adopt the new standards of the law but also assist in the amendment of related statutes at the invitation of the MLO.

5.5.2 Safety and Health Management

TSMC believes that good safety and health management is an important part of the Company's commitment to take care of employees and their families, and a way of giving back to society and the community. In practice, TSMC's safety and health management is based on the framework of the OHSAS 18001 management system, and uses information technology to continually improve our goals of preventing accidents, enhancing employee safety and health, and protecting company assets. All TSMC fabs have passed the 2007 version of OHSAS 18001 certification, and all fabs in Taiwan are also CNS15506 (Occupational Safety and Health Management System) certified.

TSMC's current safety and health management operations can be divided into several dimensions as below:

Physical Safety and Health Management

The effectiveness of a facility's physical safety and health performance is largely determined in the design phase.

TSMC follows local regulations, international codes, and internal standards when planning, designing, and building new facilities or rebuilding existing facilities for production, IT, general services, or other purposes. A designated team takes responsibility for safety and health management using the procedures below:

- New Tool and Chemical ESH Management Procedure**
 TSMC's New Tool and Chemical Committee (NTCC) ensures that all new tool designs meet international codes such as SEMI-S2 as well as local regulations and TSMC standards. For new chemical review, TSMC proactively collaborates with chemical suppliers to identify new chemical hazards, assess ESH risk and define control rules. To reduce risks before operation, the NTCC not only reviews tool safety, but also evaluates the related safety issues of location, accessory equipment, safety interlock, ventilation, local scrubber, facility system connections and personal protection equipments.
- Safety Management of Change (SMOC)**
 All new TSMC fab designs, as well as changes in design or operation procedure in existing TSMC fabs that could alter safety or fire prevention conditions, are required to follow a Safety Management of Change (SMOC) procedure. SMOC cases undergo strict review by the facilities, equipment, ISEP, and ESHP departments before implementation.
- New Equipment Safety Sign-off Procedure**
 All production-related tools and new facility systems must follow a three-phase safety sign-off procedure before operation.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

- 5.1 Right People with Shared Vision and Values
- 5.2 Encourage a Balanced Life
- 5.3 Employee Engagement
- 5.4 Employees' Physical and Mental Wellbeing
- 5.5 **Safety and Health**

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Phase 1: The tool sponsor must confirm interfaces between facility systems and the new tool are under safe conditions before turning on non-HPM (Hazardous Production Materials) related utilities.

Phase 2: The tool sponsor must verify hazardous gases and chemical supply systems, fire protection, toxic gas monitoring, tool safety interlocks, laser and radiation protection, the tool's local gas or chemical delivery system, and exhaust abatement before turning on the tool.

Phase 3: The tool sponsor must remedy any shortcomings found in phase 1 and phase 2, execute IR scans for electrical utilities, and put all safety requirements into the new tool's regular maintenance procedures.

- **Used Tool Safety Control**

In addition to new tool safety controls, TSMC has also established a procedure for secondhand tool safety management. All used tools purchased by TSMC are required to go through this safety control procedure, which uses tool configuration inspection data and a safety interlock verification checklist to confirm that tool settings and safety interlocks are functioning correctly. After these basic checks, the tool must also go through tool installation safety signoff procedures to ensure it is safe for use after release.

In addition, TSMC also established a new communication platform ensure that the Operations Organization's experience in using new plants can be applied to future facility designs. The New Fab Design Department invited colleagues from Operations to make recommendations for improvements to future designs for new plants as continuous improvement goals.

Operation Safety and Health Control

In TSMC's daily operations, we not only prevent accidents through strict controls on high-risk work, contractor management, chemical safety controls, and routine audits, but also maintain emergency response plans and hold regular drills to minimize the impact of potential accidents on the environment, society, employees and property.

- **High-Risk Work Control**

TSMC's high-risk work management procedure classifies any work that may cause serious injuries, casualties or major property damage as level-1 high-risk operations and assigns such work for priority management. Please refer to "6.2 Managing Contractors' ESH" ⓘ for details.

- **High-Risk Area Control**

TSMC has defined fab high-risk areas and developed related management procedures to prevent accidents.

Safety and Health Committee

TSMC has set up corporate-level and site-level safety and health committees, which meet regularly to discuss ESH-related matters. Labor representatives, chosen by employees in accordance with the law, account for more than one-third of all committee members, providing a forum for managers and employees to discuss safety issues face-to-face. In addition, in response to the increasing scale of our new fabs, we have set up departmental-level safety and health committees chaired by department managers to discuss safety and health-related matters within the department each month to implement safety and health management.

Safety Management Programs in 2013

- **Tool Safety:** Established a communication channel with tool vendors to enhance intrinsic tool safety.

- **Chemical Safety Management:** Established pyrophoric and water-reactive chemical management guidelines and emergency response procedures.
- **Improvement of Prevention Measures against Abnormal Operational Events:** Strengthened communication between ISEP technical board, FAC, and Modules and assured the effective alignment of control measures.
- **Established new tool and equipment safety guidebook** for hook-up and installation to assure safe operation.

Sharing TSMC's Safety and Health Management Experience

TSMC's ESH team dedicates itself to minimizing risks to TSMC, and shares its rich management experience with the semiconductor industry, suppliers and society.

Supply Chain: TSMC reduces accidents and improves contractor ESH management through audit and assistance programs. Our close cooperation with companies in our supply chain over the past several years has begun to yield results as some suppliers have started to embed ESH management models into their own systems, providing additional protection to laborers.

High-tech Industries: We believe safety and health are universal values in society. TSMC openly shares its safety and health experience through the Safety and Health Committee of the Allied Association for Science Park Industries.

Occupational Injury and Illness Statistics

TSMC uses the Disabling Injury Frequency Rate (FR, cases of disabling injuries and illness per million labor-hours) and Severity Rate (SR, lost workdays caused by disabling injuries

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

- 5.1 Right People with Shared Vision and Values
- 5.2 Encourage a Balanced Life
- 5.3 Employee Engagement
- 5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

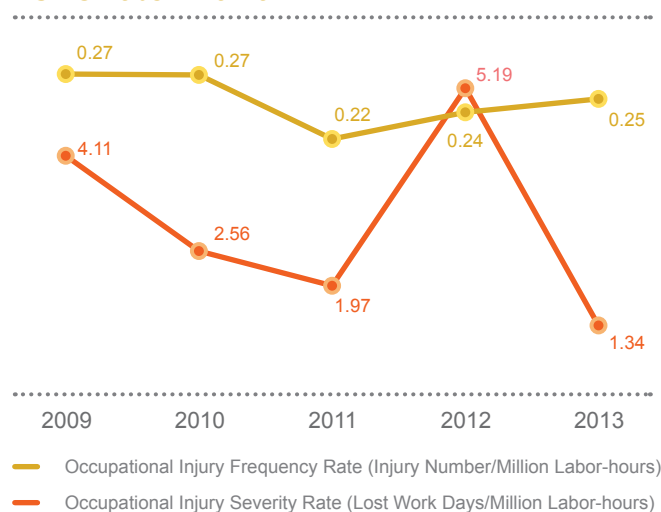
Environmental Protection

Appendix

and illness per million labor-hours) defined by Taiwan's Ministry of Labor (MLO) to evaluate the effectiveness of the Company's occupational health and safety programs. TSMC's FR and SR have consistently been significantly lower than Taiwan's semiconductor industry average.

TSMC endeavors to maintain a safety culture that ensures a safe and healthy workplace. The causes of all occupational injuries are analyzed and improvement programs are implemented based on the data. Our program further requires us to regularly collect and analyze data on types of high-frequency occupational injuries and departments with higher incident rates. These reviews focus as a first priority on incidents that are relatively serious, affect multiple departments, or happen more frequently.

Occupational Injury and Illness Statistics of TSMC Fabs in Taiwan



The FR and SR of TSMC fabs in Taiwan were 0.25 (men: 0.20, women: 0.32) and 1.34 (men: 1.44, women: 1.19) respectively in 2013 – much lower than the Taiwan semiconductor industry average FR of 0.58 and SR of 7 in 2013.

5.5.3 Emergency Response – Reducing the Impact of Accidents

The first priority of TSMC's disaster response policy is to ensure the safety of personnel and neighboring residents, followed by avoiding pollution of the environment, and finally to reduce property losses and maintain normal production. We believe that when natural disasters or accidents occur, proper treatment in the incipient stage of the event both minimizes the probability of personnel injury and environmental pollution, and also significantly reduces losses and lowers the difficulty of resuming production. TSMC therefore pays considerable attention to emergency response. From emergency equipment setup, creation of emergency procedures, training, drills, and other preparations, TSMC follows the process of "planning, implementation, evaluation and improvement".

In 2013, to ensure the quality of annual emergency response drills, TSMC drew on past experience to develop a standard exercise to serve as a reference for units with different equipment and facilities to hold drills for earthquakes, fires, gas leaks, chemical spills, power dips, and other accidents. These standard exercises help each facility put key response procedures in place. In particular, the Company enhanced unannounced drills for fabs to check employees' emergency response skills and familiarity with procedures. In addition,

we also completed a business continuity drill and training program, which can effectively reduce the impact that accidents may have on operations.

Permanent Emergency Response Center, Hardware Standardization

All TSMC fabs maintain an emergency response center, or ERC, and two full-time ERC staff are on duty around the clock. If any accident or abnormal event occurs, ERC staff on duty will be informed immediately through monitoring systems. An emergency response team will be promptly and effectively assembled by staff on duty to handle the event. The following systems are equipped at each ERC:

- Rescue Procedures and Information: includes plant layout, tool maps, and emergency response flowcharts;
- Fire, Safety, and Monitoring Systems: includes fire and gas monitoring systems, emergency ventilation systems, CCTV systems, gas and chemicals shutdown emergency off (EMO), and paging systems;
- Emergency Response Equipment: includes various types of protective clothing, personal protective equipment, self-contained breathing apparatus, portable detectors, and leak handling equipment. In addition, each factory has designated a second ERC outside of the fabs equipped with appropriate emergency response equipment to continue emergency response if the ERC is affected by disasters, and to facilitate the rapid establishment of a command post. Monitoring systems in the first ERC can be accessed through wireless networks while ERC on-duty staff evacuate to the second ERC.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

- 5.1 Right People with Shared Vision and Values
- 5.2 Encourage a Balanced Life
- 5.3 Employee Engagement
- 5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Standardization of Emergency Response Procedure and Enhancement of Personnel Training

TSMC has designated emergency response organizations, handling procedures, and business continuity plans for a variety of unexpected situations such as earthquakes, fires, chemical spills, toxic gas leaks, natural disasters and sudden interruption of utilities. Each fab also designates emergency response commanders and team duty officers each day to respond with unexpected situations at any time.

Emergency response team members are trained in communications, disaster relief operation, factory systems, on-site control, rescue, and logistic support. Types of training include the following:

- **ERT Training**

Includes basic and advanced ERT training, and incident commander training;



Unannounced emergency response drills in 2013

- **Fire-fighting Training**

Professional fire fighting skill training at the Hsinchu Fire Bureau training base;

- **Annual Full Evacuation Drill**

Chiefly focused on responding to an earthquake of intensity five or higher;

- **Quarterly ERT Drill**

A quarterly drill is requested for each production-related department to build familiarity with emergency response skills, equipment and factory surroundings.

Collaboration with Public Emergency Response Resources and Drills with Contractors

Each TSMC factory performs annual emergency response and evacuation drills for different situations to train TSMC employees as well as contractors and vendors. We invite the regional fire brigade to join the drill or experts to serve



as advisors according to the size and type of drill. Both employees and contractors participate in drills to enhance collaboration in real accidents and rapidly establish control over the disaster. These measures are compliant with international occupational health and safety management systems, which state that the organization's safety activities should be extended to employees, contractors and nearby stakeholders. Areas and situations covered by drills include clean room, facility, mechanical rooms, lab, kitchen, dormitory and shuttle bus.

In 2012, TSMC's U.S. subsidiary WaferTech sponsored a two-hour familiarization tour with the new Camas Fire Department Chief and Fire Marshal, showing them WaferTech's capabilities and discussing how each can mutually assist each other in the event of an emergency. These face-to-face meetings help to solidify cooperation at a high level so that WaferTech's Emergency Response Team (ERT) and public responders can work effectively together. Additionally, WaferTech conducted its first-ever response exercise for a major earthquake, which included an evacuation, ERT response, mass casualty drill and building evaluations.

5.5.4 Moving Beyond Traditional Occupational Health Practices to Promote Physical and Mental Health

New Occupational Health Management Programs in the Semiconductor Industry

- **Stress-Resilient Traits Assessment Program**

Job stress and worker health have recently become new topics of concern for the government, society, employers, and employees as areas that require further attention and occupational health efforts. Since 2011, the government

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing


5.5 Safety and Health

Customer Service and Supplier Management


Social Participation

Environmental Protection

Appendix

has been advocating amendment of the Labor Safety and Health Act to incorporate the idea of the employer's responsibility to protect the mental health of workers. TSMC has prioritized workers' stress as one of the Company's major occupational health subjects. Since 2011, TSMC has also collaborated with academics on a long term project to enhance research in this area. The short to mid term (2011 to 2015) plans for this project are to understand stress-resilient traits and make use of the existing Employee Assistance Program (EAP) to assist specific cases. The mid to long term (2016 to 2020) plans emphasize promotion of mental health to all employees to improve their physical and mental wellness. See [Chapter 5.4.3](#)  for more on our EAP services.

- **Building Workers' Resilience and Ability to Cope with Stress**

Employees' mental health problems may impact their performance, their physical health, and the safety of other employees. TSMC believes that physically and mentally healthier workers have better work performance and contribute to the Company's success. TSMC provides free individual counseling services and holds workshops and lectures on workplace mental health issues to improve employee health and wellbeing. See [Chapter 5.4.3](#)  for more on our mental health promotion activities.

- **Building Ergonomic Evaluation, Improvement and Management Procedures**

Taiwan's new "Occupational Safety and Health Act", holds employers responsible for preventing the risk of work-related musculoskeletal diseases posed by repetitive movements. In response, TSMC developed an Ergonomic evaluation, improvement and management Procedure based on guidelines, research reports, and recommendations from government and academia. TSMC

aims to effectively manage ergonomic risks effectively and prevent work-related musculoskeletal diseases caused by ergonomic factors.

- **Ergonomic Evaluation and Improvement Projects**

TSMC has worked continuously to improve ergonomics in all facilities. For example, we have evaluated warehouse manual handling, PM (preventive maintenance) work and 200mm (8-inch) clean room manual handling ergonomic risks. The Company has also provided improvements including vacuum suction, fork lift trucks, hydraulic jack, hand pallet truck, labor saving devices, trolley adjustments, and posture education. These changes reduce employees' ergonomic risks from work.

- **Reducing Ergonomic Risk in Clean Rooms**

TSMC requires that all new tools meet SEMI-S8 requirements and that appropriate supplementary control measures be taken to reduce ergonomic risk. As the semiconductor industry transitioned to 300mm (12-inch) wafers from 200mm (8-inch) wafers, TSMC's initiative to automate 300mm front-opening unified pod (FOUP) transportation improved productivity and also prevented accumulative damage caused by long-term manual handling of 300mm FOUPs.

Corporate New Contagious Disease Prevention Program

- **Caring for Employees' Physical and Mental Health is a Corporate Responsibility**

TSMC believes that taking care of employees' physical and mental health is fundamental to maintaining normal business operations and also part of a corporation's social responsibility. To address emerging infectious diseases that may pose a threat to the workplace, we have a dedicated corporate ESH organization which constantly monitors

emerging infectious diseases around the world, assesses any potential impact on the workplace, and provides a strategic response plan. New influenza has become an extremely important issue in recent years, and we not only protect the health of employees, we also encourage them to apply their prevention knowledge at home so they can enjoy peace of mind at work.

- **TSMC Novel Influenza Response and Prevention Plan**

The "TSMC Novel Influenza Response & Prevention Plan" is based on our past experience with epidemics such as SARS in 2003 and H1N1 new influenza in 2009. This plan also integrates prevention plans by the World Health Organization, the U.S. Centers for Disease Control, The Taiwan Center for Disease Control's "Novel Influenza Combat Plan", Singapore's "Influenza Pandemic Preparedness and Response Plan", as well as consultations with domestic epidemiological experts and distinguished medical doctors.

If a major outbreak of novel influenza occurs, TSMC's Senior VP of Materials Management and Risk Management will convene a disease prevention committee to hold regular response and prevention meetings, and the committee will monitor global epidemiological developments and coordinate preparations. If Novel Influenza cases occur in Taiwan, TSMC will initiate a new set of procedures in accordance with the stage of the epidemic to lower its impact on employees and operations.

The disease prevention committee monitors global epidemic status, employee disease prevention education, stockpiling of disease prevention materials, kitchen disease prevention management, leave and travel management, case management, notification and medical assistance, procedures for mask wearing and hand washing, supplier/

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

5.1 Right People with Shared Vision and Values

5.2 Encourage a Balanced Life

5.3 Employee Engagement

5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

contractor and visitor prevention control, body temperature measurement procedures, work-at-home plans, routine disinfection of the work environment, reduced meeting frequency, medical waste treatment, and other preventive measures.

- **Collaboration with Subsidiaries and Suppliers on Novel Influenza Prevention**


To reduce the impact of H1N1 on overseas subsidiaries such as TSMC China, WaferTech, and TSMC North America, TSMC also convened overseas coordinators to immediately initiate prevention procedures and announce appropriate responses based on changes in the pandemic. In addition, TSMC also requires that suppliers set disease prevention policies and establish contingency plans for major labor shortages during the peak period of the pandemic. In 2013, an outbreak of H7N9 avian influenza occurred in China, and TSMC also closely monitored its development and assisted TSMC Shanghai (F10) to develop contingency coping measures. In addition, TSMC provided health education and a packet of disease prevention materials to colleagues travelling to Shanghai and other areas for business. If H7N9 becomes transmissible from human to human, TSMC will immediately set up a company-level disease prevention task force.

- **Continuous Monitoring of Seasonal Influenza Threat**
Seasonal influenza (such as H1N1, H3N2, type A or type B flu) or other infectious diseases (e.g. tuberculosis, typhoid fever) may become a highly contagious risk and affect employees. TSMC will continue to control a variety of infectious diseases workplace risks, learn from its experience, avoid over- or under-reaction, and maintain

a constant level of epidemic prevention. TSMC uses various methods to enhance the knowledge of individual employees on epidemic prevention, and also encourages employees to use this information to protect the health of their families.

Promoting Workers' Health

- **Special Health Examinations**

TSMC offers regular health examinations for employees and special health examinations for those managing tasks such as ionizing radiation, solvent operations, or operations with average daily sound pressure level above 85 decibels for eight working hours. Workers with higher risk of adverse health outcomes are subject to grade 1 or 2 health control by the TSMC Wellness Center. TSMC provides health examination records and workplace hazard monitoring information to occupational physicians for causal assessment. In 2013, health examinations found no reports of abnormal findings caused by occupational exposure. (See [Chapter 5.4.1](#)  for more information on TSMC's health care system).

5.5.5 Strengthening Industry-University Partnership in Improving Workers' Health

TSMC and National Taiwan University Collaborate to Advance Occupational Health Management

Beginning in 2012, TSMC strengthened its cooperation with academia to enhance our capabilities in occupational health management. TSMC and the National Taiwan University (NTU) College of Public Health signed a memorandum of understanding (MOU) to collaborate on occupational health enhancement. This MOU marks an important step

in long-term industry-university cooperation in the field of occupational health.

Under this MOU, TSMC collaborates with NTU to develop occupational management tools tailored for TSMC, including the promotion of personnel stress management programs.

TSMC and NTU College of Public Health Hold Third Labor Health Forum

TSMC collaborated with government and academia to hold the third Labor Health Forum on Sept. 6, 2013. The forum drew nearly 300 managers, experts, and professionals from government agencies, universities, and the private sector with opening keynote speeches by Deputy Labor Minister Fang-Yu Kuo, Deputy Health and Welfare Minister Hsu Ming-Neng, Tainan City Mayor William Lai, Dean of the National Taiwan University (NTU) College of Public Health Wei J. Chen, and TSMC Head of Human Resources Spencer Liao.

The theme of the 2013 forum was "industry, government, and university collaboration to improve occupational health", a response to the new Occupational Safety and Health Act signed in July, 2013. This legislation introduces new requirements in corporate occupational health risk management and also strengthens corporate responsibility to protect the physical and mental health of employees.

Activities in the afternoon were held in the form of a "global citizen café", a brainstorming session between business, universities, and government to discuss how to collaborate and adopt the most up-to-date knowledge and methods in occupational health, and fulfill the spirit of the Occupational Health and Safety Act. After two rounds of enthusiastic discussion, the six participating industries each collected

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

- 5.1 Right People with Shared Vision and Values
- 5.2 Encourage a Balanced Life
- 5.3 Employee Engagement
- 5.4 Employees' Physical and Mental Wellbeing

5.5 Safety and Health

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

points of consensus to serve as guidelines for future action in occupational health.

The Labor Health Forum was founded in 2011 by TSMC and the NTU College of Public Health for the business community to discuss occupational health issues, and has become a major annual event in this field for enterprises in Taiwan. In 2013, China Steel Corp., CPC Corp., LCY Chemical Corp., Uni-President Enterprises, and Innolux Corp. joined as co-sponsors of the event.

Activities in the afternoon were held in the form of a “global citizen café”, a brainstorming session between business, universities, and government to discuss how to collaborate and adopt the most up-to-date knowledge and methods in



The third Forum on Workers' Health was attended by nearly 300 managers, experts, scholars, and professionals from government agencies, universities, and business.

occupational health, and fulfill the spirit of the Occupational Health and Safety Act. After two rounds of enthusiastic discussion, the six participating industries each collected points of consensus to serve as guidelines for future action in occupational health.

TSMC believes that employees are a company's most important asset, and promoting the physical and mental health of workers as well as creating a happy workforce is a company's responsibility. TSMC has worked over the long term to build a friendly workplace, protect its employees' safety and health, promote gender equality, and raise worker effectiveness. At the same time, TSMC's employees have also shown their dedication to the Company, and improved TSMC's competitiveness by doing so. This mutual support



TSMC held in the form of a “global citizen café”, a brainstorming session between business, universities, and government to discuss how to collaborate and adopt the most up-to-date knowledge and methods in occupational health, and fulfill the spirit of the Occupational Health and Safety Act in the Labor Health Forum.

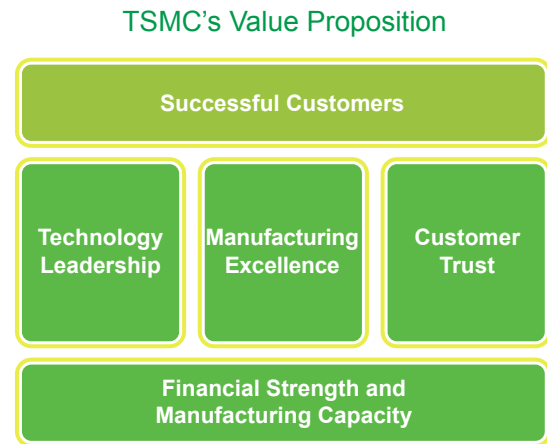
truly exemplifies TSMC's core value of “commitment”. By creating an opportunity for experience sharing and dialogue between industry, government, and scholars, TSMC aims to improve our health management and provide a healthier working environmental for all workers.

TSMC not only builds a friendly workplace in which TSMC colleagues can work comfortably and efficiently, we also help to make our society a healthier and more progressive place through mutual learning and cooperation.

Appendix

Customer Service and Supplier Management

Customer trust has always been one of TSMC's core values. At TSMC, our customers' success is our success, and we value our customers' ability to compete as we value our own. We strive to build deep and enduring relationships with our customers, who trust and rely on us to be part of their success over the long term.



TSMC has always treated suppliers as partners, and works together with them over the long term to build a stable and sustainable semiconductor supply chain. In addition to taking into account supply chain product quality, delivery, and cost, TSMC also works with our suppliers to protect the environment. We pay attention to the human rights, safety and health issues of our suppliers as well as business continuity and risk management, so that we can fulfill our corporate social responsibilities together. In 2013, TSMC was recognized by the Dow Jones Sustainability Indexes (DJSI) again as the Industry Group Leader. TSMC also scored highest in categories including Supply Chain Management, Environmental Policy and Management System, Operational Eco-Efficiency, Water-Related Risks, Human Capital Development, Labor Practice Indicators and Human Rights, Social Reporting, and Stakeholder Engagement.

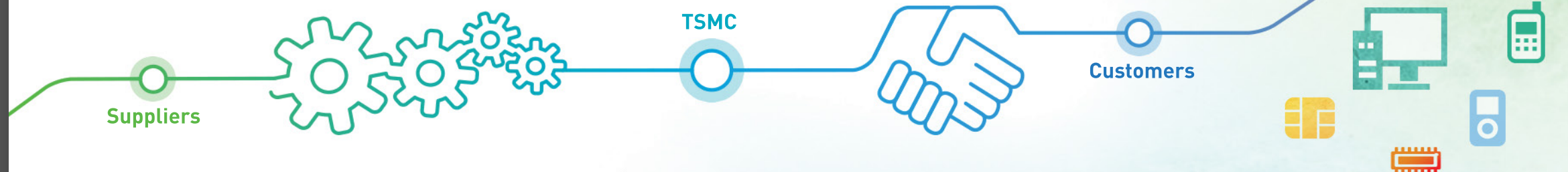


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier
Management6.1 Customer Service and
Satisfaction

6.2 Supplier Management

Social Participation

Environmental Protection

Appendix

TSMC has moved to localize raw materials, production equipment and spare parts in recent years. In addition to reducing carbon generation, reducing transportation cost, TSMC also hopes to enhance supply chain agility and ensure service to customers. For raw materials, TSMC's sourcing percentage from local Taiwan suppliers gradually increased to 41% in 2013.

To create a win-win situation for TSMC and suppliers, TSMC will continue supporting local companies and encourage localization by foreign suppliers. TSMC has set localization targets for purchases of each category for the next several years to drive for even lower production cost and supply risk as well as greater competitive advantage and supply chain sustainability.

41%

For raw materials, TSMC's sourcing percentage from local Taiwan suppliers gradually increased to 41% in 2013.



6.1 Customer Service and Satisfaction

6.1.1 Customer Service

TSMC believes that providing superior customer service is critical to enhancing customer satisfaction and loyalty, which is the path to retaining existing customers, attracting new customers, and strengthening customer relationships. With a

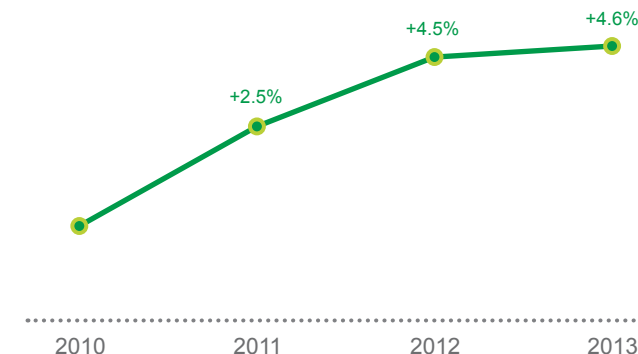
dedicated customer service team as a main contact window for coordination and facilitation, TSMC strives to provide world-class, high-quality, efficient and professional services in design support, masking, manufacturing, and backend to achieve optimum experience for our customers and, in return, to gain our customer's trust and sustain company profitability.

To facilitate customer interaction and information access on a real-time basis, the TSMC-Online services offer a suite of web-based applications that provide customers with a more active role in design, engineering, and logistics. Customers have 24-hour a day, seven-day-a-week access to critical information and can subscribe to customized reports through our TSMC-Online services. TSMC-Online Design Collaboration focuses on content availability and accessibility, with close attention to complete, accurate, and current information at each level of the wafer design life cycle. Engineering Collaboration includes online access to engineering lots, wafer yields, wafer acceptance test (WAT) analysis, as well as quality and reliability data. Logistics Collaboration provides access to data updated three times a day on any given wafer lot's status in order, fabrication, assembly and testing, and shipping.

6.1.2 Customer Satisfaction

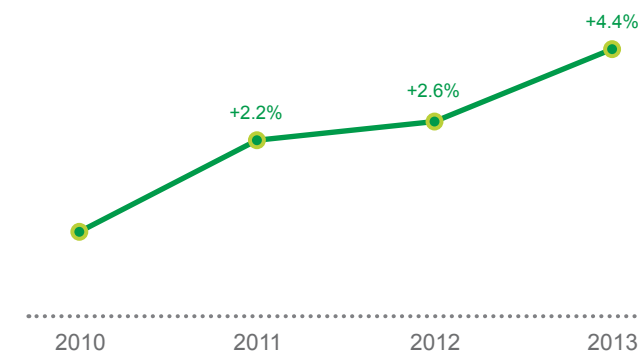
To assess customer satisfaction and to ensure that our customers' needs are satisfactorily addressed, TSMC conducts an annual customer satisfaction survey (ACSS) with all active customers, either by web or interview, through an independent consultancy.

QBR Technical Score 4-Year Trend



Note: Four-Year QBR Technical Score (Composite Index from QBR Technology, Quality and Reliability, Design Support scores) Trend

QBR Business Score 4-Year Trend



Note: Four-Year QBR Business Score (Composite Index from QBR Customer Service, Capacity and Delivery, Pricing scores) Trend

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

6.1 Customer Service and Satisfaction

6.2 Supplier Management

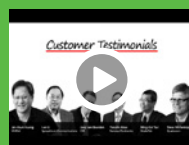
Social Participation

Environmental Protection

Appendix

Complementary with the ACSS, the customer service team conduct Quarterly Business Reviews (QBRs) so that customers can give feedback to TSMC on a regular basis. Through both survey and intensive interaction with customers by the account teams, TSMC is able to stay in close touch with customers for better service and collaboration.

All customer feedback is routinely reviewed by TSMC's executives and developed into improvement plans to become an integral part of this survey process with a complete closed loop. TSMC has maintained a focus on customer survey data as one key indicator of corporate performance – not just of past performance, but also as a leading indicator of future performance. TSMC acts on the belief that satisfaction leads to loyalty, and customer loyalty leads to higher levels of retention and expansion.

**WATCH VIDEO**

At TSMC, our customers' success is our success, and we value our customers' ability to compete as we value our own.

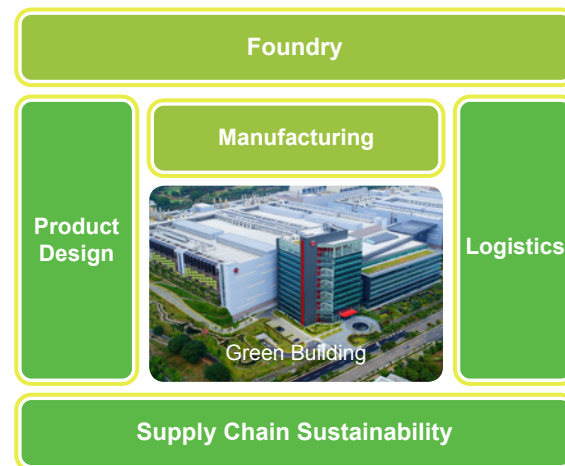
6.2 Supplier Management

6.2.1 Ensuring Supply Chain Sustainability

Green Procurement: Developing Suppliers' Green Standards

TSMC is committed to building a “green supply chain”, attending to global environmental issues, and exerting its influence to encourage supply chain partners to follow.

TSMC Works with Suppliers to Build a Green Supply Chain



Our assessment of suppliers' green performance includes:

- **Code of Green Supply Chain**

- Code Compliance in Environmental Protection: Suppliers must comply with local government regulations, including air pollution control, water pollution control, waste, and resource management. If there are violations of law or regulations, suppliers must take corrective action.
- Energy Saving and Carbon Reduction Management: Suppliers are required to collect carbon inventory data in their manufacturing plants, develop a product-based carbon footprint, and provide carbon reduction performance data.
- Water Resources and Water Management: Suppliers are required to collect water inventory data in their manufacturing plants to establish a water footprint, and to provide a specific water resource management plan.
- Green Products and Hazardous Substances Control Specification: In response to global hazardous substance controls and eco-friendly product specifications, we ask

suppliers to comply with PFOS/PFOA/RoHS/REACH and other global chemical control standards.

- Waste Management: Suppliers need to continuously improve waste reduction performance and raise recycling and reuse ratios in their manufacturing facilities.
- Tier-2 Suppliers' Green Supply Chain: Suppliers must work with their upstream suppliers on environmental protection, reduction of carbon emissions, and water conservation-related measures.
- Environmental Management System and the Establishment of Environmental Objectives: Suppliers must have ISO 14001, RC 14001, or other relevant environmental management system certification.
- Other Environmental Protection Standards: This includes the use of green procurement, adoption of green building designs, promotion of environmental education and others.

- **Requiring Raw Materials Suppliers to Eliminate Hazardous Substances**

TSMC promotes “green procurement”, and requires raw materials suppliers to provide a statement to ensure that their products do not contain internationally banned hazardous substances harmful to the environment to ensure that products meet customer requirements such as the EU RoHS Directive. If significant deficiencies are found in supplier environmental audits, the supplier will be reviewed and asked to improve at a quarterly meeting chaired by a purchasing group manager.

- **Green Requirements for Process Tool Vendors**

TSMC requires equipment vendors to consider water, power, and material conservation when designing new generations of equipment, and also requires a long-term blueprint for carbon reduction and future environmental strategy. TSMC also verifies that the energy performance of each tool meets or exceeds conditions set in the procurement contract after tool installation is completed.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier
Management6.1 Customer Service and
Satisfaction

6.2 Supplier Management

Social Participation

Environmental Protection

Appendix

Supply Chain Risk Management

- **Code of Supply Chain Risk Management**

TSMC views supply chain risk management as part of the Company's competitive advantage. In a globalized world, any major natural disaster or accident can have an impact on TSMC. Therefore we pay close attention to any risk to our supply chain partners, and take the initiative to provide assistance when necessary. Our concerns include:

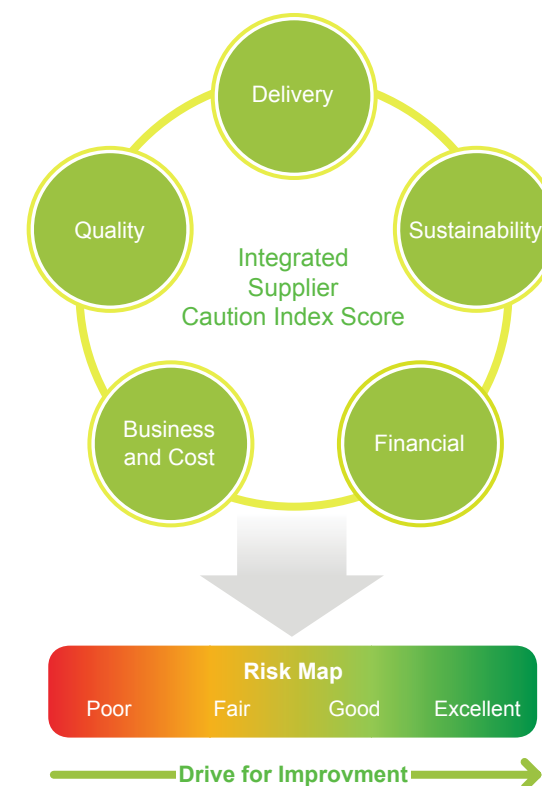
- Business Continuity Plan: TSMC requires our suppliers to establish their own business continuity plans for a variety of potential natural or man-made threats. Appropriate plans, procedures, actions and periodic drills are required to ensure continuous operations and reduce the impact of accidents on TSMC.
- Geographical Risk: TSMC analyses the geographic location of manufacturers in our global supply chain using mapping tools. When a major accident or natural disaster occurs around the world, we can immediately begin business continuity plans and take the initiative to provide our supplier business partners with the resources needed to resume production.
- Earthquake Risk Management: TSMC proactively helps companies that need assistance by teaching them how to strengthen their anti-earthquake engineering.
- Climate Change Risk Management: Due to the increased risk of water shortage and flooding in recent years resulting from global climate change, we require our suppliers to prepare contingency plans, such as support from overseas production, to reduce the impact of such an event.
- Fire Risk Management: We believe that fires can be prevented, and share our own loss prevention and fire protection management experience with our suppliers.

- General Environmental, Safety and Health Management: TSMC requires major suppliers to obtain OHSAS 18001 certification or other health and safety management system certification.
- New Influenza Pandemic Response and Prevention: TSMC shares its experience in corporate pandemic response and prevention with our major suppliers.
- Transportation Risk: Suppliers must manage the quality of their transportation or logistic service and vehicles. In particular, appropriate training and contingency plans are required in the transport of dangerous or hazardous chemicals.
- Suppliers' Supply Chain Risk Management: In addition to requiring suppliers to manage their supply chain risk, we also require suppliers to have the ability to review their suppliers' risk management and to enhance the reliability of the supply chain.
- Interruption of Information Systems Risk Management: Some suppliers are highly dependent on IT systems in their production. TSMC asks that they have mechanisms for remote backup of information systems. Computer server rooms are also required to have fire and earthquake protection to reduce the impact of accidents.

- **Developing a Supply Chain Sustainability Risk Map**

TSMC's efforts in sustainable supply chain management in the past several years have answered our customers increased concerns in this area. Despite the difficult and forward-looking nature of some of our measures, we are dedicated to continuing our efforts. In 2009, TSMC developed a Sustainability Evaluation Score to assess suppliers' supply chain risk and sustainability. We use this score, combined with delivery, quality, financial, operational, and other risks, to form a supply chain risk map. TSMC refers to these maps as an important basis for procurement strategy.

Supply Chain Risk Management



Labor Right & Ethics Requirement in Supply Chain

TSMC requires its suppliers to comply with applicable rules and regulations regarding labor rights and conditions as well as those on conflict minerals.

Our suppliers must obey the following codes of conduct.

- Suppliers shall comply with the most updated version of relevant worldwide rules and regulations issued by governmental entities or private and public institutions

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier
Management

6.1 Customer Service and
Satisfaction

6.2 Supplier Management

Social Participation

Environmental Protection

Appendix

such as the EICC (Electronic Industry Citizenship Coalition) Standards and implement relevant protocols to enforce ethical labor rights and conditions such as those regarding Freely Chosen Employment, Child Labor Avoidance, Working Hours, Wages and Benefits, Humane Treatment and Non-Discrimination to better protect labor rights. Our suppliers are required to ask its sub-suppliers to comply with such rules and regulations.

- TSMC requires its suppliers to keep in place policies, procedures and due diligence measures that will enable us to reasonably assure that products manufactured for us or raw materials supplied to us containing conflict minerals do not directly or indirectly finance or benefit armed groups that are perpetrators of any human rights abuses in the Democratic Republic of the Congo or an adjoining country or such other geographic regions as may be stipulated in relevant rules and regulations. TSMC also requires its suppliers to comply with the Electronic Industry Citizenship Coalition (EICC) Code of Conduct and conduct their affairs consistent with TSMC's expectations on responsible sourcing of conflict minerals.

TSMC Suppliers' Sustainability Requirements

TSMC set up solid supplier code of sustainability for suppliers. The sustainability requirements of the code include regulatory compliance and practical management of Environmental Protection, Safety, Hygiene, Risk Management, Labor Right and Ethics.

Supplier Code of Sustainability

Green Supply Chain (Weighting: 40%)	
Code Compliance	The suppliers should follow the requirement of local environmental law.
Energy Saving & Carbon Reduction	Suppliers should collect carbon inventory data in their manufacturing facilities, develop product-based carbon footprint and provide carbon reduction performance results.
Water Management	Suppliers should collect water inventory data in their manufacturing facilities, brief water saving results as well as risk mitigation plans for water scarcity if the suppliers located within water risk sensitive regions.
Waste Management	Improvement of waste reduction in suppliers' manufacturing facilities should be continuously executed.
Green Product	Suppliers' product must comply with environmental codes those may apply including PFOS/PFOA/RoHS/REACH and others in response to global trends.
Environmental Management System	Recognized environmental standard (e.g. ISO 14001, RC14001) should be adopted as the management framework to reduce environmental impact from product/material manufacturing, comply with applicable laws, regulations and requirements and conduct continuous improvement.
Other Environmental Activities	Pursuit of green Innovation & green award is encouraged.
Safety, Hygiene and Risk Management (Weighting: 40%)	
Code Compliance	The suppliers should follow the requirement of local safety, hygiene & fire protection laws.
Safety & Hygiene Management System	Recognized occupational safety & hygiene (OSH) standard (e.g. TOSHMS 18001, RC14001) should be adopted as the management framework to reduce OSH impact from product/material manufacturing, comply with applicable laws, regulations and requirements and conduct continuous improvement.
Safety Management	The procedure preparation, training conducting and engineering improvement for mitigate workers' exposure to potential safety hazards (e.g., electrical and other energy sources, fire, vehicles, and fall hazards) are required.
Hygiene Management	<ul style="list-style-type: none">● The physical, chemical and biological exposures in workplace should be evaluated and controlled. Management measures or engineering improvement have to be implemented.● Supplier shall identify, evaluate and reduce ergonomic risk of workers.

(continues on next page)

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier
Management6.1 Customer Service and
Satisfaction

6.2 Supplier Management

Social Participation

Environmental Protection

Appendix

Fire Protection	<ul style="list-style-type: none"> Suppliers should identify fire hazards when using dangerous chemicals and facilities. Plans need to be in place to prevent fire. The fire protection systems should be set up and maintained properly.
Emergency Response	<ul style="list-style-type: none"> Emergency response procedure and organization should be set up. The emergency response drill should be conducted annually.
Business Continuity Plan	<ul style="list-style-type: none"> Suppliers should establish business continuity plans with risk identification, risk controls and recovery procedures. The drill of Business Continuity Plan should be executed periodically.
Natural Disaster Management	The suppliers located in earthquake, tsunami, flood and wind etc. hazard area have to develop risk mitigation procedure, install hardware for impact reduction and prepare alternate manufacturing facilities distantly separated.
Pandemic Preparedness	A formal pandemic preparedness procedure and relevant hardware preparation to protect your personnel and/or limit the spread-out of disease during Pandemic outbreak are required.
IT Risk Mitigation	The measures for ensuring stability of suppliers' IT system are essential.
Transportation Management	Suppliers should check and reduce transportation risk.
Suppliers' suppliers Management	Suppliers are requested to audit and support their upstream suppliers for the similar efforts of what TSMC requests including environmental protection, safety, Hygiene, risk management, labor right, and conflict mineral.
Labor Right & Ethics (Weighting: 20%)	
Code Compliance	The suppliers should follow the requirement of labor laws.
Labor Right	The behaviors including child labor employment, exceeding working hour, harsh/ inhumane treatment and discrimination are prohibited. The legal requirements of over time compensation, minimum wage and mandated benefits should be followed.
Conflict Mineral	The metal defined as Conflict Mineral (Gold, Tin, Tantalum and Tungsten) cannot be sourced and imported from DRC and its adjoining countries.

Note: The content and weighting will be reviewed and modified annually.

Managing Contractors' ESH

TSMC endeavors to be a good corporate citizen and meet its social responsibilities. We believe in going beyond providing a safe workspace for employees to establish a higher ESH standard with our partners in all industries. TSMC is committed to communicating with suppliers and contractors on environmental, safety, and health issues and encouraging them to improve their ESH performance. TSMC treats contractors like our employees and works together with them to adopt good safety protection, and leads members of our supply chain to reduce their environmental impact.

- Identifying High-risk Work for Priority Management**
TSMC has established standards for high-risk work to strengthen contractor safety management. TSMC began adopting high-risk work management and self-management to govern work performed by contractors in 2005. TSMC's high-risk work management classifies work that may cause injuries, casualties or major property damage as level-1 high-risk operations. These include work in confined spaces, work with electrical shock risk, hot work, or disconnection of gas or chemical piping. Work that may result in system shutdowns or production interruptions are classified as level-2 high-risk operations. TSMC explicitly defines safety precautions and control procedures to be taken by personnel according to different operations.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier
Management6.1 Customer Service and
Satisfaction

6.2 Supplier Management

Social Participation

Environmental Protection

Appendix

- **Contractor OHSAS 18001 Requirement and Worker Skill Certification**

In terms of self-management, TSMC requires that contractors performing level-1 high-risk work must complete worker certification and establish their own OHSAS 18001 safety and health management system before they are eligible to bid on contracts. This self-management is aimed at increasing contractors' sense of ownership and responsibility with the goal of promoting safety awareness and technical improvement for all contractors in the industry. Workplace accidents have decreased by half since these requirements were implemented in 2005.

In addition to routine audits by third party certification agencies, TSMC has also conducted audits of OHSAS 18001-certified contractors since 2008. If an audit finds that a contractor is not qualified, the contractor's level-1 high-risk work qualification may be revoked.

TSMC believes that we can help the community and the environment by leading our contractors to reach higher standards of environmental, safety, and health protection and create a better workplace.

Management, Audit and Assistance

- **Quarterly Business Review**

TSMC conducts quarterly meetings with our suppliers' senior managers to review performance, including quality,

delivery and sustainability performance. We ensure suppliers comply with TSMC requirements through semi-annual or quarterly monitoring of key indicators through a scorecard and checklist.

- **Certification for Management Systems**

TSMC encourages its suppliers to be certified for ISO 14001, OHSAS 18001 or other environmental and ESH management systems.

- **Site Audit and Assistance**

TSMC visits our suppliers and performs audits according to an annual plan. When special concerns arise from these audits, we work with suppliers to develop appropriate solutions and provide support to meet our expectations. These solutions are executed by specified sponsors with a clear goal and time frame.

- **Intelligent Information**

TSMC provides a comprehensive web-based service platform to collaborate with TSMC suppliers. It supports new supplier registration, qualification, forecast, supply chain inventory visibility, quotation, purchasing orders processing, quality collaboration, shipment confirmation, and payment status inquiry for suppliers. This platform enables transactions and supply chain information to be managed in real time through a user-friendly B2B interface. TSMC has worked closely with raw material suppliers to exchange inventory information, so that in-bound supply chain inventories are transparent and demand fluctuations

can be detected early. TSMC encourages our suppliers to implement ePO, eInvoice, and advanced shipping notice and inventory information in an integrated platform. The platform speeds up information flow, increases people efficiency, reduces human error, and also decreases overall supply chain cost. More than three thousand suppliers use TSMC's Supply Online system for data exchange, covering 90% of total purchasing value. All these efforts mitigate the risk of supply interruption and prevent manufacturing of surplus materials.

90%

More than 3,000 suppliers use TSMC's Supply Online system for data exchange, covering 90% of total purchasing value.



Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier
Management

6.1 Customer Service and
Satisfaction

6.2 Supplier Management

Social Participation

Environmental Protection

Appendix

6.2.2 Supply Chain Sustainability Management
Achievements

In recent years, global consumers increasingly feel that corporations have a responsibility to supervise their suppliers. As a global leader in the semiconductor industry, TSMC has an ongoing commitment to improve the sustainability performance of suppliers and work with them to create sustained value. We supervise and collaborate with our suppliers in a number of sustainability fields, including Green supply chain, Restriction of Hazardous Substances, climate risk management, earthquake risk response, fire prevention, occupational safety and health management, and business continuity plans. These efforts can reduce the risk of interruption to our supply chain, and are also part of our corporate social responsibility.

The establishment of a sustainable supply chain is a win-win strategy, which enhances the safety of our suppliers, their employees, and their property, and indirectly enhances the competitiveness of TSMC. The Company will continue its efforts to reduce supply chain risk and contribute to customers, investors, and society.

Summary of Achievements of TSMC's Supply Chain Sustainability Management in 2013

Item	Goal	Result Summary
Green supply chain – Product carbon footprint	Complete carbon inventory and carbon resource management survey for 52 major suppliers in Japan, the United States, and Taiwan to encourage energy saving and carbon reduction in 2013.	Achieved
Green supply chain – Water resource and water saving	Complete water management survey for 52 major suppliers in Japan, the United States, and Taiwan to encourage water saving in 2013.	Achieved
Green supply chain – Product water footprint	Collaborate with 20 major suppliers to develop a product supply chain water footprint for 300mm fabs (FAB12P1) based on “the water footprint assessment manual (1011). Water footprint network, as well as obtain IC PCR for EPD (2009, ver. 01) 3 rd party certification	Achieved
Green supply chain – Product water footprint	Collaborate with 20 major suppliers to develop a product supply chain water footprint for 200mm fabs (Fab 3) based on “The Water Footprint Assessment Manual (2011), wafer Footprint Network, as well as obtain IC PCR for EPD (2009, ver. 01)” 3 rd party certification before 2013	Achieved
Green supply chain – PFOA hazardous substance management	Complete verification of replacements for products containing PFOA photo resist before the end of 2013	Ongoing
EICC 4.0 compliance on labor, environment protection, safety and health, human right and social standard	Verify that major suppliers are compliant with EICC 4.0 standards	Confirmed through questionnaires, on-site audits, and quarterly business reviews that 52 major suppliers are in line with EICC 4.0 requirements in labor, environmental protection, health and safety, human rights and social standards
Supply chain risk – Business continuity plan	Confirm that 52 major suppliers maintain basic business continuity plans (as per the BS25999 standard and customer requests)	Achieved
Supply chain risk – Anti-quake risk management	Assist 3 re-claim wafer suppliers to enhance the anti-quake engineering	Achieved

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier
Management6.1 Customer Service and
Satisfaction

6.2 Supplier Management

Social Participation

Environmental Protection

Appendix

Supplier Performance Management

TSMC focuses on supply chain sustainability management by setting ongoing targets and scoring suppliers on quality, cost, delivery, service and sustainability. TSMC periodically audits suppliers and encourages them to comply with TSMC purchasing strategies. In 2013, TSMC continued its survey and performance measurement on silicon wafers, reclaim wafers, gas, chemicals, quartz parts, masks and other raw materials suppliers, covering more than 90% of our total raw material purchase value. TSMC also encourages suppliers who collaborate with TSMC to diversify risk factors. We welcome all qualified suppliers to join and strengthen the TSMC supply chain.

Supplier ESH Audit and Assistance

In 2013, TSMC continued to audit major suppliers through questionnaires or on-site audits. If major shortfalls in environmental protection, safety, or health are discovered, we require that senior management commit to improvement. For suppliers lacking resources for self-improvement, we organize experience-sharing meetings or perform on-site counseling to improve their performance.

Supplier Quality Improvement and Auditing

To continuously improve material quality and strengthen statistic processing, TSMC held a Supplier Quality System seminar in Aug. 2013. All invited suppliers are required to begin internal training for their employees to improve quality, in order to establish a more reliable and sustainable raw materials supply chain for TSMC. TSMC also performs

annual on-site audits to major and critical suppliers. If particular shortfalls are discovered, we provide specific goals and clear timetables to meet TSMC's expectations.

Supply Chain Risk Management

To reduce supply chain risk and to actively manage cost, TSMC commits resources toward developing new supply sources. In addition, the Company encourages its suppliers to reduce their supply chain risk by decentralizing production plants, and to intensify their cost competitiveness by moving their production site to Taiwan from high-cost areas. The Company believes this benefits both suppliers and TSMC. TSMC actively addresses supply chain issues and brought together fab operations, materials management, quality systems and the risk management team to mitigate potential supply chain risks and enhance supply chain agility. Furthermore, The Company continually refines its collaboration platform with suppliers to respond to changes in demand and supply and monitors its inventory and replenishment on a daily basis so as to sustain an optimal level at rational cost.

Promoting Green Label Purchasing

TSMC encourages the use of computer servers, network equipment as well as office equipment and supplies with green labels, including computers and peripherals, recycled printer paper, recycled paper towels, and environmentally friendly cleaning supplies. The purchasing value of supplies and equipment with eco-labels was more than NT\$2.4 billion in 2013, reaching 50% of spending on computer servers, network equipment and office supplies.

90%

In 2013, TSMC continued its survey on silicon wafers, reclaim wafers, gas, chemicals, quartz parts, masks and other raw materials suppliers, covering more than 90% of our total raw material purchase value.



Concern for Supply Chain Labor Standards

Over the past several years, the Electronics Industry Citizenship Coalition (EICC) has continuously expressed concern for labor rights and working conditions. As a member of the electronics industry supply chain, TSMC has adopted EICC standards for protection of labor rights and taking care of the working conditions of employees, requiring its own supply chain manufacturers to comply with environmental, health and safety, labor rights and working conditions standards.

Suppliers Responsibilities: Sourcing Conflict-free
Materials

TSMC is subject to the new U.S. SEC disclosure rule on conflict minerals released under Rule 13p-1 of the U.S. Securities Exchange Act of 1934. As a recognized global leader in the hi-tech supply-chain, we at TSMC acknowledge our corporate social responsibility to procure our minerals from conflict-free areas.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier
Management6.1 Customer Service and
Satisfaction

6.2 Supplier Management

Social Participation

Environmental Protection

Appendix

TSMC is one of the strongest supporters of the Electronic Industry Citizenship Coalition (EICC) and the Global e-Sustainability Initiative (GeSI), which will help our suppliers source conflict-free materials. TSMC in general supports the humanitarian and ethical principles contained in the OECD's Model Supply Chain Policy for a Responsible Global Supply Chain of Minerals from Conflict-Affected and High Risk Areas issued in 2011. We encourage our suppliers to source from facilities or smelters that have received a "conflict-free" designation by a recognized industry group (such as the EICC), and also required suppliers to disclose information on smelters and mines since 2011. TSMC adopts and follows global semiconductor industry conflict minerals procurement practices such as sourcing from the same suppliers used by other semiconductor companies. To date, TSMC is conflict-free for gold, tantalum, tin and tungsten because according to the results of our reasonable inquiry into the country of origin of these minerals as defined under relevant law, TSMC has not used any of these conflict minerals from the Democratic Republic of Congo and/or its surrounding countries. It is TSMC's goal to strive use tantalum, tin, tungsten and gold in our products that are DRC conflict-free. For further information, please see our Form SD to be filed within the applicable deadline with the U.S. Securities & Exchange Commission." We will continue to renew our supplier survey annually and require our suppliers to improve and expand their disclosure to fulfill regulatory and customer requirements.

15

Completed smelter
information survey for
15 identified raw material suppliers in 2013



Note: For purposes of this section, "conflict-free" products means those that are manufactured with metals from smelters that have been validated by the EICC and GeSI CFS program, or other country of origin reasonable inquiry determination and due diligence to be "DRC conflict free" as that term is used under U.S. law.

TSMC Supply Chain Management Forum and Excellent Supplier Award

TSMC held its 13th annual Supply Chain Management forum on Dec. 12, 2013, and the theme of the forum was "Collaborate and Win Together". To show appreciation for the support and contributions of its suppliers during the past year, TSMC recognized and awarded 9 outstanding equipment and materials suppliers. Over 500 suppliers around the world in the fields of equipment, materials, packaging, testing, facilities, IT systems and services, and environmental and waste management services participated in the forum.

"TSMC's strategy is to grow together with our partners," said TSMC Co-Chief Executive Officer Dr. Mark Liu. "We collaborate with customers and suppliers through the Grand Alliance to forge closer bonds and harvest the rewards

of growth together. We look forward to working hand in hand with our supplier partners to push technology forward with fresh innovations, and do our part for the continued development of the semiconductor industry."

"TSMC's growth relies on the resolute support of our supplier partners," said Dr. Steve Tso, TSMC's Senior Vice President of Materials Management and Risk Management. "With this solid partnership, TSMC will keep growing and winning together with our customers and supplier partners."



TSMC Co-Chief Executive Officer Dr. Mark Liu gave a keynote speech in 2013 TSMC 13th annual Supply Chain Management Forum.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

Social Participation

Caring for the earth and future generations is an important and undisputable part of TSMC's corporate social responsibility. In 2013, in addition to continuing its existing plans and projects, TSMC has combined the Company's resources with its employees' love and wisdom to work together and build a sustainable society, care for the earth, show compassion for the underprivileged, and eliminate urban/rural disparities.

Starting with the idea of "sharing brings strength", in 2013 TSMC published the books "TSMC's Green Power" and "TSMC's Green Action" in Taiwan and in 2014 we will publish a simplified Chinese version in China so that our many years of action in environmental protection and sustainability will have a broader impact and attract more resources to the cause of sustainability.

In 2013, The TSMC Volunteer Society, TSMC Education and Culture Foundation, and colleagues from many different fabs travelled throughout Hsinchu, Taichung, and Tainan to bring warmth and care to elderly veterans, children in halfway houses, elementary school students in rural areas, university students from low-income families, and elderly people living alone. We provide moral support by spending time with them and by providing economic assistance at appropriate times. In one of our many programs, the TSMC Cycling Club led 25 colleagues on a round-the-island bicycle tour. They not only completed an athletic feat, they also brought our colleagues love and concern to three children's homes in Hualien, Taitung, and Yunlin with donations of 30 bicycles and other goods, benefitting 320 underprivileged children and warmth to a rural area with few resources.

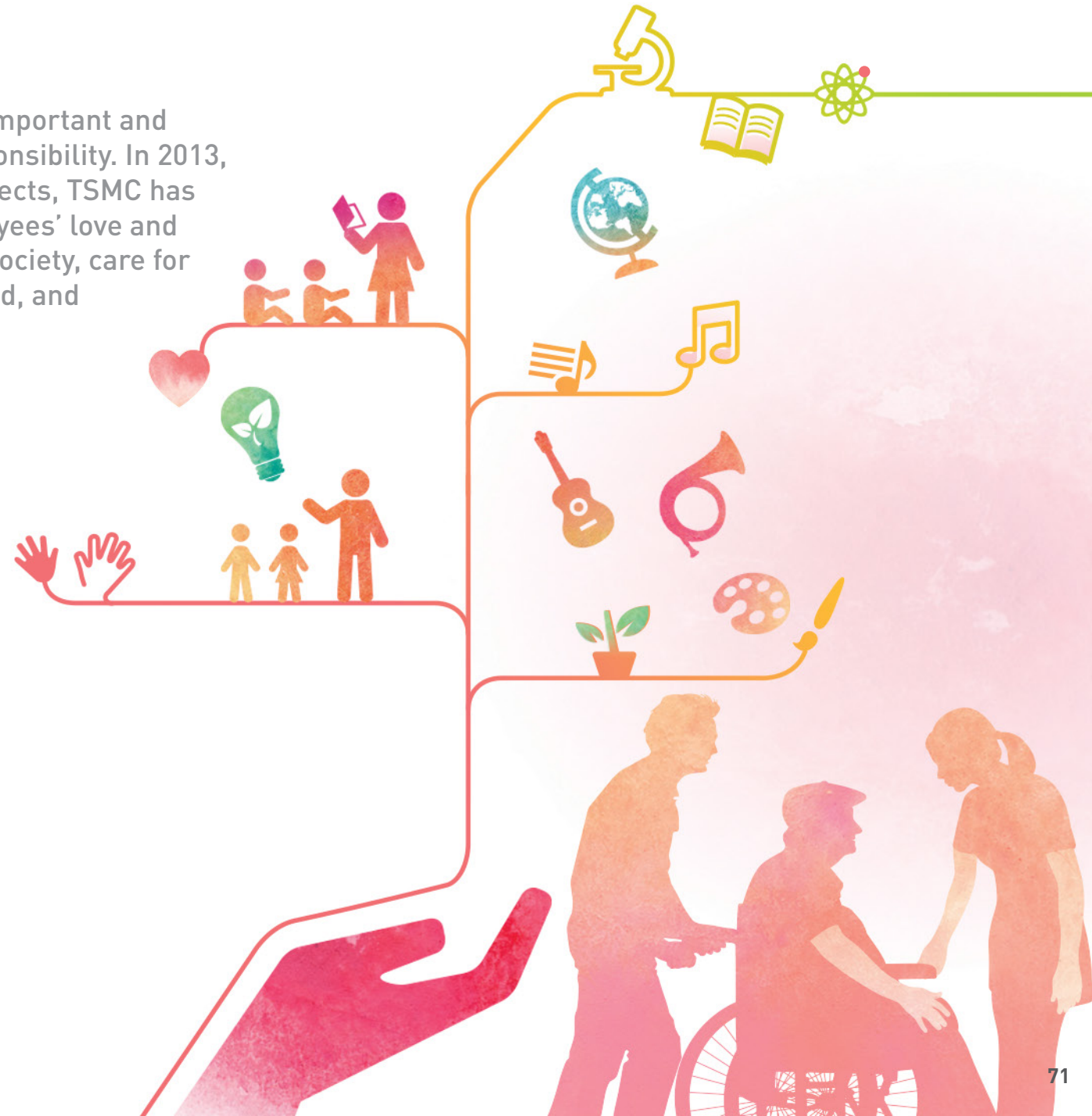


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

In addition, we have continued to promote science and art education. Besides inviting children from rural areas to visit museums, galleries, and science centers, TSMC has continued to fund the Taipei Fine Arts Museum's "TSMC Children's Art Education Center", which will open in 2014. We expect this comprehensive art space oriented towards families and children will become an important base for childhood aesthetic education. At the same time, we have extended our support for the Center for Advanced Science Education at National Taiwan University and held the first "TSMC Cup – Competition of Scientific Story Telling

Competition" to develop outstanding scientific talent. In humanities and the arts, we continue to hold the TSMC Youth Calligraphy Competition and the TSMC Youth Literature Award to nurture literary and artistic talent, and we also supported the National Symphony Orchestra with its first production of the Wagner Opera *Die Walküre*.

In sustainability, we are committed to selfless sharing of our knowledge. In 2012, TSMC officially assembled its Ecology Volunteers, who guide visitors through TSMC's green campus in Taichung and the Pheasant-tailed Jacana

Ecology Educational Park in Taichung. In 2013, the Ecology Volunteers expanded their service area to Hsinchu, and invited more than 120 students and teachers from rural elementary schools to visit the ecology park in our Fab 12B facility.

In addition, with the enthusiastic support of management, the Fab/Division Volunteer Program was created to support diverse charity initiatives. These include donations of discounts from group purchases to charity, volunteer work to help elderly people living alone, and sponsoring children in rural areas to attend professional baseball games to fulfill their dreams and give them hope for the future.

Thanks to the passion and commitment of our colleagues, in 2013 TSMC became the first Taiwan company to be ranked as an "Industry Group Leader" in the Dow Jones Sustainability Index survey, winning the highest score in the "Semiconductors and Semiconductor Equipment" industry group. We also maintained the highest score in the "Social Dimension" of the survey.

We hope that these efforts can act as a force for uplifting society, and that all parts of society can grow in love, happiness, health, and prosperity with the resources that we commit. We also hope that the example we provide can exert a positive influence and encourage society to join us in cherishing the earth's precious resources and make it a better place.

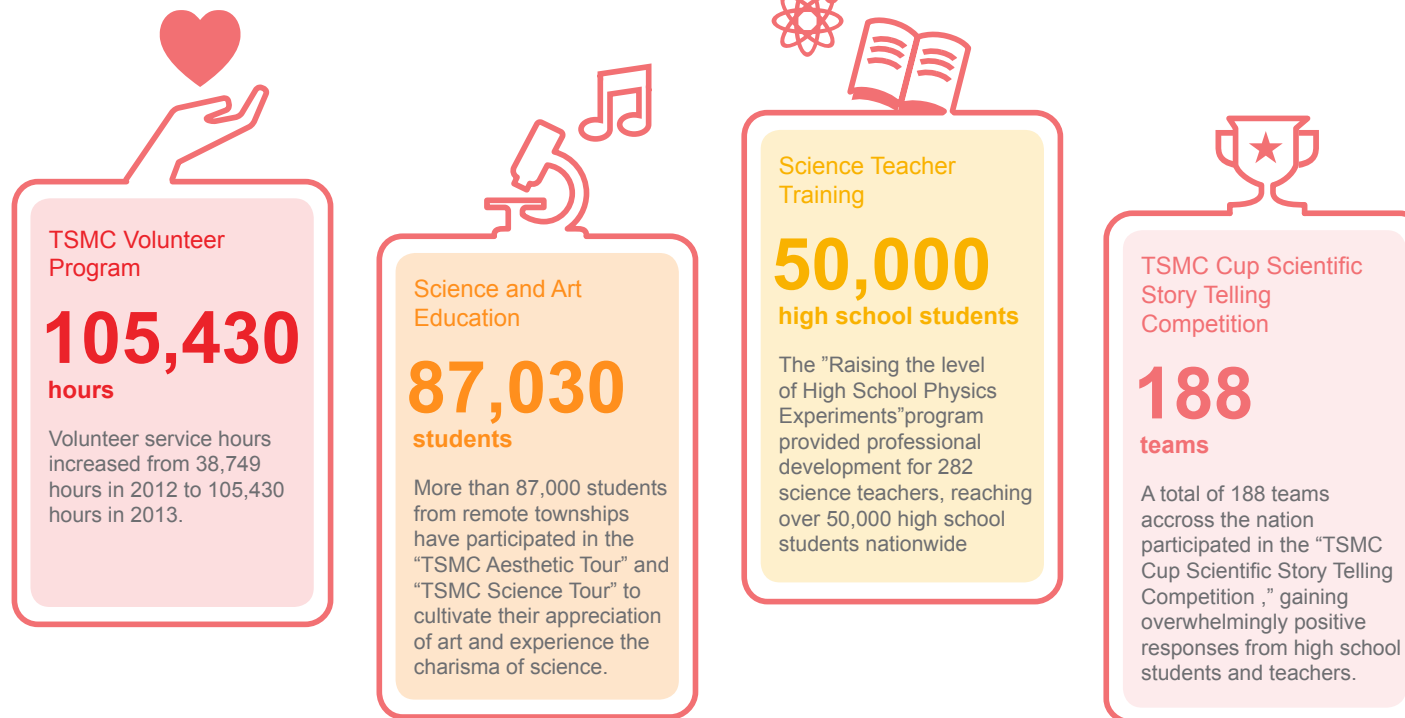


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

7.1 TSMC Education and Culture Foundation

The TSMC Education and Culture Foundation, established in 1998 to coordinate the Company's sponsorship as part of its efforts in corporate social responsibility, devotes its resources towards education, promotion of art and culture events, community building, and the employee volunteer program.

In 2013, the TSMC Foundation contributed over NT\$73 million to its long-term projects in promoting education and arts. This year the Foundation devoted more resources to science education projects, including sponsoring The Center for the Advancement of Science Education at Taiwan University (CASE) to hold The TSMC Cup Scientific Story Telling Competition, the Tsing Hua Cup National High School Chemistry competition, scientific talents camps, and other long-term educational programs.

With regard to the promotion of arts and Chinese Culture, the TSMC Foundation sponsored the National Symphony Orchestra to produce the stage version of Wagner's *Die Walküre*. Following "The Analects of Confucius" and "The Writings of Chung-tzu", Professor Hsin Yih-yun, at the invitation of the Foundation, launched the broadcasting program "Mo-tzu in Hsin's View" to lead the audience to understand Mo-tzu's philosophy. The Foundation also continued to support the Taipei Fine Arts Museum to establish a children's art education center, which will be inaugurated at April in 2014.

Aside from financial sponsorships of culture and educational projects, the TSMC Foundation supports the TSMC Volunteer Society, organizing employees to devote themselves to the caring of the underprivileged of the communities.

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

Talents are essential to the development of the economy. As a leader of Taiwan's knowledge-based industry, TSMC regards cultivating talented people for society as a core responsibility. Thus the TSMC Foundation tailors various programs to target a whole range of education needs at different age levels.

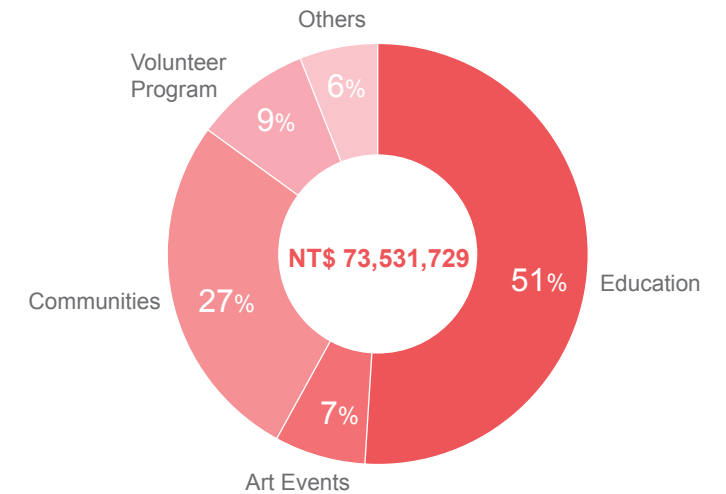
The Primary-School Level — Narrowing the Gap in the Educational Resources between Rural and Urban Areas

As society changes rapidly, the gap between rural and urban areas in educational resources is getting wider. The TSMC Foundation continues to invest resources in various education programs. Through sponsoring the "Hope Reading Program" donating books to the schools in remote townships, supporting the Boyo Foundation providing after school assistance for underprivileged elementary and middle school children, and holding the "TSMC Aesthetic Tour" and "TSMC Science Tour" taking children to the art museums and science museums, the Foundation hopes to narrow the gap and ensure that our children all have the equal chance to be well-educated.

• TSMC Aesthetic Tour, TSMC Science Tour, and TSMC Children's Art Education Center

The TSMC Foundation has always placed equal emphasis on inspiring children's interest in arts and in science. The Foundation launched the TSMC Aesthetic Tour in 2002, and the TSMC Science Tour in 2010. To bridge the urban-rural gap, the "TSMC Aesthetic Tour" and "TSMC Science Tour" takes children from remote townships to visit the National Palace Museum, Taipei Fine Arts Museum, National Taiwan Science Education Center, National

Sponsorship by the TSMC Foundation in 2013



The Four Commitments of TSMC Education and Culture Foundation

TSMC is dedicated to being a leading Taiwan corporate citizen and is an active sponsor of education and cultural activities. To maximize the impact of our contributions, TSMC established the TSMC Education and Culture Foundation (the TSMC Foundation) in 1998. Currently, F. C. Tseng, TSMC Vice Chairman, serves as the Chairman of the Foundation, which has been pioneering various projects to fulfill our long-term commitment to education and culture. The four principles of TSMC Foundation are: "Commitment to Education", "Contribution to TSMC Site Communities", "Sponsorship of the Arts Community", and "Support for the Employee Volunteer Program." If you would like to learn more about the Foundation, please access the official site of the [TSMC Foundation](#).

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

Museum of Natural Science and National Science and Technology Museum. Over the last 11 years, more than 87,000 students from remote townships have participated in these tours to cultivate their appreciation of art and experience the fascination of science.

In addition to arranging the museum visits, the TSMC Foundation also supported the establishment of a facility for promoting children's art education. The Foundation cooperated with the Taipei Fine Arts Museum to establish a "Children's Art Education Center," consisting of a gallery, workshops, and a courtyard to serve as a dedicated art education space to serve children nationwide. The "TSMC Children's Art Education Center," due for completion and inauguration in 2014, carries on the Foundation's longstanding goal of children's art education.

- **Hope Reading Program**

Since 2004, TSMC has sponsored the Hope Reading Program initiated by the Commonwealth Educational Foundation. This program is a campaign to narrow the gap in educational resources between rural and urban areas caused by disparities in wealth. By providing books to children in remote and underprivileged areas of Taiwan, TSMC hopes to promote literacy and inspire interest in reading among these children so that they will have good books to read and have the opportunity to one day leave poverty behind through education.

Through the "Hope Reading Program", the TSMC Foundation donates 100 wonderful books to 170 elementary schools and 30 junior high schools in remote area each year. In this project, literary academic representatives, authors, and teachers are invited to choose newly-published picture books, storybooks, and young adult novels for these children. Since 2004, the Foundation has already donated over 190,000 books to support school library resources, and cultivating reading habits for children.

In addition to donating the books, the program also recruits college students and enterprise employees as volunteers to encourage children to read books, and holds international reading education forums and workshops for teachers to learn new education concepts and teaching

skills. In response to the program, TSMC also recruited its employees to form "TSMC Reading Volunteer" teams to serve at eight schools nationwide for inspiring the children's reading interests.

TSMC Children's Art Education Center

A new scene is set to unfold in the underground level of Taipei Fine Arts Museum in the spring of 2014: the much-anticipated Children's Art Education Center will be completed. Built according to an open, penetrable design concept, this 2,098 square meter "museum within a museum" is a comprehensive, friendly space, a venue for art, experience, social interaction and life with a new orientation to families and children, a place perfectly suited for sharing in art education.

The Children's Art Education Center is jointly funded by and named after TFAM and the TSMC Education and Culture Foundation, which for many years has been committed

to helping art education take root in Taiwan. Making full use of the entire existing space, the new center features a studio and kinder zone, a gallery, interactive area, outdoor courtyard, and information desk. Interconnecting with the nearby restaurant, art bookshop and auditorium, it strengthens the basement area's function of facilitating learning while providing recreation and entertainment. After its grand opening, the Children's Art Education Center will host exhibitions and art activities focused on kids, emphasizing participation, interaction and encounter. As people give art a try and actively engage their creativity, they will generate a variety of participatory experiences, and develop a new relationship between the art museum and the public.



Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

- **Supporting the Boyo Social Welfare Foundation**

This year the TSMC Foundation supported the Boyo Social Welfare Foundation to train teachers and provide after-school assistance for underprivileged children. By providing educational resources and a positive environment for learning, the Foundation hopes to keep underprivileged children out of a cycle of perpetual poverty.

Founded in 2002, the Boyo Foundation trains local college students and members of ethnic minority communities to work at our tutoring centers and provide after-school assistance for underprivileged elementary and middle school children who are low academic achievers. To develop good learning habits, the students attend classes for 2-3 hours each weekday night.

Focus is placed on English and mathematics, the subjects that typically cause students the most difficulty. The programs are totally free. Currently, there are 11 educational centers, and 415 teachers and over 2,000 elementary and junior high students are currently attending our tutoring sessions. Through this collaboration, the TSMC Foundation hopes to help the children improve academically and stay out of poverty.

- **The High School Level — Nurturing Science and Humanities**

At the high school level, TSMC emphasizes the need for a balanced education in both science and the humanities. The Foundation holds scientific contests, science talent camps, and humanity activities with innovative and versatile campaigns for cultivating young peoples' potential in of science and appreciation of the humanities.

- **Science — Collaboration between Private and Public Resources to Inspire Students' Scientific Potential**

In science education, this year the TSMC Foundation for the first time sponsored the Center for Advanced Science Education at National Taiwan University to hold the TSMC Cup Scientific Story Telling Competition. Competing through the different stages of the Competition, students will cultivate a capacity for logical thinking, argumentation and presentation skills.

The Foundation also continued to support three science talent camps, the Wu Chien-Shiung Science Camp, Wu Ta-Yu Science Camp, and Madame Curie Senior High School Chemistry Camps, along with the "Tsing-Hua Senior High School Academic Express" to provide talented students with the opportunity to hold discussions with world-class scientists with the goal of inspiring students and helping them realize their potential.

- **TSMC Cup Scientific Story Telling Competition**

Reading is critical for studying science, and writing as well as oral presentation are essential skills for scientific intellectuals. To achieve those educational ideals, the TSMC Foundation sponsored the Center for Advanced Science Education at National Taiwan University to hold the TSMC Cup Scientific Story Telling Competition, the first competition in scientific story telling by incorporating four major capacities of listening, speaking, reading and writing into this innovative contest.

The TSMC Cup Scientific Story Telling Competition is targeted at young people aged from 15 to 18 nationwide to inspire their interest in science and to train them to deliver short talks on scientific concept and knowledge.

With the support of the TSMC Foundation, the contest has expanded to various local areas, combined with training workshops, with professional personnel and scholars directly instructing contest participants, giving this competition greater educational depth.

This year the contest's topic was water resources. 188 teams read selected books, and were required to transform reading knowledge into oral expression. Competition was also combined with debating, including cross-team Q&A, to strengthen their argument strategies and logical reasoning skills. Competing through the different stages of the Competition, the participants not only cultivated their capacity for logical thinking, argumentation and presentation skills, but also learned the dynamics of teamwork between peers. The unique scientific experience and training provided by the Competition gained an overwhelming positive response from high schools nationwide.

- **Tsing Hua Cup-National High School Chemistry Competition**

The 10th Tsing Hua Cup-National High School Chemistry competition, held by the National Tsing Hua University Department of Chemistry and Shui-Mu Chemistry Foundation, has become a high-profile activity for high school chemistry students. This year there were up to 879 groups totaling 3,516 students from 144 high schools participating in this two-stage competition. By sponsoring the competition, the Foundation hopes to promote the interests of high school students in Chemistry and also popularize Chemistry education.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

- Scientific Talents Camps

To cultivate talented young scientists, the Foundation continued to sponsor the Wu Chien-Shiung Science Camp, the Wu Ta-Yu Science Camp as well as the Madame Curie Chemistry Camp. These camps provide talented students with the opportunity to hold discussions with world-class scientists with the goal of inspiring students and helping them realize their potential.

2013 was the sixteenth anniversary of the Wu Chien-Shiung Science Camp. In this year the camp invited Prof. Yuen-Ron Shen, one of the greatest experts in non-linear optics; Prof. Richard Zare, the Chair Professor of the Stanford University Chemistry Department; Prof.

Alexei Filippenko, the Chair Professor of the University of California, Berkeley Astronomy Department; and Prof. Li-Huei Tsai, Professor of the M.I.T department of Brain and Cognitive Sciences known for her work on Alzheimer's disease. Four world-class scientists in the fields of chemistry, biology, astronomy and physics spoke to 156 gifted youths from all countries in Asia and 38 science teachers for one week.

Following the successful experience of holding the 1st through the 11th "Wu Ta-Yu Science Camp", the 12th Science Camp was held in the NTU Forest Recreation Park at Hsi-Tou from August 11 to 16, 2013. The central theme of this camp was "Life Science". Academician Ovid

Tseng organized the program with a theme of "Brain and Mind: Frontier Research in Cognitive Neuroscience." Five distinguished scholars in neutral science were invited as the master speakers, including Prof. Stephen Crain (Distinguished Professor /Director, ARC Centre of Excellence in Cognition and its Disorders, Macquarie University), Prof. Mu-Ming Poo (Director, Institute of Neuroscience, Chinese Academy of Sciences, Shanghai/ Paul Licht Distinguished Professor in Biology, University of California, Berkeley), Prof. Kenneth Pugh (President and Director of Research, Haskins Laboratories/Professor, Department of Psychology, University of Connecticut), Prof. Michael Rugg (Distinguished Chair in Behavioral and Brain Sciences/Co-Director, Center for Vital Longevity, University of Texas at Dallas), and Prof. Ovid Tzeng (Academician & Distinguished Research Fellow, Institute of Linguistics, Academia Sinica/Chancellor, University System of Taiwan).

In addition, more than ten professors from domestic universities also attended the camp to share their research experience and to outline the current status of neutral science research in Taiwan. The program included a keynote speech, several master lectures and discussion sessions, introduction to domestic research activities, brainstorming, introduction to cutting-edge topics, and a talent show. A total of 94 senior undergraduate or 1st year graduate students from Taiwan, Hong Kong, Macau, America and Mainland China were admitted to this camp. In addition, six high school teachers were also invited to attend the camp. We expect these activities will offer these students and teachers an invaluable opportunity to get in contact with leading scholars as well as the chance to interact with each other. This year the Foundation also continued to sponsor the Madame Curie Chemistry Camp. A total of 118 students and 26 science teachers from senior

Reflections from Competitors in the TSMC Cup Scientific Story Telling Competition

"Thank you NTU CASE. You really made a great effort and we had lots of fun. Although we didn't pay anything, we have greatly enjoyed the activities, videos, food and accommodation. We made lots of friends and learned a lot. Although we are only awarded "honorable mention," we already feel gratitude for reaching the finals. I will continue to love science and help promote this competition in school." — Team "Trimer" from Kaohsiung Municipal Kaohsiung Girls' Senior High School

"I've grown a lot through this competition. I could hardly talk in public and now I can confidently enjoy the stage. Talking about science on the stage is a very exciting thing and I hope our thoughts on this world can be heard. Although I will be 18 years old and will not be qualified for this competition anymore, I hope that I can continue to participate in this competition again and again, not for the awards but for learning and growing!" — Team "All For One, One For All" from New Taipei Municipal Ginling Girls' High School



Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

and junior high schools gathered to listen to speeches by top-notch masters to inspire their interest in chemistry.

- **Senior High School Academic Express**

The TSMC Foundation also supported National Tsing-hua University in holding the “Senior High School Academic Express” to promote lecture courses in scientific knowledge at 12 senior high schools.

Tsing-hua University is one of the most important bases of academic research in Taiwan, and through the “Senior High School Academic Express”, the results of Tsinghua’s research can be showcased and shared with the public and students. The project arranges for Tsinghua University professors to hold lively and easy-to-understand lectures on technology and everyday science. The lectures are held in 12 senior high schools across Taiwan and in the outlying island of Kinmen, and have gained an overwhelmingly positive response. Through this project, we look forward to inspiring student interest in academic research.

- **Raising the Level of High School Physics Experiments**

Since 2010, the TSMC Foundation has continued to sponsor the Wu Chien-Shiung Foundation in collaboration with the Ministry of Education to carry on the project “Raising the Level of High School Physics Experiments.”

“Raising the Level of High School Physics Experiments” is comprised of two major parts. The first is to establish a full series of high school physics experimental kits, which are licensed copies based on the training material of the International Physics Olympiad. These experimental kits serve as an important database for high school physics education. The second part is to hold a camp for science

teachers. With the assistance of the Ministry of Education, we recruit science teachers to participate in the science camp during summer and winter vacations. One week’s training offers science teachers a chance to enhance their teaching skills and experimental abilities. As of the end of 2012, the program has provided professional development for 282 science teachers from 113 schools, reaching over 30,000 high school students nationwide.

In Humanities — Activities to Cultivate the Young People’s Appreciation for Art and Culture

In the humanities, “the TSMC Youth Literature Award” has for 10 years encouraged talented young writers to create new works. This year the TSMC Foundation worked with the United Daily News to issue special editorial pages for the former winners, who were invited to create new works, showcasing their talents and progress. The sixth “TSMC Youth Calligraphy Contest” held three workshops at three high schools to inspire students to appreciate the beauty and cultural richness of calligraphy. The Foundation arranged for former winners and the calligraphy lovers to visit Taiwan Calligraphy master Professor Chung-kao Du. Professor Du shared his 50-year experience in calligraphy with the participants and encouraged them to keep on pursuing this art.

- **TSMC Youth Calligraphy Competition**

The art of calligraphy is a distinguished legacy of Chinese culture. To preserve this art in the modern era of technology, the TSMC Foundation encourages young people to learn calligraphy and continue this artistic tradition. In addition to the contest, the Foundation also organized various campaigns to cultivate student and public appreciation of calligraphy.

The TSMC Youth Calligraphy Competition

The TSMC Youth Calligraphy Competition holds various versatile and extensive campaigns to inspire young people’s interest in the beauty of calligraphy. The Foundation also arranged for former winners to visit Taiwan Calligraphy Master Professor Chung-kao Du for the first time. During the meeting, Professor Chung-kao Du shared his more than 50 years of experience of calligraphy with over 20 young calligraphy artists and devotees. He noted that there is no short-cut to the art, and encouraged the students bravely face their failures. He also taught them that working hard and staying humble is the only way to make a progress.



Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

This year the Foundation invited students from the affiliated senior high school of National Taiwan Normal University to use brush pens to write their blessings on kites. The creative campaign brought the young generation to experience the beauty and pleasure of these two Chinese traditional arts. The Foundation continued to bring educational resources in calligraphy to campuses, holding three workshops to showcase the history and modern application of this traditional art. The TSMC Foundation hopes to encourage younger generations to appreciate traditional Chinese art through calligraphy.

- **TSMC Youth Literature Award**

Among our cultural activities, the “TSMC Youth Literature Award” has been the most influential in Taiwan society. Since the award was instituted in 2004, 2,357 novels, 2,489 poems, and 257 book review writings (only in the first year of the competition) have been entered into this competition. Works entered in the competition have become more sophisticated and diverse each year. Numerous former winners continue to gain prizes in other competitions and submit new works to newspapers and magazines.

2013 was the tenth anniversary of the “TSMC Youth Literature Award”. In addition to the regular competition, the Foundation invited former winners Hao-wei Sheng, Hsu-nan Liu, Bo-yen Chen, Dun-chi Chang, Tze-Shueng Chung, Yu-de Lin, Yu-Sueng Lin and Jia-hsin Zang, 8 promising young writers, to create new works for the special editorial page “TSMC Rising Stars of Literature”, issued by the United Daily News newspaper. The works

showcase these prestigious young writers' talent and enormous growth after winning the competition.

In addition to the works of former winners, the winning novels of 2013 are great achievements as well. For the first time, the juries of the award chose two novels as the first prize. Although the topics of these two works are different, they both show the deep self-consciousness and the warm concern for the society of the young generation. The TSMC Foundation will continue to sponsor the award to encourage our youth to engage in the creation of literary works, thereby improving literacy skills in the community as a whole.

College and Society Level — Promoting Literature and Supporting the Underprivileged

At the college and society level, the TSMC Foundation holds the TSMC Literature Award and provides scholarships for college students to cultivate literary talent and encourage underprivileged students to study further. Also, the Foundation continues to endow chair professorships to enhance academic research at Taiwan universities.

- **TSMC Literature Award**

To encourage young writers and promote Chinese literary works, the TSMC Foundation holds the TSMC Literature Award on alternate years. As the extension of the TSMC Youth Literature Award, the TSMC Literature Award encourages writers under 40 to create Chinese novels between 60,000 words and 80,000 words. Since the Award was launched in 2001, the TSMC Literature Award had gradually shaped the paradigm and made an influence in the Chinese literary society.

This year the Foundation held the 2nd TSMC Literature Award. As a benchmark literary award in Taiwan and China, the Foundation organized the jury group from among the most important Chinese writers and literature critics in Taiwan and China, including Tian-shing Zhu, I-chun Ro, Yang Zhao, Zi-dong Hsu, and Fei-yu Bi, to choose three great works from 97 works in total. The first prize of the Award goes to a single winner, who receives a cash prize of NT\$600,000, and the second prizes are for two winners who receive a cash prize of NT\$200,000 each. In addition to the cash prizes, the winners also receive a contract with the book publisher, INK. This competition offers young writers an excellent forum to showcase their talent and an opportunity to be published, underscoring TSMC's commitment to supporting literature.

- **TSMC Scholarship and Chair Professorship**

In 2013, the TSMC Foundation continued to sponsor the “TSMC Scholarship” to support underprivileged students attending National Tsing Hua University and National Central University. In addition to providing financial support, the Foundation will invite the students to join TSMC and arranges meetings with TSMC employees. The rich experience of TSMC employees can provide insightful advice for students both in school and in their future career paths. At the same time, the Foundation continued to endow chair professorships to strengthen academic research.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

The TSMC Education and Culture Foundation is devoted to the promotion of arts and culture. Over the years, the Foundation has pioneered several innovative approaches and received positive feedback from the public, prompting many companies to join our efforts. In addition to inviting international performance groups to Taiwan, we also aspire to raise the quality of domestic performing arts through exchanges, and to give society deeper knowledge and appreciation of the arts.

To support Taiwan Art Groups, the TSMC Foundation sponsored the National Symphony Orchestra in 2013 to produce the stage version of Wagner's *Die Walküre* for the very first time in Taiwan. Continuing to promote Chinese Classics and philosophies, this year Professor Hsin Yih-yun introduced Mo-tzu's philosophy of universal love to radio audiences following his discussions of *The Analects by Confucius* and *The Writings of Chuang-tzu*.

- **Supporting the National Taiwan Symphony's Production of Wagner's *Die Walküre***

In 2013, the TSMC Foundation supported the National Symphony Orchestra to produce the stage version of Wagner's *Die Walküre* for the very first time in Taiwan.



Through sponsoring large-scale local productions, we seek to provide concrete support for domestic groups. We have reaped fruitful results for our efforts and *Die Walküre* is definitely one of the best.

Under the leadership of Maestro Shao-Chia Lü, *Die Walküre*, gathered together the prestigious director Hans-Peter Lehmann, who for years has served as assistant director at the Bayreuth Festival Theatre, together with Taiwan art groups and top vocal singers from Taiwan and abroad, all of whom showed marvelous creativity and performance levels. The production indeed set a milestone in opera for Taiwan performing arts history.

Die Walküre is the second of the four-opera cycle of *Der Ring des Nibelungen*. Taken from Norse sagas, *Der Ring des Nibelungen* describes the struggles between gods over a magic ring. The plot is complex and full of moral implications. Due to its comprehensive structure and romantic musical themes, *Die Walküre* is the most frequently-performed work of the Ring cycle in western opera houses. In order to give youngsters in Taiwan an opportunity to appreciate Wagner's opera, staged readings of *Die Walküre* and interactive drama activities were organized and held on high school campuses, broadening students' aesthetic horizons and guiding them into the unique world of Wagner's music.

- **The Chinese Classic Broadcasting Program "Mo-tzu in Hsin's View"**

In addition to supporting Taiwan Art Groups, the TSMC Foundation has a long-term commitment to promoting Chinese traditional classics. By presenting lectures, producing broadcasting programs and publishing audio books, the Foundation revives the classics, enabling the audiences to easily understand traditional Chinese philosophy and wisdom. Among these projects, the broadcasting programs produced by Professor Hsin Yih-yun, are extremely popular and have gained much attention from Chinese audiences all over the world. Following *The Analects by Confucius* and *The Writings of Chuang-tzu*, this year Professor Hsin introduced Mo-tzu,

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

whose thought was as important as Confucius' during the Chinese Spring and Autumn Period. Through Professor Hsin Yih-yun's rich knowledge and vivid examples, Professor Hsin delivered Mo-tzu's philosophy of promoting diligence, thrift, and universal love to the public. TSMC's six-year consecutive support of the broadcasting program shows its commitment and endeavors toward promoting classical Chinese philosophy.

- **The Restoration of Dr. Sun Yun-suan's Residence and the Taipei Story House Literature Salon**

The TSMC Education and Culture Foundation firmly believes that the protection of cultural assets not only involves structural maintenance but also spiritual replenishment through continual rejuvenation of cultural heritage sites.

Dr. Sun Yun-suan, the former Premier of the Republic of China, guided the nation through its transformation from an agricultural to a manufacturing economy. One of Dr. Sun's major achievements is establishing high-technology industries that would later become the basis of the Taiwanese economy. Dr. Sun Yun-suan's residence, located in Chunging South Road, is a Japanese-style heritage building. After Dr. Sun Yun-suan passed away in 2006, the Taipei City Government designated this building as a heritage site. In memory of Dr. Sun Yun-suan's contribution to the economic development of Taiwan, the TSMC Education and Culture Foundation plans to sponsor the Sun Yun-suan Foundation's restoration project. After the restoration is completed, the house will exhibit Dr. Sun's life story and related documents for Taiwan people to understand Taiwan's economic development.

The Foundation also continued to sponsor the Taipei Story House's Literature Salon. Through regularly-held book readings by the authors, the spirit of the humanities has

been instilled in the physical structure of this heritage site. These events allow artists and writers to come together in old homes filled with history. They have also given the edifice itself a new lease on life.

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

The foundation has long played the role of a cultivator of fine arts and hopes to spread its seeds to the community

through ongoing arts activities. At TSMC's site communities of Hsinchu, Taichung and Tainan, the Foundation organizes the "Hsin-chu Arts Festival" to present a broad spectrum of performances to satisfy local interest in art. Presented annually for the past 11 years, the "Hsin-chu Arts Festival" has become a major art event gaining great nationwide attention. International artists presented by the Festival include Cho-liang Lin, Midori, Ann-Sophie Mutter, Shlomo Mintz, Yun-di Li, Kun Woo Paik, Jean-Yves Thibaudet and Sir James Galway. The Festival also gathered Chinese theatre masters, including Pai Hsien-yung, Wu Hsing-kuo, Wei Hai-ming, and Li Bao-chun, to present phenomenal performance for these communities.



More than 40 performances of the 2013 Hsin-chu Festival enriched over 25,000 inhabitants of Hsinchu, Taichung and Tainan.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

This year the Foundation again invited prestigious artists to join the Festival, such as the winner of the 2010 International Chopin Piano Competition, Russian pianist Yulianna A. Avdeeva, who fascinated Hsinchu classical music lovers with her great technique and depth of music interpretation. The new classical star, British violinist Charlie Siem, played a wonderful concert for the students of Cheng Kung University in Tainan. The Festival arranged an interactive concert, the Piano Battle, at Taichung Outdoor Arena for an audience of more than 6,000. The Piano Battle sees a duo go head-to-head on stage, charming and enchanting the audience with a variety of classical pieces. During the three-month Art Festival, the foundation arranged in total over 40 various activities, from concerts, traditional operas and lectures, to family-oriented activities, attracting more than 25,000 people from the local communities.

7.5 TSMC Volunteer Program

Long-term Commitment to Chosen Service Themes

Giving back to the society is an integral part of our corporate responsibility; making contributions to Taiwanese society underlines our commitment and fulfills our role as a responsible corporate citizen. Our Volunteer Program, under the leadership of Sophie Chang (Su-feng Chang), persistently pursues the objective of, "long-term commitment to chosen service themes," and encourages our employees to participate in volunteer activities with joy and wisdom. Through volunteer activities, we hope to lead the way for our employees to strike a fulfilling balance between their work and life.

The TSMC Volunteer Program coordinates many forms of volunteer services. Employees of our company and our affiliated companies, as well as their family members,

are invited to participate in a variety of activities under the Program, including the TSMC Volunteer Docent Program, TSMC Book Reading Volunteer Program, TSMC Energy Saving Volunteer Program, TSMC Community Volunteer Program, TSMC Ecology Volunteer Program, and TSMC Fab/Division Volunteer Program.

- The TSMC Volunteer Docent Program recruits employee volunteers to serve as docents on weekends and holidays at the "World of Semiconductors" exhibition hall in the National Museum of Natural Science, Taichung. They introduce semiconductor science and technology to museum visitors in a way that is easy to understand. As of 12/31/2013, a total of 4,513 volunteers have taken part in this program, accumulating more than 58,152 service hours.
- Volunteers of the TSMC Book Reading Volunteer Program read stories to students in remote elementary schools in Hsinchu, Taichung and Tainan. Stories and books are supplements for limited educational resources in these rural areas, expanding the children's mind, ideas, and thoughts. Since 2004, the program has recruited 1,816 volunteers, accumulating a total of over 30,478 hours of reading to more than 14,000 students.
- The TSMC Energy Saving Volunteer Program was established in 2008 by employees with expertise in energy conservation. The team helps to assess energy saving solutions for schools and provide suggestions on possible improvements. The Program initially served two high schools in Hsinchu. In 2013, the service was extended to schools in Hsinchu, Taichung, Tainan and Penghu. At present, the team consists of more than 50 energy saving experts who strive to preserve the limited energy that the earth has to offer.

- The TSMC Community Volunteer Program was founded in 2010. Volunteers regularly visit the elderly at the Hsinchu Veterans Home and the children at the St. Teresa Children's Center. When Typhoon Morakot struck southern Taiwan in 2009, TSMC employees established the Typhoon Morakot Project Team to provide assistance and relief measures to typhoon victims. The team later became the first members of Community Volunteer Program, aiming to reach out to those most in need. The program has recruited more than 1,119 volunteers, accumulating a total of over 18,000 service hours.
- The TSMC Ecology Volunteer Program was established in 2012. The service centers were initially located in the Taichung F15 Ecology Park and Tainan Jacana Ecology Education Park, performing docent services for elementary students in Taichung and visitors visiting the Parks. In 2013, the TSMC Ecology Volunteer Program was further extended to the Hsinchu area, inviting students from remote schools to take ecological tours and introducing them the indigenous Taiwan plant species in the Hsinchu F12B Ecology Park.
- The TSMC Fab/Division Volunteer Program was founded in 2013. With enthusiastic support from Senior Managers, our employees are dedicated to giving back to society. Employees have committed to various welfare activities at the Fab/Division level for causes such as environmental protection, promotion of energy conservation, and caring for the disadvantaged.



WATCH VIDEO

Our Volunteer Program persists in the objective of, "long-term commitment to chosen service themes," and encourages our employees to participate in volunteer activities with joy and wisdom.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

35%

Number of volunteers increased 35% in 2013



7.5.1 TSMC Volunteer Docent Program: Promoting Science Education

Sharing knowledge is an important way for a corporation to serve and respond to its communities. The spread of knowledge furthers people's understanding of their environment and may inspire future generations and bring forth change in society.

Based on this principle, as well as to promote science education and improve people's understanding of the semiconductor industry, we made a donation to the National Museum of Natural Science (Taichung) in 1997 to set up an exhibition hall – "The World of Integrated Circuits". In 2003, we sponsored the renovation of the hall, which was completed in 2011 with additional exhibits on LED lighting and solar energy. Renamed "The World of Semiconductors," this exhibition aims to offer visitors an interactive and entertaining way to understand the principles and the development of semiconductors as well as the links between the semiconductor industry and daily life.

Employees and their family members have been recruited to serve as volunteer docents at the exhibition hall on weekends and holidays to promote science education since 2004. In 2006, youth volunteers were also recruited. Employees were also encouraged to invite their children of high school age or

older to join the Volunteer Docent Program to give them an opportunity to make contributions to society when they are young. In 2007, the Program was expanded to recruit new volunteers from our affiliated companies, including Vanguard, VisEra, Xintec, and Global Unichip. In 2012, employees of TSMC SSL (TSMC Solid State Lighting) and TSMC Solar also joined the Program, adding new blood to the volunteer team and further expanding our social service and contribution.

The docents' enthusiasm and professionalism were highly praised by visitors; the group has continuously been recognized as an "Outstanding Volunteer Team" by the National Museum of Science.

In order to extend our docent services and to complement the number of docents required on weekdays, our Volunteer Program recruited several disabled persons as "Community Service Representatives" to introduce the evolution of semiconductors for visitors at "The World of Semiconductors" exhibition. The initiative provides the opportunity for the Representatives to reinforce their interaction and connection with society. In addition, our Volunteer Program invited the Hope Workshop, which is affiliated to the Taichung Private Soundhome Integrated Intelligence Development Center, to launch the "Happy Life Pass Card" for "The World of Semiconductors" exhibition, aimed at providing jobs for people who have difficulties in hearing and give a chance for them to start an independent life.

In 2004, MTK was invited to join the TSMC Docent Program due to donating a facility for exhibits purpose. 20 MTK volunteers were recruited during the year 2004.

7.5.2 TSMC Book Reading Volunteer Program: Spreading Seeds of Knowledge

While globalization has helped to spread technology around the world, economic inequality has also increased. The knowledge disparity between rich and poor deprives children of opportunities to choose their path in life. To help narrow the rural-urban gap in educational resources, the TSMC Education and Culture Foundation has sponsored the Hope Reading Program of CommonWealth Magazine since 2004, donating around 20,000 books annually to 200 elementary schools in remote areas of Taiwan. In this way, the Foundation hopes to build a bridge to the world for underprivileged children.

In the same year, the Foundation recruited employees and members of their families to form a volunteer team, aiming to strengthen reading interest among young children in remote areas. In alliance with CommonWealth Group, the volunteers read books sponsored by the Hope Reading Program to students of elementary schools and encouraged them to make the most of the learning resources available.

During the first year, 49 volunteers joined the Program and started serving two elementary schools located in remote townships in Hsinchu. Over the years, the children's eager looks and enthusiastic responses have drawn more and more volunteers to join the Program. The volunteers use their personal time to travel to these remote schools to read to those children, hoping to show the world to these underprivileged students through books and to develop the habit of reading in their communities. Besides reading stories, volunteers lead other interactive activities to stimulate the students' interest in reading. For example, the volunteers

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

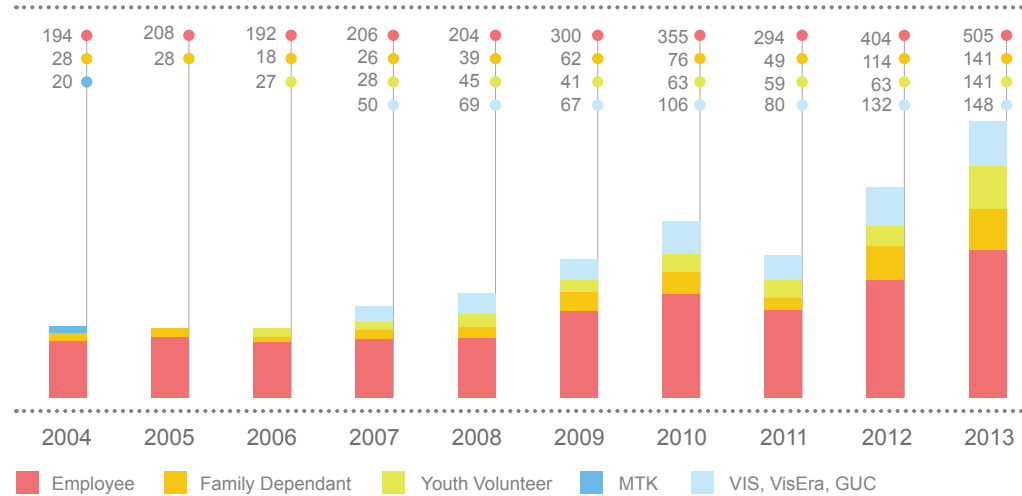
7.5 TSMC Volunteer Program

Environmental Protection

Appendix

TSMC Volunteer Docent Program Accomplishments

Total Volunteers: 4,513; Total Service Hours: Over 58,152 Hours



Note: In 2004, MTK was invited to join the TSMC Docent Program due to donating a facility for exhibits purpose. 20 MTK volunteers were recruited during the year 2004.

prepare plays for special holidays to combine reading with everyday life, so that the children will see reading as part of their life.

Foreign employees were recruited in 2009 to volunteer in the English Reading Program at Lu-Fong Elementary School. Their goal is to improve children's confidence in speaking English and their overall English proficiency. Working regularly with children over the long term, the volunteers have developed profound friendships with them. What these children enjoy is not only the pleasure of reading, but also a heartwarming friendship with our volunteers.

The volunteers' selfless work is greatly appreciated by the schools and the children. Since the establishment of our Book Reading Volunteer Program ten years ago, the TSMC

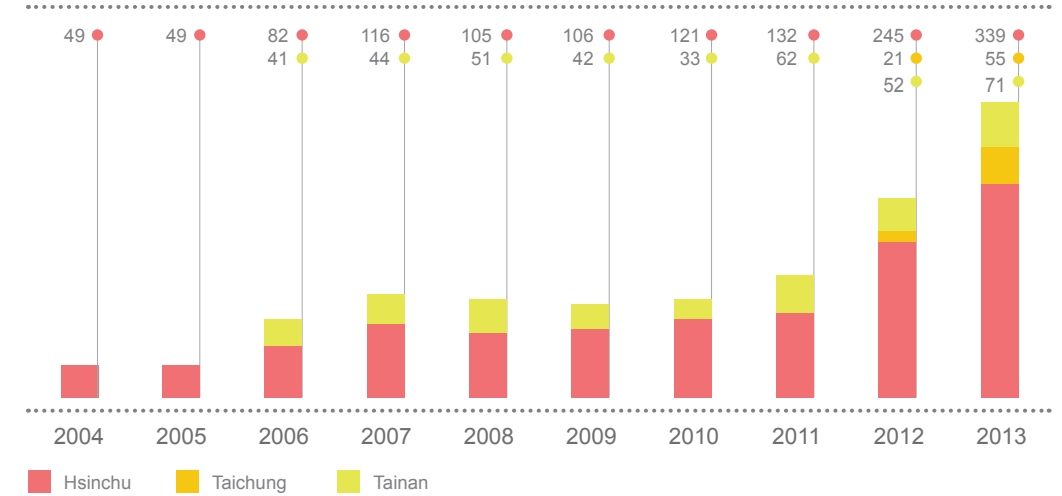
Volunteer Program has strived to improve the book reading service in remote areas and to instill the habit of reading. In 2013, we hired disabled people as "Community Service Representatives" to organize the libraries of the schools we serve, assist the book lending service and make learning worksheets for children. This practice not only provides employment opportunities for the disabled, but also develops a reading habit for the kids when there is no story-telling service.

7.5.3 TSMC Energy Saving Volunteer Program: Loving and Preserving the Earth

With the acceleration of global warming, as well as the depletion of the Earth's limited natural resources and energy, awareness of environmental protection is on the rise, and

TSMC Book Reading Volunteer Program Accomplishments

Total Volunteers: 1,816; Total Reading Hours: Over 30,478; Students Served: Over 14,000



saving energy has become a common cause for everyone. TSMC recruited employees with expertise in energy conservation to start the Energy-Saving Volunteer Program and has provided schools in the Hsinchu, Taichung, and Tainan areas with professional consulting services. Through inspection and communication, the team helps to develop energy-saving plans for schools to improve energy efficiency.

The Energy Saving Volunteer Program was founded in 2008 by 25 volunteers from our company. Initially, the Program served schools near our headquarters. Two high schools in Hsinchu were chosen, and a team was sent to each school to assist in cutting their bills for water, electricity and telecommunication, as well as saving energy consumed by air-conditioning and improving environmental safety. After assessing the facilities, collecting data, and evaluating energy

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

efficiency, the teams proposed energy-saving plans and methods to the schools.

The team's professional service has been much appreciated by these schools. In 2010, the team began to accept requests from other schools. In addition to offering energy-saving assessments, the Energy-Saving Volunteer Program promotes education on energy conservation.

As of 2013, the TSMC Energy Saving Volunteer Program has devoted more than 1,000 hours in serving schools in Hsinchu, Taichung and Tainan in need of energy conservation. Besides power-saving measures for our company, the energy-saving volunteers also traveled to the Penghu University of Science and Technology, located in the resource-poor island of Penghu. Beginning with the ideal of "love the Earth with environmental protection, and care for Taiwan with energy

conservation", the volunteers aim to, contribute to society with their expertise and passion. Highly affirmed by the school for their great attitude, excellent performance and professional abilities, the energy saving volunteers will continue to contribute to the society by serving schools directly.

7.5.4 TSMC Community Volunteer Program: Caring for the Disadvantaged

In 2009, Typhoon Morakot struck southern Taiwan; our employees were deeply saddened by the suffering caused by this disaster. Led by Sophie Chang (Su-feng Chang), the president of the TSMC Volunteer Program, our employees immediately established the Typhoon Morakot Project Team and provided timely assistance and relief measures to typhoon victims. After this experience, realizing that there were still many neglected disadvantaged people in society,

Sophie Chang hoped to recruit more employees to devote themselves to community service. As a result, the Project Team became the Community Volunteer Program in 2010, aiming to reach out to those most in need.

The elderly and the young are the focus of the TSMC Community Volunteer Program. The society of Taiwan continues to age; the population aged 65 and above is more than two million, and one-fifth of them need help with day-to-day tasks. On the other hand, for youngsters living in an unstable environment, positive influences at the critical stage of their personality development and good parent-child interactions are crucial. Those in children's homes who lack the warmth of family love certainly need companionship and support.

TSMC Community Volunteers focus on serving the elderly at the Hsinchu Veterans Home and the children at the St. Teresa Children Center. In 2010, 156 volunteers joined the Program and held regular activities that closely connect the elderly veterans, children and volunteers. So far, a total of more than 1,119 volunteers have participated, and they have served more than 18,000 hours.

Volunteer at Hsinchu Veterans Home

In 2013, a total of 308 volunteers regularly visited the elderly at the Hsinchu Veterans Home. The volunteers were divided into three groups:

- Go Sports

The volunteers invited the elderly to play sports together. They played croquet with the elderly in the morning every two weeks, and other games were held from time to time, offering the seniors opportunities to stretch their bodies and also enjoy the stimulation of competition.



Energy-saving volunteers demonstrating different types of light bulbs to students

Community volunteers play ukuleles with seniors from the Veteran's Home.



TSMC volunteers enjoy a day with seniors and children from underdeveloped areas at the "Rendezvous with love at Hsinchu ZOO" event.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

- **Glee Club**

The volunteers designed more static activities for the elderly with disabilities in the health care center of the Veterans Home. They sang for the elder veterans, interacted with them through games, or invited them to sing karaoke together and let the joy spread through cheerful melodies.

- **Art Workshop**

In the art workshops, the volunteers and the elderly participated in interesting art projects such as rock painting. During the process of creating artwork, the seniors can enjoy the beauty of art. At the same time, the volunteers and the elderly grew to know each other while doing the projects and chatting.

Volunteers at St. Teresa Children Center

A team of 62 volunteers visited the Children Center and gave the children timely care and companionship in 2012; they participated in the activities as below:

- **One-on-one Care**

On the monthly "St. Teresa's Family Day," volunteers spent the weekend with the children. Sometimes they held a weekend tour, while other times they stayed at the Children Center and studied together.

- **Health Education Seminars**

Our Volunteer Program cooperates specially with National Taiwan University Hospital in the planning of interesting health education courses for St. Teresa Children Center. The entertaining courses provide the kids with more information about physical health, dental care and other health issues.

TSMC volunteers held holiday events at the Window on China theme park on July 20, 2013 and at the Hsinchu City Zoo on December 21. At the "Rendezvous with Love at Hsinchu City Zoo" environmental education event, TSMC invited seniors of the Hsinchu Veterans Home and 200 children from rural areas to a day of challenge games, delicious snacks, and animal-watching at the Hsinchu City Zoo. TSMC also organized Community Volunteers from the Volunteer Program to receive guide training to give participants a deeper understanding of the zoo and its animals, realizing TSMC's principles of environmental education. The Program encouraged employees and members of their family to experience the energy and inspiration of volunteer services. The activities were designed to promote "Active Aging" to give the energy of their youth back to the seniors of the Veteran's Home. In addition, specially designed challenge games gave the children from St. Teresa Children Center and remote villages who participated in the event a memorable weekend.

The TSMC Volunteer Program also hired disabled people as "Community Service Representatives" to make "Life Story Books" for the elderly in Hsinchu Veterans Home. With assistance from social workers, the "Community Service Representatives" have learned the abilities of communication and interaction and were trained with practical interviewing skills, which they then utilized in the making of the seniors' "Life Story Books". With life stories as the subject and art creations as the media, the concrete works created from abstract lives were a combination of social services and art, which also contributes to the achievement and independent lives of the disabled.

7.5.5 TSMC Ecology Volunteer Program: Prompting Environmental Preservation

Recognizing the beauty of Taiwan, we are devoted to the protection of our homeland. We maintain large areas for ecological projects from the beginning of new fab construction, and apply multilevel ecological engineering methods which include planting native tree species and bird/butterfly-attracting plants, as well as providing habitats and foraging places for animals to achieve the goals of a bio-diversified environment and eco/environmental protection around the fab.



Ecology Volunteers pick water chestnuts with students.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

Our Volunteer Program developed the “TSMC Ecology Volunteer Program” in 2012. Employees who are highly interested in ecology were recruited as eco-docents to introduce their rich ecological and environmental knowledge to children and adults from remote villages and neighboring areas. The ecology volunteers have contributed a valuable effort to environmental protection. Our service locations are as follows:

- **Hsinchu F12B Ecology Park Docent**

In 2013, we added a new venue for docent service. With 88 employees joining the group, we invited more than 120 students and teachers from four elementary schools to visit our ecology park in Hsinchu.

- **Taichung F15 Ecology Park Docent**

In 2013, 92 employees joined the group, and we invited more than 150 students and teachers from five elementary schools to visit our ecology park in Taichung.

- **Tainan Jacana Ecology Park Docent**

Our Volunteer Program recruited 134 employees and their family members to serve as volunteer docents at the Jacana ecology education park on weekends and holidays. In addition, we recruited disabled people who are interested in photography or talented in fine art as “Community Service Representatives” and stationed them in the Tainan Jacana Ecology Education Park to perform image recording and produce eco-teaching tools for Jacana repopulation work in the park.

7.5.6 TSMC Fab/Division Volunteer Program

With enthusiastic support from Senior Managers, TSMC employees are dedicated to giving back to society. Employees have committed to various welfare activities on the Fab/



TSMC environment promotion volunteers for the “Taiwan Lantern Festival”

Division level for causes such as environmental protection, promotion of energy conservation, and caring for the disadvantaged.

- **Environment Protection**

Our Company is dedicated to protecting the environment of Taiwan in collaboration with charities. For instance, TSMC employees volunteered to maintain the venue of The 2013 Taiwan Lantern Festival. TSMC assisted the Hsinchu county environmental protection Bureau to promote concern for the earth and developing environmentally friendly habits to the public attending the Festival. In addition to the main theme of environmental education, the secondary theme was “clean neighborhoods”. Volunteers



TSMC cooperated with the Jinshan Elementary School for “Graduation LifeCare Tour”, caring for the environment and elderly people living alone.

advocated “take away your own trash” and “do not litter”, beginning with the concept of “keep trash off the ground”, to achieve the aim of zero environmental burden. Volunteers also patrolled the festival grounds to remove litter.

In addition, TSMC cooperated with Jinshan Elementary School in Guanxi Township to organize an environmentally-oriented “Graduation LifeCare Tour”. The tour began at the school and proceeded along the Luoma Highway for approximately eight kilometers to the Ma’oto forest. Activities along the way included talks on local ecology, caring for elderly people living alone, and cleaning neighborhoods, helping students to better understand

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

7.1 TSMC Education and Culture Foundation

7.2 Commitment to Education: Cultivating Science Talents and Developing Arts Appreciation

7.3 Promotion of Arts and Culture: Supporting Taiwan Arts Groups and Promoting Chinese Classics

7.4 Community Building: Organizing the Hsin-chu Arts Festival to Bring Exquisite Performances to TSMC's Site Communities

7.5 TSMC Volunteer Program

Environmental Protection

Appendix

their community. A snack break was provided by parent volunteers, giving children the opportunity to learn the etiquette of being a good guest, and finally the group prepared a meal in the Ma'oto forest using local ingredients.

- **Energy Saving Promotion**

TSMC colleagues at the South Taiwan Science Park have collaborated with the Southern District Water Resources office over the long term to conduct exciting outdoor education programs on the Pheasant-Tailed Jacana at the Tseng-Wen Reservoir for 160 students and teachers of Da-Pu Elementary School in Chiayi County and Yu-Jing Elementary School in Tainan City. Through engaging and interactive lessons, students not only learn the importance of precious water resources, they also gain a clear understanding of the rich and diverse ecology in Tseng Wen Reservoir, and experience how Taiwan's largest dam prevents floods and regulates the South Taiwan water supply. TSMC also delights in sharing its professional skills with society. Our Energy Saving Volunteers at the South Taiwan Science Park use professional instruments to perform safety checks for rural schools, make improvements, and also suggest power-saving measures.

Despite of high competition in technology industry, we never forget to cherish the environment. Answering a call from the Volunteer Program's President, Sophie Chang, TSMC held seminars on energy consumption and power reduction to share the knowledge and technology of green buildings and TSMC energy-saving accomplishments.

Through those efforts, we hope to root green concepts deeply into the minds of Taiwan's industrial community.

- **Caring for the Disadvantaged**

Charity bazaars and group-purchase were held in our fabs periodically in 2013. Believing that even a small donation will make a difference, the accumulated profits were donated to charities. Furthermore, when the employees found people in need, such as solitary elders, destitute children, and economically disadvantaged individuals, they called on the enthusiastic support of their fellow employees to repair and maintain old houses of those in need,

provided daily supplies and necessities, and offered warm company. Our employees are devoted to giving a hand to helpless people for them to move toward a brighter future with dignity.

In 2013, 25 of our employees, under the lead of our cycling club, completed a bicycle tour around Taiwan; they brought with them a total of 30 bicycles and six personal computers donated by our employees and gave them to three children's homes on their way. This good deed has benefited a total of 320 underprivileged children.



TSMC collaborated with the Southern District Bureau of the Water Resources Agency for environmental education programs.

Ecological education activities in Da-Pu Elementary School



Ecological education activities in Yu-Jing Elementary School

Environmental Protection

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

- 8.1 Environmental Protection Major Activities in 2013
- 8.2 From Green Buildings to Green Sustainability
- 8.3 Climate Change
- 8.4 Water Resource Management
- 8.5 Green Products
- 8.6 Pollution Prevention
- 8.7 Environmental Management System
- 8.8 Green Promotion and Ecological Preservation

Appendix



TSMC's environmental policy, as set down by Chairman Dr. Morris Chang, is to do our utmost to achieve environmental sustainability and to be a world-class company in environmental protection. TSMC's strategies to achieve our environmental goals are to comply with regulations, strengthen recycling and pollution prevention, manage environmental risks, instill an environmental culture, build a green supply chain, and fulfill our corporate social responsibilities.

TSMC acknowledges responsibility for environmental protection. We not only comply with the environmental regulations of the locations where we operate, but also track new developments in global environmental issues, and take the lead in adopting new environmentally friendly measures. In addition to protecting the environment of our manufacturing sites in Taiwan and around the world, we lead our suppliers to establish a green supply chain. At the same time, we also share environmental protection knowledge and offer recommendations to government to face a variety of new challenges together. A summary of TSMC's environmental protection approaches follows:

Green Management

- **Establish Environmental Management System**
All TSMC fabs adopt the ISO 14001 Environmental Management System in early stages of their operation. We implement a P-D-C-A (Plan, Do, Check, Action) model together with annual audits and a "Green Award" in our Total Quality Excellence (TQE) activities to promote continuous improvement for environmental protection.

Green Manufacturing

- **Promote "Green Building" Certification**
All newly-constructed facility and office buildings are designed and constructed according to U.S. LEED (Leadership in Energy and Environmental Design) and Taiwan EEWB (Ecology, Energy Saving, Waste Reduction and Health) standards. We also adopt green building concepts to improve environmental performance for existing facilities.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

- **Promote “Green Factory” Certification**

We integrate green facility buildings and clean production mechanisms to comply with green factory standards for operational fabs.

- **Actions on Climate Change**

We continue to promote company-wide greenhouse gas inventory and reduction. At the same time, we also collaborate with industry, government and academia on climate change adaptation, which includes flooding and drought risk assessment and prevention.

Green Product

- **Green Product Manufacturing**

We take the entire product life cycle into consideration in order to reduce environmental impact at each stage. At the same time, we established a QC 080000 product hazardous substance management system to ensure wafers and backend assembly products are compliant with international laws and customers' requirements on hazardous substances.

- **Provide Low Environmental Footprint Products**

TSMC collaborates with upstream materials suppliers and downstream assembly and testing service providers to reduce product environmental impact, resources consumed and pollutant generated for each unit of production.

- **Provide Advanced Manufacturing Technology, Assist Customers' Green End-product Designs**

The continuous development of TSMC's advanced semiconductor process technologies provide our customers with more advanced, convenient, energy saving, and ecological products.

Green Promotion

- **Enhance Internal and External Environmental Education**

TSMC not only instills environmental protection concepts in employees through classes and promotions, but also assists the local Environmental Protection Bureau to establish and maintain environmental education facilities. We also share our experiences on water and energy conservation with the industrial community.

- **Establish Green Supply Chain**

TSMC established a sustainability scoring system for upstream raw material suppliers and downstream testing and assembly sub-contractors to require and encourage them to protect the environment, improve safety and hygiene, and protect human rights as well as manage risk and business continuity, so that we may fulfill our corporate social responsibility together.

Selection of Material Environmental Topics

TSMC has a long-term record of assisting governments in establishing regulations and promoting projects, and pays close attention to the views of academia, media, customers, and employees concerning the environment. We also participate in non-governmental organizations' environmental activities to understand the issues of greatest concern to our stakeholders. We have concluded that the most material environmental topics are global climate change, water management, green product, and pollution prevention. (Please refer to Chapter 3, “Stakeholder Materiality Analysis” ⊕ in this report) TSMC continues to study and respond to the environmental topics that concern stakeholders.

TSMC's Effort to Mitigate Value Chain Environmental Impacts

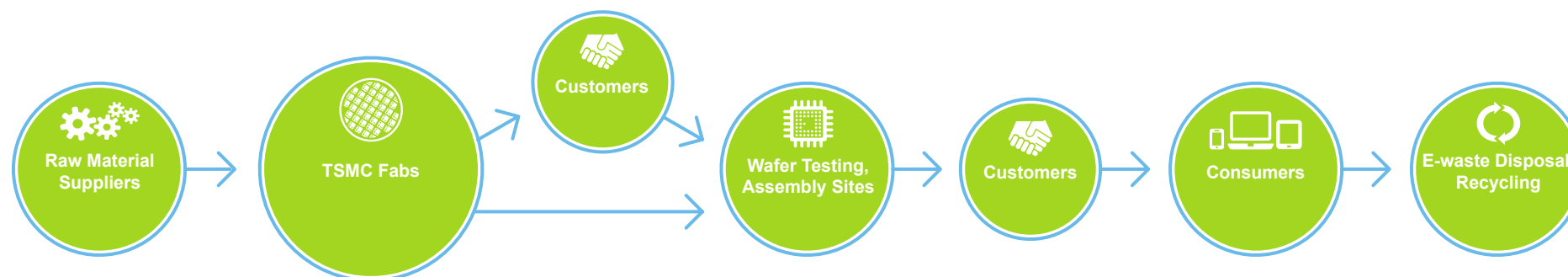


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

8.1 Environmental Protection Major Activities in 2013

• Continuous Expansion of our Green Building Project for New Fabs

TSMC has gained 11 U.S. LEED (1 “Platinum”, 10 “Gold”), six “Diamond” Taiwan Ecology, Energy Saving, Waste Reduction, and Health (EEWH) green building certifications and one “Diamond” Taiwan Intelligent Green Building certification as of end-2013.

• Leadership in “Green Factory Label”

In August 2012, the TSMC Fab 12 Phase 4 facility earned certification from the R.O.C. Ministry of Economic Affairs Industrial Development Bureau (IDB) to gain Taiwan’s first “Green Factory Label”. Shortly thereafter, the Fab 14 Phase 3 and Phase 4 facility also earned the same certification in November 2012. In 2013, TSMC Fab 12 Phase 5 facility also earned “Green Factory Label certification”.

• Continuous Promotion of ISO 50001 Energy Management System Certification

From 2011 to early 2014, the TSMC Fab 12 Phase 4 data center, as well as the Fab 12 Phase 4/5/6, Fab 14 Phase 3/4, and Fab 15 facilities and office buildings adopted ISO 50001 Energy Management System and earned external certification.

• Continuous Promotion of Internal “Green Award” Competition

TSMC added an Environmental, Safety and Health (ESH) Award to its ongoing “Total Quality Excellence (TQE)” campaign to encourage employees to continuously improve ESH performance. The ESH award competition was also presented in the annual TQE Forum for sharing. There were a total of 27 ESH improvement cases selected in 2013, and 6 out of these 27 cases were selected for final competition in the Forum. The habits and methods of continuous ESH

improvement are embedded in the daily tasks of employees in each facility through this ESH award competition and experience sharing.

The achievement status of our 2013 quantitative environmental goals is as follows:

TSMC continued to improve our energy saving, water conservation and waste reduction technology, and implemented this technology in our newly-constructed fabs.

• Greenhouse Gas – Perfluorinated Compound (PFC) Emissions Reduction

After we achieved our PFC total emissions reduction goal in 2010, we continue to move forward on emissions reduction. PFC emissions per 8-inch wafer equivalent in 2013 were 30% less than 2010 due to our continuing reduction efforts.

• Energy Conservation

TSMC reduced power consumption per 8-inch wafer equivalent per mask layer by 3.5% from 10.5 kWh in 2012 to 10.2 kWh in 2013.

• Energy Conservation

TSMC reduced natural gas consumption per 8-inch wafer equivalent per mask layer by 4.9% from 0.061 cubic meter in 2012 to 0.058 cubic meter in 2013.

• Water Conservation

TSMC’s water use per 8-inch wafer equivalent per mask layer in 2013 decreased by 12.4% compared to 2012 from 58.9 liters to 51.5 liters.

• Waste Reduction

Achieved a waste-recycling rate of 92%, in 2013, surpassing our 90% target for operational fabs. In addition, our landfill rate decreased about 52% compared to 2012.

PFC Emissions



30%
Reduction

Power Consumption



3.5%
Reduction

Natural Gas Consumption



4.9%
Decreased

Water Consumption



12.4%
Decreased

Waste Reduction



92%
Waste-recycling Rate

52%
Landfill Rate Reduction

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection
Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource
Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management
System8.8 Green Promotion and
Ecological Preservation

Appendix

TSMC will continue expanding production capacity to fulfill global semiconductor demand. Although we have achieved the highest level of energy intensity performance in the global semiconductor industry and met an extremely challenging PFC emissions reduction goal over the past 10 years, we will continue improving our productive efficiency to reduce energy and resource consumption as well as our environmental impact.

We set our mid-term to long-term environmental protection goals as below.

- Greenhouse Gas (GHG) Reduction**
 Reduce PFC emission intensity to 30% below the year 2010 level by 2020 through adoption of best practices recognized by the World Semiconductor Council. Reduce the total GHG emission intensity to 18% below the year 2010 level by 2020.
- Energy Saving**
 Reduce power usage intensity to 2% below the year 2010 level by 2015; 12% below the year 2010 level by 2020.
- Water Saving**
 Reduce water usage intensity to 2% below the 2010 level by 2015; 20% below the year 2010 level by 2020.
- Waste Reduction**
 Achieve 95% waste recycling rate by 2015, and maintain above 95% by 2020.



WATCH VIDEO

TSMC initiated Taiwan's first green campus projects to transform Fabs in Hsinchu, Taichung, and Tainan into green campuses so that the natural environment prospers along with industrial growth.

8.2 From Green Buildings to Green Sustainability

Integrating Ecology, Life, and Manufacturing for Green Campus

Starting in 2006, TSMC committed to a policy of constructing all new manufacturing facilities and office buildings according to the most up-to-date green building standards. The standards are the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) standard, and Taiwan's Ecology, Energy Saving, Waste Reduction, and Health (EEWH) standard. The intention of this program is to achieve certification under national and international green

building standards for all new fabs. From 2008 to 2013, 11 TSMC fabs and office buildings achieved LEED certifications, including:

- Hsinchu:** Fab 12 Phase 1/2 fab, Fab 12 Headquarters building, Fab 12 Phase 4/5 fab, Fab 12 Phase 4 office and Fab 12 Phase 6 fab;
- Taichung:** Fab 15 Phase 1/2 fab;
- Tainan:** Fab 14 Phase 1/2 fab, Fab 14 Phase 1 office, Fab 14 Phase 3 fab, Fab 14 Phase 3 office and Fab 14 Phase 4 fab;

Among these, Fab 12 Phase 1/2 fab received the first U.S. LEED Platinum certification in the global semiconductor industry.

TSMC Green Buildings Certifications

	Hsinchu					Taichung	Tainan				
Certificate Authority	P1 Headquarters	P1/P2 Fab	P4 Office	P4/P5 Fab	P6 Fab	P1/P2 Fab	P1 Office	P1/P2 Fab	P3 Office	P3 Fab	P4 Fab
USGBC Rating System											
Taiwan EEWH											
Taiwan Green Factory											
Taiwan Intelligent Building											

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection
Major Activities in 20138.2 From Green Buildings to
Green Sustainability

8.3 Climate Change

8.4 Water Resource
Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management
System8.8 Green Promotion and
Ecological Preservation

Appendix

Meanwhile, six buildings were certificated under the Taiwan EEWH standard with “Diamond” class ratings, including:

- 1. Hsinchu:** Fab 12 Phase 4 fab, Fab 12 Phase 4 office, Fab 12 Phase 6 fab;
- 2. Tainan:** Fab 14 Phase 3 fab, Fab 14 Phase 3 office and Fab 14 Phase 4 fab;

Among these, The Fab 12 Phase four office building was also certified as Taiwan’s first Diamond class “Intelligent Green Building”. As Taiwan’s leader in certified green buildings, TSMC will continue its commitment to this policy.

TSMC initiated Taiwan’s first green campus project in 2010, a plan to transform Fab12 in Hsinchu, Fab15 in Taichung, and Fab 14 in Tainan into green campuses. These green campuses emphasize sharing of energy and resources, efficient

conservation of energy and water, as well as improved waste reduction and recycling to reduce cost. They also emphasize comprehensive site planning to integrate green fields, enliven natural landscapes, and restore local ecology so that the natural environment prospers along with industrial growth.

Educational Green Campus (Fab 12 in Hsinchu): TSMC’s Hsinchu Site emphasizes friendliness, and combines green facilities, green technology and green lifestyle to create a campus for green education.

Ecological Green Campus (Fab 15 in Taichung): The Taichung Site is designed for a sustainable environment, and through the work of ecology volunteers and preservation, has become a green ecological campus existing in harmony with the environment.

Life Green Campus (Fab 14 in Tainan): The Tainan site has been designed to combine manufacturing with the surrounding ecology to create a comfortable environment as a green life campus.

Providing a Comfortable “Green Life”

TSMC establishes green campuses integrating ecology, life and production with a positive attitude toward the world. We developed green concepts for office lobbies to provide a serene working environment and to inspire innovation. The use of green materials, as well as low-organic paint and adhesives in indoor decoration strictly controls indoor air quality and reduces the risk of “sick building syndrome”. Office buildings are installed with intelligent control system such as lighting controllers, nighttime air-conditioning switches, and carbon dioxide detectors to significantly reduce energy waste.

Developing the Natural Ecology

To develop the native ecological system, TSMC combines a sustainable environment with eco-demonstration regions. At Fab15 in Taichung, TSMC has planted endangered vegetation including the “Taiwan lily”, “large-flowered thunbergia”, “bougainvillea” and “pyrostegia venusta” with the goal of increasing the biological diversity of our green campus. We provide a natural ecology for different species to live together, and we integrate architecture, ecology and environment to enhance nature and reduce carbon-dioxide emissions. Presently, we have also restored the “anas platyrhynchos” and “purple crows” species to our site in Taichung.



Landscape of green buildings: indoor vegetated wall



11 U.S. LEED Green Building Certifications

TSMC has gained 11 U.S. LEED Green Building Verifications (including one platinum certification).

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection
Major Activities in 20138.2 From Green Buildings to
Green Sustainability

8.3 Climate Change

8.4 Water Resource
Management

8.5 Green Products

8.6 Pollution Prevention

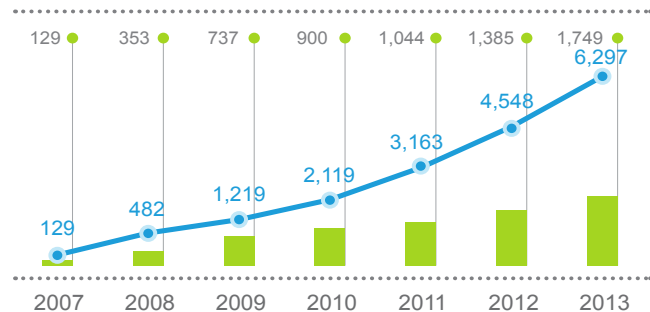
8.7 Environmental Management
System8.8 Green Promotion and
Ecological Preservation

Appendix

Promotion of Green Building Experiences for Energy and Water Saving

TSMC proactively shares its green building experience, collaborates with industries, governments and universities to drive low-carbon activities, and helps interested parties to shorten their learning curve. TSMC hosted visits by 47 groups totaling 1,739 people in 2013. More than 6,297 people have visited TSMC to learn about our green buildings as of end-2013.

Green Building Touring



Transmitting the Power of Knowledge: Publishing Books to Share Green Experience

TSMC collaborated with CommonWealth Publishing Company to publish two books on our green building experience in 2013: *TSMC's Green Power – 21 Critical Actions to Create Sustainable Competition* and *TSMC's Green Action for High-Efficiency Green Facility Applications*. The first book, *TSMC's Green Power*, discusses corporate responsibility in sustainability. The second book, *TSMC's Green Action*, aims to share TSMC's green fab knowledge and experience. Simplified Chinese editions of these two books were published in China in 2014.



Sharing TSMC's green fab experience and environmental action with the broader Chinese-speaking world to make a wider impact. TSMC's policy is to build a low-carbon environment for sustainable development in the future, and we hope we can provide a reference to Taiwan's companies to improve Taiwan's green competitiveness and industrial economy.



■ Landscape of green buildings: Taichung-site outdoor vegetated wall



■ Ecology of green campus in Taichung: anas platyrhynchos and purple crows



■ Green buildings touring in TSMC: Taichung green buildings touring



Publishing ceremony: TSMC collaborated with Commonwealth to publish two books on our green building experiences.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

8.3 Climate Change

TSMC is Highly Concerned about Climate Change

Global climate change is a major environmental concern for the United Nations and governments around the world, as well as for TSMC. We continuously monitor global climate change and international response trends as one of our enterprise risk management items to be evaluated and controlled, with regular reviews by senior executives, and reports are made to the Audit Committee of the TSMC Board of Directors when special issues are encountered.

8.3.1 TSMC's Climate Change Response Strategy

Climate Change Management Process

Because of the importance of climate change, TSMC uses the PDCA cycle to manage its climate change strategy, which is organized in several steps: Continuous Monitoring, Risk Assessment and Opportunity Generation, Strategy/Tactics Preparation, Implementation, Performance Check, Benchmarking and Strategy/Tactics Amendment.

Climate Change Strategy

TSMC's strategies for responding to climate change are to:

- Consider both climate change mitigation and adaptation.
- Consider both green manufacturing and green products.
- Consider both TSMC and its supply chain.
- Integrate industry, government and academia to solve climate change issues.

TSMC not only continues to inventory and reduce its own greenhouse gas (GHG) emissions, but also takes actions

on climate change adaption in cooperation with industry, government and academia, including risk assessment and measures such as flood and drought control. These measures have grown to gradually cover TSMC's supply chain in recent years, and we monitor our progress in mitigation through product carbon footprints and water footprints. These measures also reduce operational risk for the Company caused by climate change, and help to fulfill the Company's corporate responsibility.

Monitoring Climate Change Risks in Three Dimensions

TSMC believes that climate change should be regarded as an important corporate risk, which must be controlled to improve our competitiveness. Climate change risks include legal risk, physical risk and other risks. Our control measures are as follows:

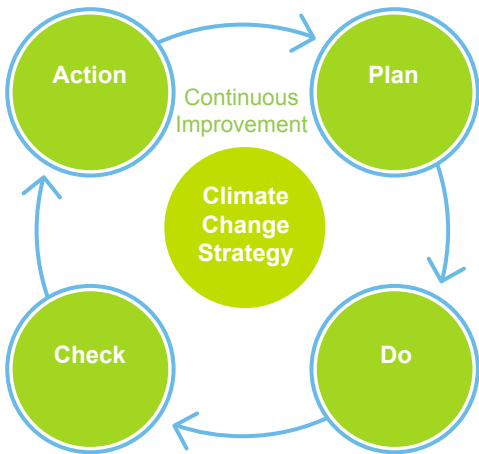
- **Regulatory Climate Risk Control**

Greenhouse gas control regulations and agreements of countries around the world are becoming more and more

stringent. Enterprises are legally required to regularly disclose GHG-related information, and also limit GHG emissions. The cost of production, including materials and energy, may also grow along with future legal requirements such as carbon or energy taxes. TSMC continues to monitor legislative trends and communicate with various governments through industrial organizations and associations to set reasonable and feasible legal requirements. In recent years, we have developed a Regulation Identification System on the TSMC ESH Platform. The content, impact and relevant actions of new or revised ESH regulations are posted on the system. All TSMC fabs will implement follow-up actions for mitigating the regulatory risks.

- **Physical Climate Risk Control**

Abnormal climate caused by the greenhouse effect has increased the frequency and severity of climate disasters each year. Storms, floods, drought, and water shortages are occurring more frequently, causing considerable



TSMC Climate Change Management Structure

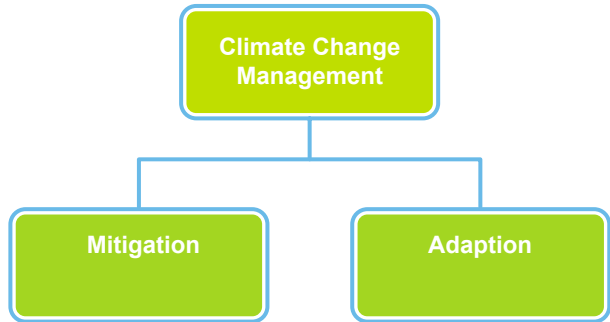


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

impact on business operations and supply chains. TSMC believes that climate change control should take into account both mitigation and adaption, and this requires cooperation between industry and government to reduce risk. Therefore, in addition to water-saving measures at our own facilities and those of our upstream and downstream partners, TSMC is also leading the industry to collaborate with central government agencies and conduct a project to assess and mitigate climate natural disaster risk in three Taiwan Science Parks. This project also aims to establish a response and reporting system which can be effectively integrated with disaster relief resources. In order to ensure electricity and raw water supplies, TSMC participates in the Taiwan Science Park Industrial Union Experts Committee platform, and is actively involved in regular meetings with Taipower Company and the Taiwan Water Corporation to discuss supply and allocation for response issues.

• Other Climate Risk Controls

Climate change is an issue of concern to the global supply chain, necessitating energy conservation, carbon reduction, and disaster prevention. The Electronic Industry Citizenship Coalition (EICC) has also required members' suppliers to disclose GHG emissions information. TSMC not only discloses our own GHG emissions information each year, we also assist and require our suppliers to establish a GHG inventory system and conduct reduction programs. TSMC's suppliers are required by TSMC to submit GHG emissions and reduction information as an important index of sustainability scoring in our procurement strategy.

Several negative consequences including impact on finances, reputation and brand will affect TSMC if any significant non-compliant event occurs. TSMC not only meets local and international code requirements, but also surpasses these

requirements to reach higher environmental performance, and then shares experience with industries for the common good.

Climate Change Opportunities

TSMC believes that a company can increase its competitiveness and create opportunities through good climate change risk control. Therefore, TSMC continues to conduct energy saving and carbon reduction related projects to create opportunities as follows:

• Regulatory Opportunity

The Taiwan Environmental Protection Administration (EPA) has set up a Greenhouse Gas (GHG) Early Reduction Project to encourage enterprises that have conducted voluntary GHG reduction before the GHG Reduction Act becomes effective to gain carbon credits through application. Enterprises can use their approved carbon credits for future GHG emission offsets or trading. TSMC began voluntary GHG emission reduction in 2000, and has reduced millions of tons of carbon dioxide equivalents over more than a decade. In 2013, the GHG reduction of TSMC fabs in the past years has been passed the initial review by the Taiwan EPA for early GHG reduction credits, which can serve as future GHG offsets for our company.

• Product Opportunity

Climate change has caused energy saving and carbon reduction to become a major issue for electric and electronic products, and also a major requirement for TSMC customers. TSMC continues to develop advanced semiconductor technology in line with Moore's Law, lowering the energy and raw materials consumed per unit area in the manufacturing stage, and also lowering the power consumption in product use stage, which has continued to reduce product carbon, water and other environmental impact footprints. Based on this, we expect our customers to be more satisfied with TSMC's products and services.

TSMC Climate Change Risk Identification and Control

Risk	Risk Identification	Risk Control
Regulatory Risk	<ul style="list-style-type: none"> The impact of new regulations The cost of production, including materials and energy may grow along with future legal requirements such as carbon or energy taxes. 	<ul style="list-style-type: none"> Continuing to monitor legislative trends Communicate with governments through industrial organizations and associations to set reasonable and feasible legal requirements
Physical Risk	<ul style="list-style-type: none"> Increasing frequency and severity of climate disasters-storms, floods, drought, and water shortages. 	<ul style="list-style-type: none"> Water-saving measures Raising the foundation height of new constructed fabs Collaborate with central governments to assess and mitigate climate natural disaster risk in 3 Taiwan Science Parks
Other Risk	<ul style="list-style-type: none"> Damage of corporation reputation The mitigation and adaptation ability of climate change in supply chain 	<ul style="list-style-type: none"> Not only meet local and international code requirements, but also surpass the requirements to reach higher environmental performance, then share experience to industries for common good Assist and require TSMC suppliers to establish a GHG inventory system and conduct reduction programs

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

- Green Energy Business Opportunity**

There is growing global demand for green energy due to climate change. Since 2009, TSMC has engaged in researching, developing, designing, manufacturing and selling of solid state lighting devices as well as related products and systems, and solar-related technologies and products. In 2011, TSMC established two subsidiaries, "TSMC Solid State Lighting Ltd." and "TSMC Solar Ltd.", to continue to engage green energy business.

8.3.2 Climate Change Mitigation

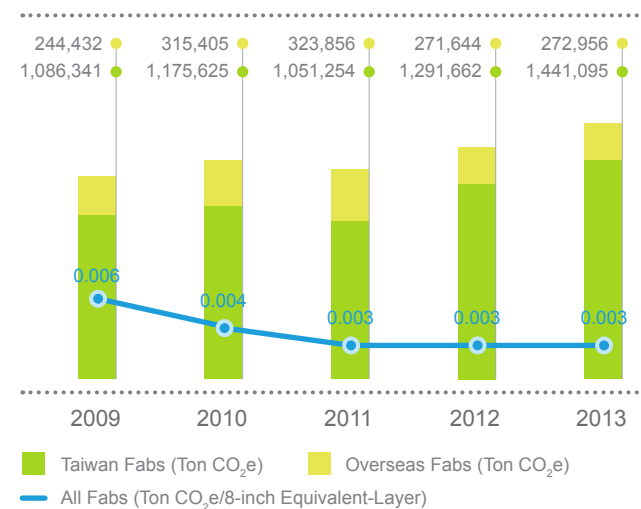
Greenhouse Gas Inventory

TSMC believes reducing GHG emissions is a key method for mitigating global warming and climate change, and conducting an inventory provides supporting data for reduction. An accurate inventory allows us to set priorities and reduction goals, raise the efficiency of the reduction process, and confirm reduction results. Therefore, we believe it is better to inventory greenhouse gases as early as possible.

TSMC believes that a company must know its actual GHG emissions as the first step toward energy conservation and carbon reduction, and had made this reduction an important part of its green supply chain since 2008. In addition to organization-level inventory, TSMC has also extended carbon inventories to our supply chain. In doing this, TSMC can establish a capability for product-level carbon footprint inventory and carbon management, thus increasing the competitive advantage of the products we manufacture. These efforts have won recognition from government, domestic and international environmental groups, major investors, and customers.

TSMC's GHG emissions can be categorized into Scope 1, 2 and 3 sources. Scope 1 emissions are the direct emissions of TSMC fabs including process gases (PFCs, HFC, N₂O, CH₄ and CO₂), fuel such as natural gas, gasoline and diesel, and fugitive emissions from septic tanks and fire fighting equipment. Scope 2 emissions are mainly indirect emissions such as purchased electricity and steam. TSMC does not purchase steam. Therefore, our scope 2 emissions are primarily from purchased electricity. Scope 3 emissions are mainly indirect emissions including employee business travel, product and raw material transportation, suppliers' manufacturing, and waste disposal. Scope 1 and 2 emissions are calculated according to our annual inventory data; Scope 3 emissions are estimated by: (1) Statistical data: employees' business travel distances, and fuel consumed by shuttle buses and product shipping. (2) Carbon footprint database: raw materials production and transportation, waste disposal and transportation.

TSMC Scope 1 GHG Emissions



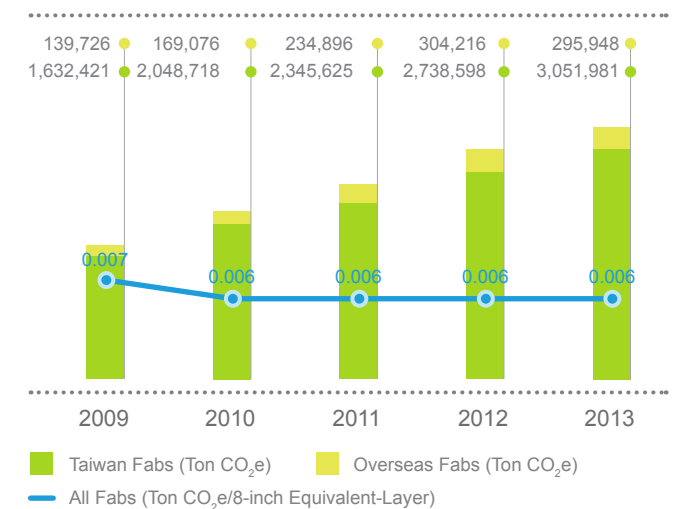
In 2005, TSMC became the first Taiwan company to complete a thorough inventory of GHG emissions and to receive official ISO 14064-1 certification issued by an external verification party. TSMC also set up a dedicated internal ESH information system for each fab to register GHG inventory data regularly.

TSMC China and WaferTech have also adopted ISO 14064-1 standards for their GHG inventory, and submit their inventory results to TSMC headquarters annually. WaferTech has also gained 3rd party certification every year since 2012.

TSMC's U.S. subsidiary WaferTech continues to conduct GHG reduction to achieve a GHG reduction goal of 20% by 2017. WaferTech is actively engaged in Semiconductor Industry Association activities related to GHG measurement and reduction.

TSMC annual Scope 1 and 2 GHG inventories are as below.

TSMC Scope 2 GHG Emissions



Note: TSMC Taiwan fabs' scope 2 GHG emissions have been revised according to the newest electricity emission factor announced by the Bureau of Energy, Ministry of Economic Affairs, R. O. C.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention


8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

GHG Information Disclosure

TSMC takes a pro-active attitude towards carbon disclosure, and publicly discloses climate change information through a variety of channels. We constantly review ourselves and obtain recommendations from external parties through continuous information disclosure. The related disclosure channels are as follows:

- In 2006, the Taiwan Semiconductor Industry Association (TSIA) began a GHG inventory project for all members, including TSMC. This project followed the ISO 14064-1 standard to conduct a GHG inventory and acquire verification by an accreditation agency. TSMC voluntarily reports GHG inventory data to the Taiwan Environmental Protection Administration (EPA) and TSIA.
- Since 2005, TSMC has been participating in an annual survey held by the nonprofit Carbon Disclosure Project (CDP), which includes GHG emission and reduction information for all TSMC fabs, subsidiaries, joint ventures, and overseas offices. TSMC also takes further action to review the regulatory, natural disaster, financial, and operational risks and opportunities created by global climate change. The related information is disclosed on the [CDP website](#). 
- TSMC has disclosed GHG emissions and reduction-related information for evaluation by the Dow Jones Sustainability Index every year since 2001.
- Our GHG-related information has been disclosed in this CR report on our company website annually since 2008. TSMC also provides information to customers and investors upon request.



GHG Emission Reduction

- **Achievement of Our Ten-Year PFC Emission Reduction Commitment**

The semiconductor manufacturing process generally uses perfluorinated compounds (PFCs) such as CF₄, C₂F₆, SF₆, NF₃, CHF₃, C₃F₈, and C₄F₈, which are the major greenhouse gas emissions from the manufacturing process. After many years' effort, TSMC has achieved its goal of reducing perfluorinated compound emissions to 10% below the average emission level of 1997 and 1999. This emission target remains fixed as TSMC continues to grow and construct new fabs, and has been a great challenge to us.

TSMC continues to actively participate in the World Semiconductor Council's establishment of a global voluntary reduction goal for the next ten years. TSMC integrated past experience to develop best practices, which have been recommended by the Taiwan Semiconductor Industry Association and adopted by the World Semiconductor Council member companies as major measures to achieve these organizations' 2020 reduction goals.

- **Extending our Green Building and Energy Conservation Projects**

Since TSMC's Scope 2 GHG emissions are primarily from purchased electricity, continued promotion of green building and energy conservation projects can continue to reduce our Scope 2 GHG emissions. Please refer to the [green building](#)  and [energy conservation](#)  sections in this report for details.

Energy Conservation Measures

- **Energy Conservation in Taiwan**

TSMC's primary source of energy is electric power, followed by natural gas. Consumption of other types of energy is negligible. As Taiwan's land area is small, and the development of renewable energy is limited, electric power currently comes primarily from coal and gas-fired generators, which emit large amounts of CO₂ despite efforts by the power company to improve efficiency. In response to this, the Taiwan government is conducting a renewable energy project focusing on expansion of wind and solar power, and TSMC is pleased to see this development. Before the completion of this government project, energy conservation is an important part of CO₂ emission reduction for industries in Taiwan. TSMC has consistently promoted energy conservation at all its facilities, reducing CO₂ emissions while saving costs at the same time.

- **TSMC Green FAB Operation Committee**

At the end of 2010, TSMC set up a dedicated cross-department committee for energy and resource conservation, which consists of the technical board, facility, equipment and environmental and safety personnel. The committee will define energy conservation indices and propose five-year action plans to reduce energy consumption efficiently and achieve a better level of unit energy consumption. Beginning in 2013, these committees extended their scope to rational resource usage, including indirect material, parts and waste, as well as exhaust air quality and effluent wastewater quality. A subdivision of the technical board is focused on improving energy and resource efficiency of the facility and process tools in existing fabs, and transfer their experience to adopt as standards for new fabs and new process tools; the new fab planning department will adopt the best-known energy-

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

conserving designs for new fab construction. At the same time, TSMC will also aim to purchase energy-efficient equipment by adjusting procurement specifications and encouraging and promoting green certification by suppliers.

- **Major Energy-Saving Activities in 2013**

In 2013, TSMC continued to successfully complete a number of energy conservation programs in facility systems as well as process equipment. Although energy-saving measures for process equipment may impact production, we were able to achieve our goal for process equipment power conservation. Major activities are listed as below.

Category	Energy Saving Approach
Facility Systems	<ul style="list-style-type: none"> ● Change to low energy consumption LED lightings in non-cleanroom areas ● Replace low-efficiency Uninterruptible Power Supply with high-efficiency types ● Installed Automatic Tube Cleaning Systems and added Polarized Refrigerant Oil additive to enhance chillers' heat exchange efficiency ● Adopt ceramic layer coating technology to improve old pumps high energy loss problem caused by coarse surfaces ● Optimize energy efficiency of cooling tower by using tailor-made high-efficiency blades ● Reduce energy loss caused by clogging or blade deformation by using bio-tech coating to reduce the fouling in wet scrubbers
	<ul style="list-style-type: none"> ● Replace low energy efficiency pumps with high efficiency types for water treatment systems ● Adopt frequency control for non full-load operating equipment ● Adopt high flux air filter to reduce pressure loss in cleanroom ● Replace nitrogen used in local scrubbers with compressed air to reduce indirect energy consumption ● Replace compressed dry air cooling with fans to reduce energy consumption ● Installed inverters to optimize cooling tower fan speed for weather conditions ● Retrofitted chilling pumps' flow control to be frequency adjustable from original constant and full flow design ● Optimize outlet temperature of Make-up Air Unit to reduce energy consumption ● Install 3rd heat recovery system for Volatile Organic Compound air pollutant treatment system ● Enhance air seal for cleanroom to reduce air condition energy loss ● Reduce air exhaust or improve seal of piping to reduce energy loss
	<ul style="list-style-type: none"> ● Replace independent small-type chiller by using high-efficiency central supply process cooling water ● Adopt high-efficiency vacuum pump according to process characteristics to improve energy efficiency ● Introduce intelligent type vacuum pump system to control on-off according to process status to reduce the energy consumption for full-time operation ● Reduce nitrogen usage of dry type vacuum pump to reduce indirect energy consumption ● Replace nitrogen usage in lithography process equipment by compressed air to reduce indirect energy consumption

- **Power Consumption Records**

TSMC continuously promotes energy saving and primarily focuses on facilities systems. In the past two years, we have also increased our efforts to reduce consumption by manufacturing equipment. The power consumption density as calculated by wafer area is highly dependent on photo mask layers and production ramp-up in new fabs. In general, the complexity of logic ICs (foundry's major product) is higher than standard memory such as DRAM, and results in more layers as well as higher power consumption. TSMC is nonetheless one of the semiconductor industry's most energy-efficient companies, and continues to implement additional power-saving measures. TSMC reduced its power consumption index per 8-inch wafer equivalent per mask layer of wafer output (kWh/8-inch Equivalent-Layer) by 3.5% from 10.5 kWh in 2012 to 10.2 kWh in 2013.

- **Direct Energy Use Status**

TSMC's direct energy consumption includes natural gas and diesel fuels. In TSMC, natural gas is used only for boilers and Volatile Organic Compounds (VOC) adsorption and incineration treatment systems, and its usage is optimized effectively. VOC treatment systems consume most of the natural gas, and we optimized natural gas use through the following measures: (1) Optimizing desorption volume by using rotor Variable Frequency Drivers for VOC treatment systems. (2) Optimizing VOC burning temperature. (3) VOC burning heat recycled by heat exchanger. TSMC reduced average natural gas consumption per 8-inch wafer from 0.061m³ in 2012 to 0.058m³ in 2013, a remarkable reduction of approximately 4.9%, and continues to work towards further reduction.

Diesel is primarily used in emergency power generators and fire pumps, which are only engaged during power supply disruptions, emergencies, and scheduled tests. Diesel is not a direct energy source for production and we used about 271,400 liters in 2013.

Table of Contents

- Overview
- Letter from the Chairman
- Company Profile
- Stakeholder Engagement
- Corporate Governance
- A Great Place to Work
- Customer Service and Supplier Management

Social Participation

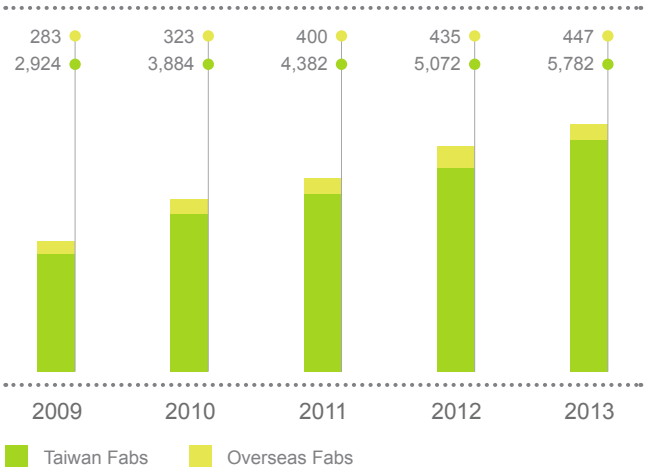
Environmental Protection

- 8.1 Environmental Protection Major Activities in 2013
- 8.2 From Green Buildings to Green Sustainability
- 8.3 Climate Change
- 8.4 Water Resource Management
- 8.5 Green Products
- 8.6 Pollution Prevention
- 8.7 Environmental Management System
- 8.8 Green Promotion and Ecological Preservation

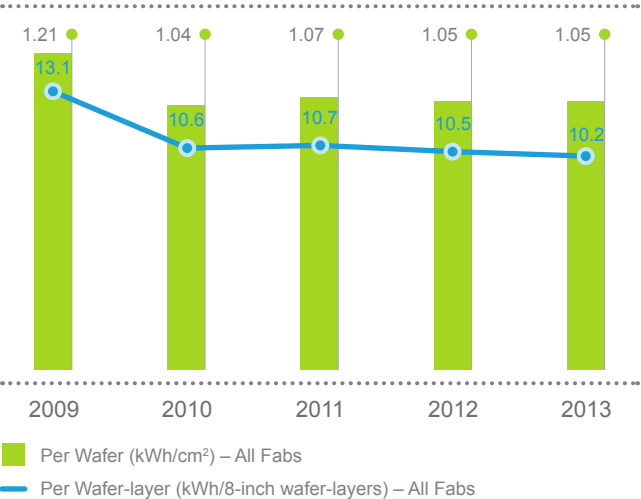
Appendix

TSMC Power Consumption

Unit: Million kWh

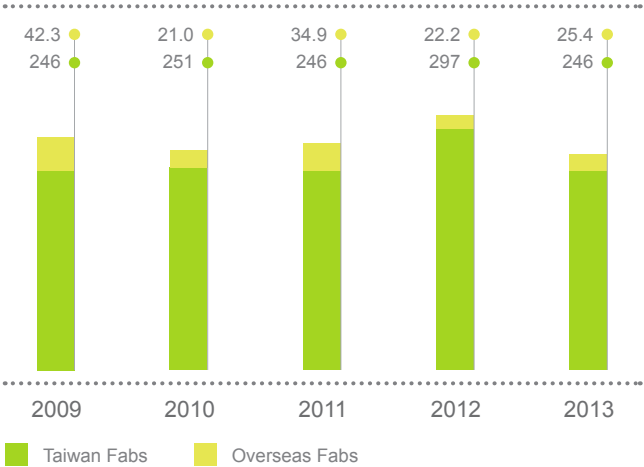


TSMC Unit Power Consumption



TSMC Diesel Consumption

Unit: Thousand liter

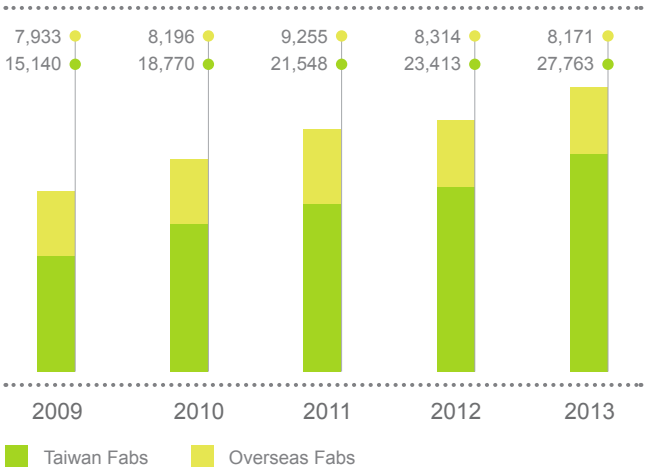


Note 1: TSMC's annual power consumption includes all production factories and supporting organizations, including WaferTech, TSMC China, bumping, testing, EBO, R&D, offices, and landscaping.

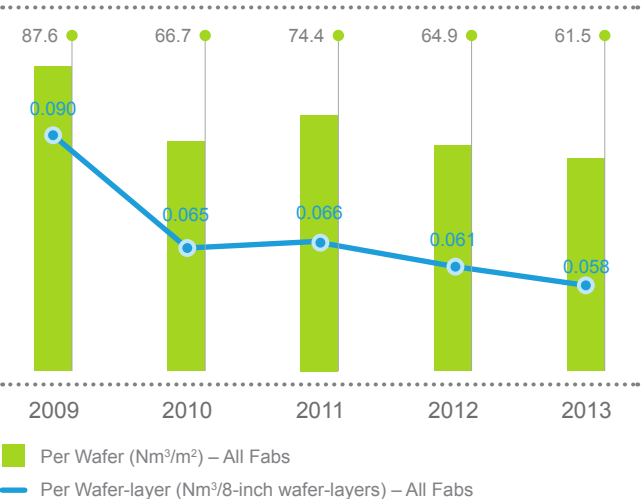
Note 2: The statistical data for unit power density is for wafer fabs in Taiwan and overseas. Beginning in 2009, this index was rationalized by introducing a layer index due to product complexity.

TSMC Natural Gas Consumption

Unit: Thousand Nm³



TSMC Unit Natural Gas Consumption



Note 1: The statistical data for natural gas consumption includes all fabs in Taiwan, as well as all overseas fabs, packaging and testing facilities, bumping, EBO, R&D, and others.

Note 2: Prior to 2009, natural gas consumption was calculated by total natural gas consumption divided by total wafer out. After 2009, this index was calculated by photomask layers to incorporate considerations of product complexity.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

8.3.3 Climate Change Adaption

Collaborating with the Central Government to Evaluate and Control Climate Change Risk in Science Parks

TSMC and other semiconductor companies gained the support of the Science Park Industrial Association, Science Park Administration, National Science Council, Water Resources Agency, Taipower, and Taiwan Water Corporation to reevaluate risks caused by climate change and extreme weather, including: interruptions to water supply, power supply, gas supply, transportation and communication, well as flood damage, wind damage, and drought. These re-evaluations will be used to develop response and improvement programs for implementation in the Hsinchu, Taichung and Tainan Science Parks.

The core considerations of the climate change risk assessment project for the Hsinchu, Central, and Southern Taiwan Science Parks are:

- The risks of typhoons and flooding.
- Long-term drought risks.
- Climate change risks that may lead to the restriction of industrial development.

Climate change risk control strategy:

- Mid-term and long-term risk control.
- Disaster emergency response.
- Establishing related reference standards for future new construction.

8.3.4 Supply Chain Climate Change Management

TSMC not only engages in climate change management but also requests and assists suppliers to follow. Our measures are below:

- **Energy Saving and Carbon Reduction Management**
TSMC's major raw material suppliers are required to collect carbon inventory data in their manufacturing plants, develop a product-based carbon footprint and provide carbon reduction performance data.
- **Water Resources and Water Management**
TSMC's major raw material suppliers are required to collect water inventory data in their manufacturing plants to establish a water footprint, and to provide a specific water resource management plan.
- **Climate Change Risk Management**
Due to the increased risk of storms, water shortage, flooding and transportation and communication disruption in recent years resulting from global climate change, we require our major raw material suppliers to prepare contingency plans, such as support from overseas production, to reduce the impact of such an event. Our first-tier suppliers are also required to manage their suppliers.

Note: Our major raw material suppliers account for 80% of total raw materials purchased by TSMC.

8.4 Water Resource Management

Water Resource Management is One of the TSMC's Top Issues in Climate Change

Water resource management is getting more important in most countries due to the detrimental impact of global climate change. The difference of rainfall between dry and rainy season in Taiwan have been becoming increasingly extreme, and the risk of droughts and floods has become more apparent. These trends highlight the importance of water resource management, water saving and water shortage emergency response. TSMC has always strived to conserve water as much as possible, and we have made considerable achievements in the past 20 years. By lowering water consumption and increasing our recycling rate, our water usage per wafer has become a benchmark for global peers, and has led Taiwan's semiconductor companies to achieve the lowest average water consumption in the world. TSMC is aware that extreme rainfall is the result of global warming and climate change. These issues may require decades to resolve, and during that time, water resource management is a necessary part of TSMC's corporate climate change risk management and disaster adaptation. In addition, TSMC also acknowledges that water resource management requires very close collaboration with the government when compared to other climate change response measures. The combination of these factors has led TSMC to establish its water resource management policy and strategy.

TSMC Water Resource Management Policy and Strategy

TSMC's goal is to be a leading global company in water resource management. Our water resource management policy is to promote water savings to reduce water usage

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

- 8.1 Environmental Protection Major Activities in 2013
- 8.2 From Green Buildings to Green Sustainability
- 8.3 Climate Change
- 8.4 Water Resource Management
- 8.5 Green Products
- 8.6 Pollution Prevention
- 8.7 Environmental Management System
- 8.8 Green Promotion and Ecological Preservation

Appendix

per unit of production, and to promote collaboration between industries, government and academia to ensure that water shortages do not occur. Our strategy for reaching this goal is both to save water in daily operations and to adapt to water shortages, and implement these measures both internally and in our supply chain. TSMC’s daily water management is first to save water in the production process, followed by water reclamation and recycling measures. In addition, an effective real-time online water resource management platform helps TSMC significantly reduce water consumption.

TSMC’s core water resource management activities are focused on:

- Collaborating with the central government to evaluate the climate change risk of Taiwan’s Science Parks, and to adopt measures reducing the impact of extreme climate disasters, beginning with basic infrastructure.

TSMC Water Risk Identification and Control

Risk	Risk Identification	Risk Control
Regulatory Risk	<ul style="list-style-type: none">● The impact of new regulations	<ul style="list-style-type: none">● Continue to monitor legislative trends● Communicate with governments through industrial organizations and associations to set reasonable and feasible legal requirements
Physical Risk	<ul style="list-style-type: none">● Increasing frequency and severity of storms, floods and drought● Increased water stress or scarcity	<ul style="list-style-type: none">● Lift the foundation height of newly constructed fabs● Collaborate with central governments to assess and mitigate climate natural disaster risk in 3 Taiwan Science Parks● Water-saving measures
Other Risk	<ul style="list-style-type: none">● The mitigation and adaptation ability of climate change in supply chain	<ul style="list-style-type: none">● Assist and require TSMC suppliers to establish Water Management concepts and a management system

- Collaborating with the local government, public utilities, and other companies to coordinate local water resource allocation, set up water saving goals, and share experience.
- Sharing TSMC’s water saving experience to help other industries understand the importance of water resource risk and conduct water conservation together.
- Promoting internal and supply chain water inventories, conserving water, and establishing a water footprint.

Water Resource Risk Mitigation and Adaptation

TSMC believes that water risk is one of our major operation risks, which must be monitored and controlled to improve our competitiveness. Water risks include regulatory risk, physical risk and other risks. Our control measures are shown as following table:

Collaboration with Local Authorities in Water Resource Conservation

Since water resources are inherently local, TSMC shares its water-saving experiences with other semiconductor companies through the Association of Science Park Industries to promote water conservation. At the same time, TSMC collaborates with the Science Park Administration to discuss raw water allocation and emergency response plans for water shortages. TSMC has also successfully resolved many water quality issues, including wastewater ammonia nitrogen reduction. In addition, we continue to hold technical forums to discuss water reclamation and assist small facilities in the Science Park to perform good water resource management in order to achieve the Science Park’s goals and ensure long-term balance of supply and demand.

Actively Sharing Experience with External Parties

In Aug. and Sep., 2013, TSMC and the Water Resource Agency of the R.O.C. Ministry of Economic Affairs jointly held a Water Recycling and Saving Demonstration in TSMC Fabs located in Northern, Central and Southern Taiwan to share our experience and lead improvement in the water-saving performance of Taiwan industries. More than 100 managers and engineers responsible for water treatment from various industries participated in experience sharing.

Promote Water Saving Concept to Employees

TSMC collaborated with the Water Resource Agency to hold a water-saving competition for TSMC employees and their families in 2013. Hundreds employees participated the activity to win attractive incentives. We hope to implant water-saving concepts in employees’ minds and effectively promote water conservation company-wide through this competition.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

Proactively Identifying and Responding to Water Resource Risk

TSMC understands that climate change can cause flooding and drought. We took the following actions to respond to water resource risks.

- Identified short-term and long-term water resource risks of the science parks in northern, central and southern Taiwan, where our fabs are located.
- Developed and executed short-term and long-term water resource risk mitigation projects such as wastewater recycling.
- Continuing to conserve water consumption in each fab.

Water Conservation – Reduction and Recycling

TSMC's facilities collect process water discharges through independent drainages, and reuse the water for the manufacturing process or secondary uses after treatment. These secondary uses, which do not come into human



TSMC recognized by the Water Resource Agency for Water Saving Excellence.

contact, include make-up water of cooling towers and wet scrubbers, cleaning water for sludge dewatering filters in wastewater treatment systems, and toilet water. Secondary uses of water are also optimized to reduce make-up water quantity. In order to fully utilize water drainage from the manufacturing process, TSMC separates drain pipes into more than 20 categories based on their characteristics and more than 15 categories of treatment systems.

TSMC is a fast-growing company, and in addition to adopting a minimum process water recycling rate of 85%, we also select low water consumption process tools, implement process water drainage segregation, set up process water reclamation systems in new factory construction, and continue promoting water-saving measures after mass production. The purpose of these measures is to reduce our raw water demand.

TSMC also cooperates with industry experts to implement new technology for water reuse, such as recycled water from reclaiming $\text{NH}_3\text{-N}$ and Tetramethyl Ammonium Hydroxide (TMAH) contained wastewater.

Major Water Saving Measures in 2013

Since 2008, a number of TSMC fabs have achieved a process water recycling rate of higher than 90%, leading the global semiconductor industry. Our fabs in Taiwan total process water recycling rate reached 86.9% in 2013, which met or exceeded the criteria set by the Science Park Administration and also exceeded the worldwide semiconductor industry standard. TSMC's major water saving measures are as follows:

Category	Water Saving Measure
Water Use Reduction	<ul style="list-style-type: none"> • Recycle Makeup Air Units' air washing water through a circulation-and-treatment system • Optimization of water usage for process tools, air pollution control wet scrubbers, and cooling towers
Water Recycling	<ul style="list-style-type: none"> • Recycle electroplating rinse water for secondary water use • Reclaim Backside Grinding wastewater through an immersion ultra filter system, a chemical-free process • Reclaim Chemical Mechanical Polish wastewater via chemical-free ultra filter. Both water and solid wastes are recycled in a zero emission system • Installation of ozone wastewater recycling system for secondary water use • Installation of organic/acid water recycling systems, separated collection according to water quality, recycling water to ultrapure water systems or secondary uses such as cooling towers • Installation of general and copper-containing CMP wastewater recycling systems, recycling wastewater for ultra-pure water systems or secondary water use • Installation of wet scrubber water recycling systems to recycle wet scrubber effluent after treatment • Installation of treatment system to treat caustic wastewater with ammonia, recycling wastewater for ultra-pure water systems or secondary water use • Recycling of air conditioning condensation for cooling tower use • Mega-sonic bath water recycling for ultra pure water use • Installation of Tetramethyl Ammonium Hydroxide recycling system

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

- 8.1 Environmental Protection Major Activities in 2013
- 8.2 From Green Buildings to Green Sustainability
- 8.3 Climate Change
- 8.4 Water Resource Management
- 8.5 Green Products
- 8.6 Pollution Prevention
- 8.7 Environmental Management System
- 8.8 Green Promotion and Ecological Preservation

Appendix

Water Saving Achievements and Process Recycling

In 2013, we saved a total of 52,770,000 cubic meters of water which was 52% more than 2010.

Utility Water Usage

TSMC's water use per 8-inch wafer equivalent per mask layer ^{Note 2} in 2013 decreased by 12.4% compared to 2012 from 58.9 liters to 51.5 liters.



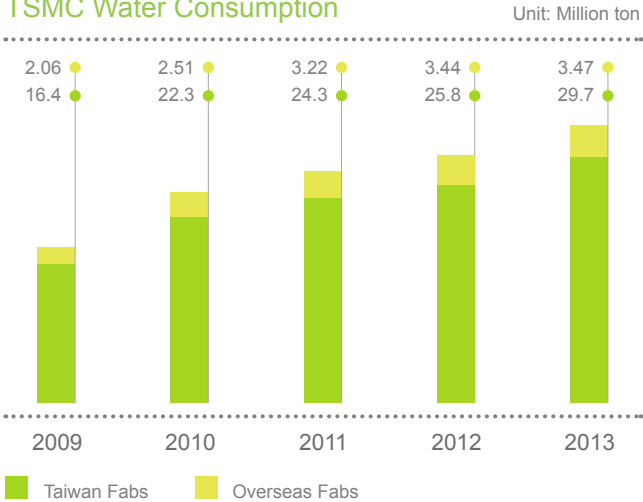
Advanced wastewater recycling system can reduce energy and resource consumption and waste generation.

TSMC Water Conservation Performance

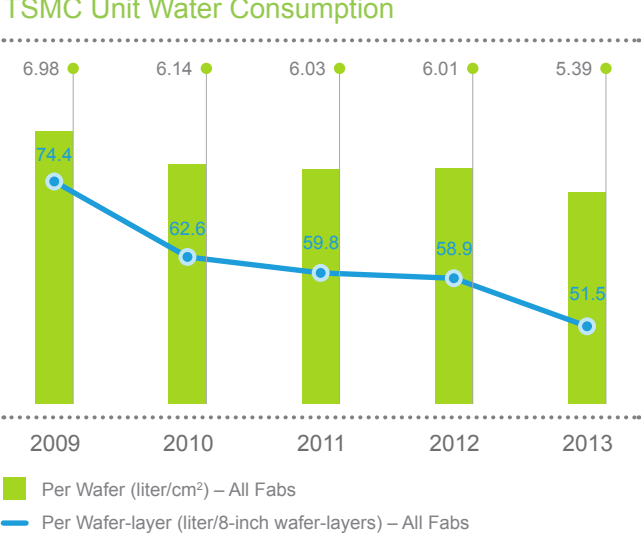
Item	2009	2010	2011	2012	2013
Average process water recycling rate (%) ^{Note}	83.4%	84.1%	84.6%	86.5%	86.9%
Process water saved (Million m³)	27.05	34.66	37.73	53.37	52.77

Note: Average process water recycling rate is defined by the Science Park Administration.

TSMC Water Consumption



TSMC Unit Water Consumption



Note 1: The statistical data for water consumption includes all fabs in Taiwan, as well as all overseas fabs, packing and testing facilities, bumping, EBO, R&D, and water consumed by non-production activities.

Note 2: The statistical data for unit water consumption density is for the water usage of wafer fabs in Taiwan and overseas. Beginning in 2009, this index was rationalized by introducing a layer index due to product complexity.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

8.5 Green Products

TSMC collaborates with upstream material suppliers and downstream assembly and testing service providers to reduce environmental impact. We reduce the resources and energy consumed for each unit of production to provide more advanced, efficient and ecologically sound products. In addition to helping customers design low-power, high-performance products to reduce resource consumption over the product's life cycle, TSMC implements clean manufacturing practices that provide additional "green value" to our customers and our other stakeholders.

TSMC-manufactured ICs are used in a broad variety of applications covering various segments of the computer, communications, consumer, industrial and other electronics markets. Through our manufacturing technologies, our customers' designs are realized and incorporated into peoples' lives. These chips make significant contributions to the progress of modern society. TSMC works hard to achieve profitable growth while providing products that add environmental and social value. We have listed below several examples of how TSMC-manufactured products significantly contribute to society and the environment.

Environmental Contribution by TSMC Foundry Services

1. Providing New Process Technology to Achieve Lower Power Consumption

- The continuous development of TSMC's advanced semiconductor process technologies follows Moore's law,

which holds that process technology moves forward one generation every 24 months. In each new generation circuitry line widths shrink, making circuits smaller and lowering the energy and raw materials consumed per unit area. At the same time, the smaller IC die size consumes less power. TSMC's 28nm technology, for example, can accommodate approximately four times the number of electronic components as the 55nm technology. ICs made with 28nm technology in active or standby mode consume roughly one-third the power of 55nm products, according to our internal test results. The Company continuously provides process simplification and new design methodology based upon its manufacturing excellence to help customers reduce design and process waste.

- TSMC continues to lead the foundry segment in technology, having achieved volume production at the 28nm node. TSMC's 28nm processes include 28nm High Performance (28HP), 28nm High Performance Low Power (28HPL), 28nm Low Power (28LP), and 28nm High Performance Mobile Computing (28HPM). Customer 28nm production tape-outs are more than double the number of 40nm customer tape-outs. The TSMC 28nm process also has surpassed the previous generation's production ramp and product yield at the same point in time due, in part, to closer and earlier collaboration with customers. TSMC will continue to encourage customer designs that result in the most advanced, energy-saving, and environmentally friendly products.
- TSMC quickly ramped its 28nm technology in 2013. The 28nm contribution to revenue grew significantly from 12% in 2012 to 30% in 2013, representing approximately

NT\$180 billion, or US\$6 billion. This reflects the fact that TSMC's advanced manufacturing process technology helps the Company achieve both profitable growth and energy savings.

- TSMC continues to deliver performance-per-watt scaling in its 20nm SoC and 16nm FinFET process technologies. With energy-efficient transistors and interconnects, the 20nm SoC process can reduce total power consumption of the 28nm process by one-third, and by migrating from planar to FinFET technology, the 16nm FinFET process can further reduce total power consumption to about 40% of 28nm technology. The 20nm SoC process was qualified in 2013 and produced first silicon success on multiple customer production tape-outs. The 16nm FinFET process entered risk production in 2013.

28nm Contribution to Total Revenue

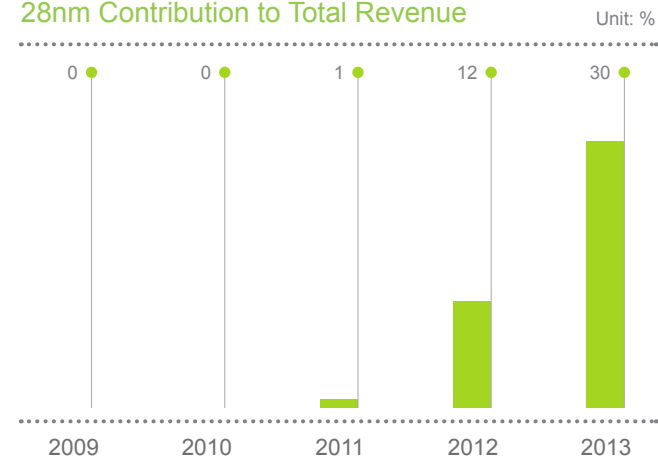


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

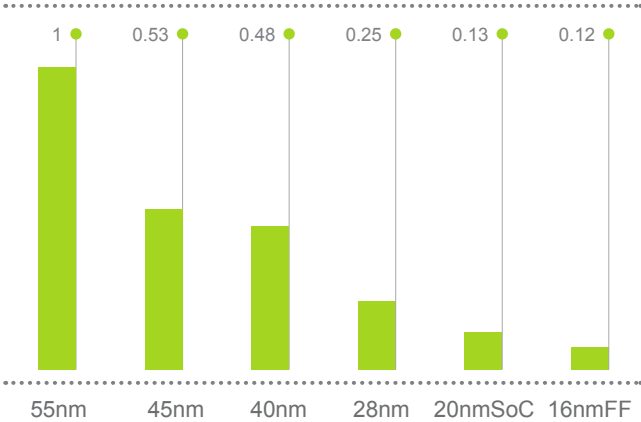
Environmental Protection

- 8.1 Environmental Protection Major Activities in 2013
- 8.2 From Green Buildings to Green Sustainability
- 8.3 Climate Change
- 8.4 Water Resource Management
- 8.5 Green Products
- 8.6 Pollution Prevention
- 8.7 Environmental Management System
- 8.8 Green Promotion and Ecological Preservation

Appendix

Die Size Cross-Technology Comparison

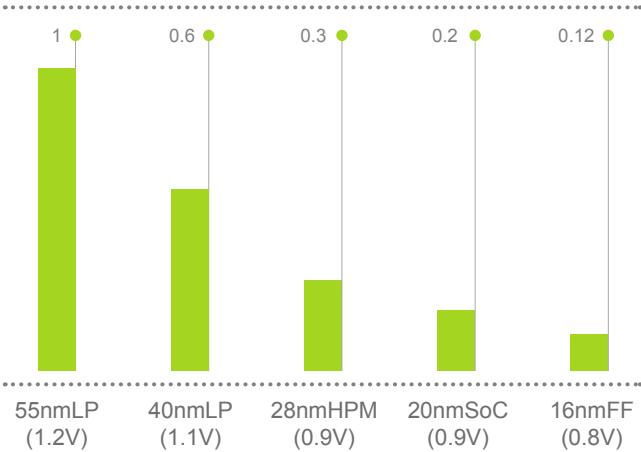
Die size is shrinking as line width shrinks



2. Manufacturing Power Management ICs with the Highest Efficiency

- TSMC's leading manufacturing technology helps its customers design and manufacture green products. Power management ICs are the most notably green IC products. Power management ICs are the key components that regulate power consumption in all electronic devices. TSMC's analog power technology research and development team uses 8-inch and 6-inch wafer fabs to develop Bipolar-CMOS-DMOS, Ultra-High Voltage technology, and next generation electronic device GaN (Gallium Nitride) on Silicon, producing industry-leading power management chips with more stable and efficient power supplies and lower energy consumption for broad-based applications in the consumer, high energy efficiency motor, communication, and computer markets.

Total Power Consumption Cross-Technology Comparison



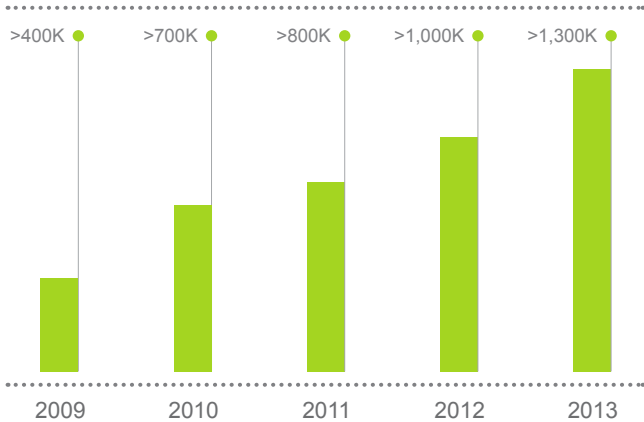
- TSMC also provides power-efficient design platforms. Customers use these platforms to develop energy-saving products. Power management ICs generate material revenue to TSMC's industrial market segment. In 2013, TSMC's HV/Power technologies collectively shipped more than 1.3 million customer wafers. In total, the Power management ICs manufactured by TSMC for our customers accounted for more than one-third of global computer, communication and consumer (3C) systems.

3. Green Manufacturing that Lowers Energy Consumption

- TSMC continues to develop manufacturing technologies that provide more advanced and efficient manufacturing services. Improvements reduce per-unit energy consumption, resource consumption and pollutant

HV/Power Technologies Shipments

Unit: 8-inch Equivalent Wafer



generation. They also lower energy consumption and reduce pollution during product use. To see the total energy savings benefits realized through TSMC's green manufacturing, please refer to page 115, "Environmental Accounting".

Social Contribution by TSMC Foundry Services

1. Providing Mobile and Wireless Chips that Enhance Mobility and Convenience

- The rapid growth of smartphones and tablets in recent years reflects strong demand for mobile devices. Mobile devices offer remarkable convenience and TSMC contributes significant value to these devices. For example: (1) new process technology helps chips provide faster computing speeds in a smaller die area, leading to smaller form factors for these electronic devices. In addition, SoC technology integrates more functions into one chip,

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

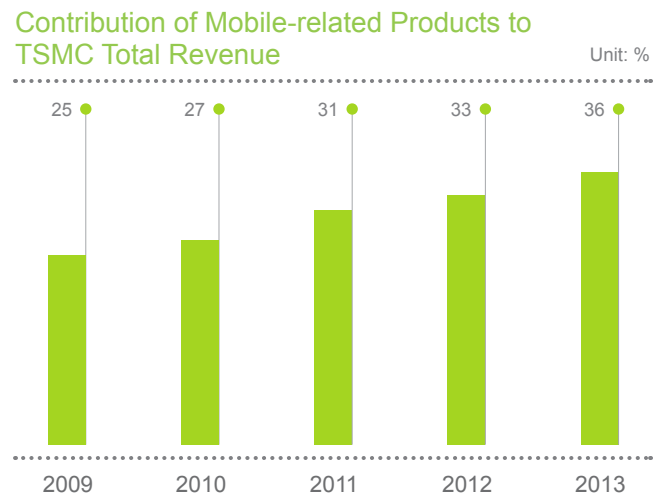
8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

reducing the total number of chips in electronic devices, which also leads to a smaller system form factor; (2) new process technology helps chips consume less energy. People can therefore use mobile devices for a longer period of time, increasing their convenience; and (3) with more convenient wireless connectivity, such as 3G/4G and WLAN/Bluetooth, people communicate more efficiently with each other, can “work anytime and anywhere”, significantly improving the mobility of modern society.

- Mobile-related products, such as Baseband, RF Transceiver, AP (Application Processors), WLAN (Wireless Local Area network), NFC (Near Field Communication), Bluetooth, GPS (Global Positioning System) and others, represent more than 36% of TSMC annual revenue, reaching more than NT\$213 billion or US\$7.2 billion in revenue in 2013. TSMC's growth in recent years was largely driven by the growing global demand for these mobile IC products.



2. Enhancing Human Health and Safety with MEMS (Micro Electro Mechanical Systems)

- TSMC-manufactured ICs are widely used in medical treatment and health care applications. Through the Company's advanced manufacturing technology, more and more IC products are providing major contributions to modern medicine. Customers' MEMS products are used in a number of advanced medical treatments. MEMS are also widely used in preventative health care, such as early warning systems that limit the number of injuries to the elderly resulting from falls, systems that detect physiology changes, car safety system and other applications that greatly enhance human health and safety.

TSMC Collaborates with Suppliers to Reduce Product Environmental Impact Footprints

TSMC's products take both quality and environmental impact into account. We believe that green products need to consider the entire product life cycle, including raw material mining, transportation, product manufacturing, use, and waste disposal to thoroughly evaluate environmental impact. The product carbon footprint, water footprint, or other environmental impact footprints are important indicators in the environmental performance of products.

Therefore, we require good hazardous substance management, pollution prevention, energy saving, waste reduction and other clean production measures in our own factories. We also require and assist suppliers to do so, and even require suppliers to require their suppliers to do so, in order to establish a green supply chain.

Standards Compliant with or Surpassing International Product Environmental Laws

Product Hazardous Substance Management: By practicing QC 080000, TSMC ensures that products comply with regulatory and customer requirements, including:

- The EU Restriction of Hazardous Substance (RoHS)**
Restriction of hazardous substances in electric products including Lead (<1,000ppm), Cd (<100ppm), Hg (<1,000ppm), Cr⁶⁺ (<1,000ppm), PBB (<1,000ppm) and PBDE (<1,000ppm). The new RoHS 2.0, 2011/65/EU in 2011 has not changed restricted substances and lead is exempted for the semiconductor bumping process. All TSMC products are compliant with EU RoHS. The bumping process still requires lead due to technology constraints. TSMC continues to develop “lead-free” bumping to fulfill customers' needs.
- Halogen-Free Electronic Products**
In general, our customers request the concentration of Bromine and Chlorine in products to be less than 900ppm each, and less than 1,500ppm in total. All TSMC products are in compliance.
- Perfluorooctane Sulfonates (PFOS) Restriction Standards**
TSMC has completely phased out PFOS from its process since 2010.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection
Major Activities in 2013

8.2 From Green Buildings to
Green Sustainability

8.3 Climate Change

8.4 Water Resource
Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management
System

8.8 Green Promotion and
Ecological Preservation

Appendix

● **EU REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) Directive**

All TSMC products are compliant with the REACH dangerous chemicals and SVHC (Substance of Very High Concern) limits.

● **EU Waste Electrical and Electronic Equipment (WEEE) Directive**

This regulation requires the recycling of electronic final products. TSMC's chips are recycled along with electronic final products after use by consumers.

In addition to current global regulations and customer requirements, TSMC continues to monitor international regulation trends to prepare for response.

Leading Upstream and Downstream Partners to Complete a Supply Chain Product Carbon Footprint

TSMC continues to require that suppliers set up greenhouse gas (GHG) inventory procedures, and assists them in doing so. First, we led suppliers to complete the industry's first IC Product Category Rule and Environmental Product Declaration in 2009, then led upstream and downstream partners to complete 12-inch wafer and packaged integrated circuit product carbon footprints, which passed third-party certification based on the British PAS2050 product carbon footprint standard in 2011. In 2011 and 2012, TSMC's 8-inch and 6-inch wafer passed PAS2050 carbon footprint certification respectively, and can fulfill all customers' requirements.

Monitoring Semiconductor Product Water Footprint

There has been much global discussion of water risk management and product water footprints, and these issues have been included in surveys by the Dow Jones Sustainability Indexes and the Carbon Disclosure Project. However, there are currently no international standards for product water footprints. TSMC has always viewed water as a precious resource, and has for many years required our own plants and those of our suppliers to conserve water. In addition to including a water footprint as well as other environmental impact footprints in the 2009 integrated circuits Type III Environmental Product Declaration, TSMC also includes water footprint calculation data in our supplier questionnaire. We will continue tracking international water footprint standards and prepare for new developments. In 2012, TSMC Fab 12 collaborated with five major suppliers and completed a 12-inch wafer product water footprint and received external certification. Fab 3 also completed an 8-inch wafer product water footprint and received external certification in 2013.

Product Packing Materials Management and Reduction

TSMC uses recyclable plastic and paper as packing materials for shipping products. These packing materials comply with EU regulations requiring lead, cadmium, mercury and chromium (VI) concentration of less than 100ppm, and also contain no polyvinylchloride (PVC).

Integrated Circuit Product Carbon Footprint Example – BGA Chip

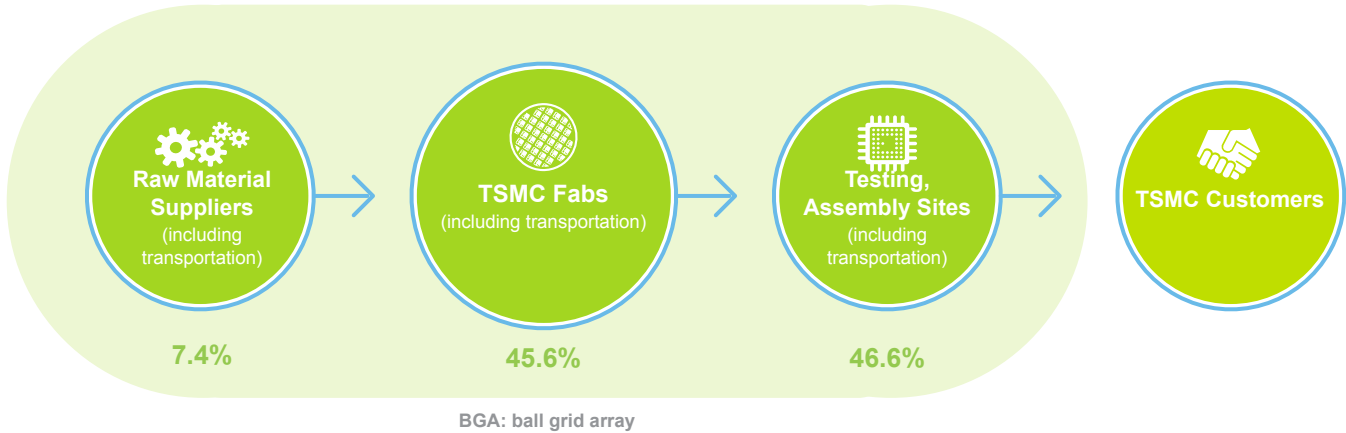


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

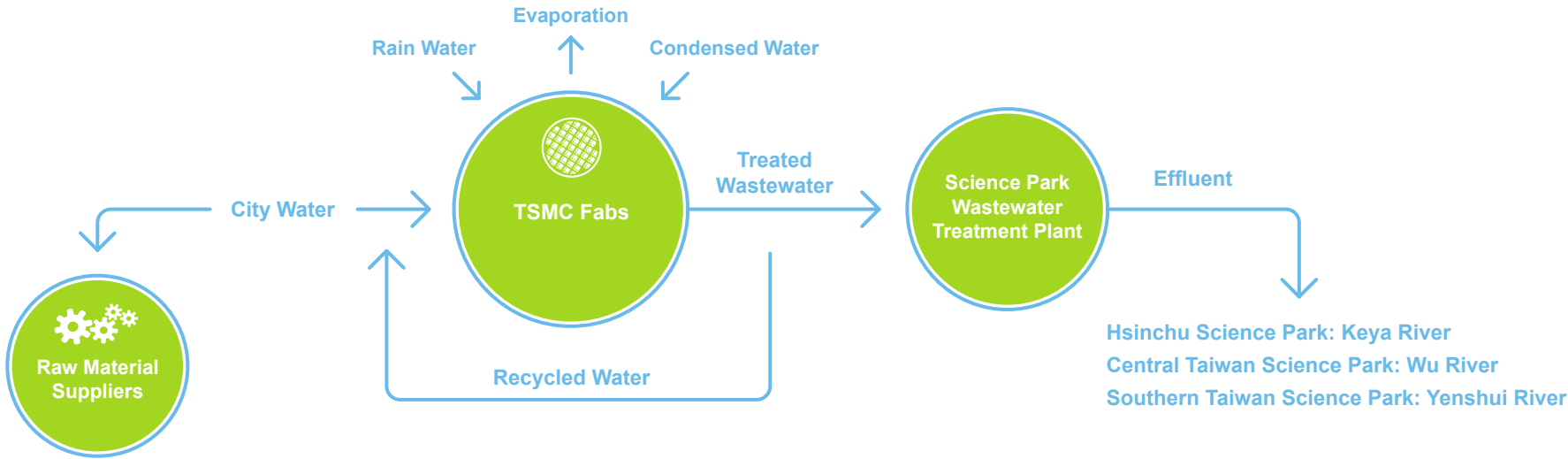
8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

We reuse packing materials as much as possible to control usage. TSMC recycles packing materials from products shipped to customers and testing and assembly facilities for reuse after cleaning. Packing materials from raw wafers are also reused in product shipping. Our wafer shipping boxes are mostly made from reused sources. These measures have reduced both packing material consumption and waste generation. These measures reduce the use of new wafer boxes by 140,000 8-inch and 200,000 12-inch per year, equal to 1,222 tons of plastic.

TSMC and Supplier Water Footprint



8.6 Pollution Prevention

TSMC believes that pollution prevention is one of a corporation's most important responsibilities. TSMC's pollution prevention is based on the ISO 14001 environmental management system, and uses the "Plan-Do-Check-Act" management model to promote continuous improvement. We believe that conserving raw materials, energy, and resources as well as reducing waste and pollutants both save production costs and protects the environment.

Pollution Prevention is the Bottom Line

Taiwan has very limited land, large population, and high density of industrial factories. Therefore, some of its environmental regulations may be among the strictest in the world. To address increasingly stringent environmental

standards, TSMC has established good communication channels with the government, and participates in discussions in the early stages of legislation to facilitate reasonable and feasible standards. Each plant also performs assessments to evaluate conformity to new standards, and improvement and preventive measures are taken immediately if nonconformance is discovered.

TSMC has established comprehensive management and operations procedures for pipe-end treatments such as air and water pollution controls, and ensures these procedures are carried out precisely. TSMC has also installed monitoring systems on the discharging sides of pollution control facilities for online monitoring. Facility personnel follow emergency response and reporting procedures to take proper actions if operating conditions diverge from preset limits to avoid environmental pollution.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

Assisting Non-semiconductor Subsidiaries in Early Pollution Control

TSMC assists its non-semiconductor subsidiaries, TSMC Solid State Lighting and TSMC Solar, in assessing risk for their specific wastewater, air emissions, wastes, and chemicals to reduce their environmental impacts.

Resource Recycling is Our Consensus

For waste management, TSMC has transitioned from traditional “treatment and disposal” to a concept of effective resource management, and implements this concept in daily operations. We manage waste as a resource, categorize and collect waste at the source, raise waste recyclability, and also collaborate with waste treatment and recycling facilities to search for or develop possible recycling measures to reduce the amount of waste sent to incinerators and landfills. In addition, TSMC actively collaborates with raw material

suppliers to reduce chemical usage and waste chemicals. We also study the feasibility of waste recycling by raw materials suppliers to reach our goal of sustainable resource recycling.

With this waste resource management model, TSMC has successfully raised its waste recycling rate each year, reduced its incineration and landfill rate, and cut waste disposal cost by generating waste recycling income. In 2013, TSMC's waste recycling rate reached more than 92% and the landfill rate was less than 1% for six consecutive years.

8.6.1 Source Reduction – Raw Materials Usage Reduction

TSMC seeks to optimize processes to minimize raw material use and waste production, protecting the environment while reducing costs at the same time. TSMC has a designated unit that periodically reviews raw materials reduction performance.

Internally, we optimize our process recipe for raw material usage, which can not only reduce production cost but also reduce the generation of pollutants and wastes. Externally, we require our process tool suppliers to review and minimize their chemical usage step by step. We are now in discussions with our process tool suppliers to adopt the SEMI-S23 guideline to optimize the consumption of energy, resource and chemicals. We have also included SEMI-S23 as a process tool procurement specification.

TSMC uses raw wafers as a major direct material in its manufacturing process. Raw wafers are composed of very high purity silicon, and cannot be recycled for wafer manufacturing processes. However, control wafers used for monitoring process conditions are reclaimed for reuse. We estimate one control wafer can be reused 10 times, which reduces both cost and waste.

TSMC Material Input and Output – Examples of TSMC Fabs in Taiwan

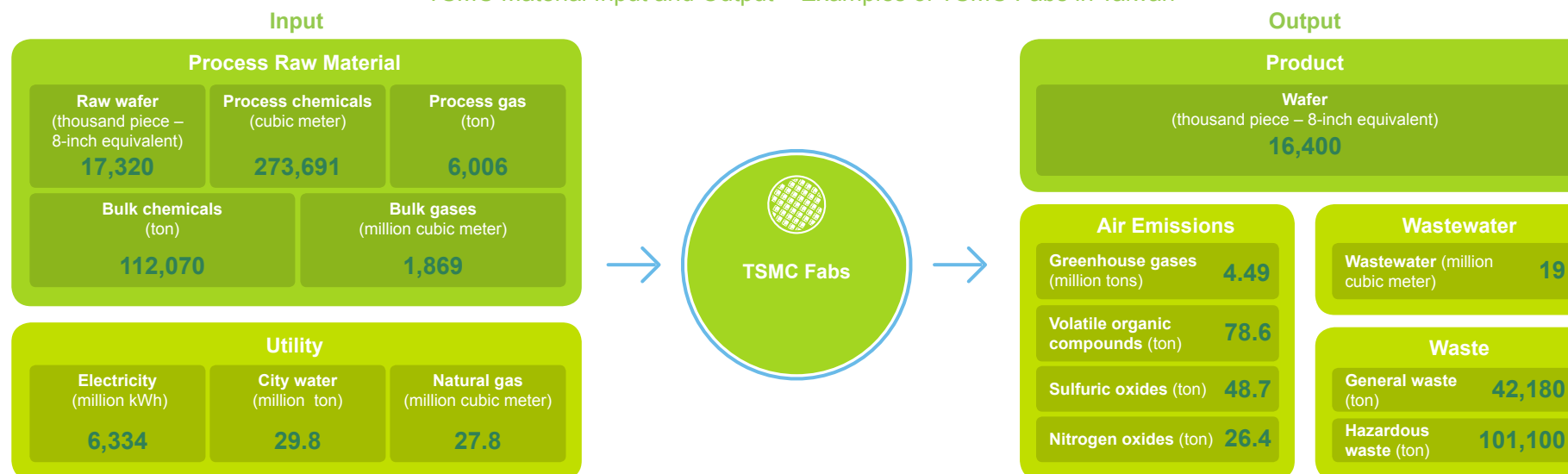


Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

8.6.2 Water Pollution Control

Strategy of Segregated Treatment, Strict Monitoring, and Environmental Protection before Production

TSMC's water pollution control strategy is first to reduce pollutants in process wastewater, followed by water recycling and treatment of pollutants in water. Effluent water quality must be better than or compliant with governmental standards.

TSMC's major water-using process is an ultra-pure water system which turns raw water into ultra-pure water, mainly used in process tools for cleaning chemical residue on wafer surfaces. To reduce total water usage, TSMC's effluent water from ultrapure water systems and process tools are graded by purity. The cleanest is reused in the manufacturing process; the second grade taken from the recycling treatment is employed in secondary uses such as cooling-tower water. Wastewater that cannot be recycled is discharged to treatment facilities for final wastewater treatment.

TSMC adopts a strict front-end wastewater categorization strategy to improve treatment efficiency. Wafer fabs' wastewater can be divided into fluoride, copper, ammonia, Tetramethyl Ammonium Hydroxide, general acid, and various polishing wastewaters. All types of wastewater are strictly categorized at process tools, and collected to wastewater treatment facilities through separated piping. In order to manage these drains strictly, there are more than 20 categories of drainage types, carefully operated and maintained by professional teams to comply with the standards of the Science Park Administration (SPA). The water is then discharged to the SPA wastewater treatment plant for further treatment after professional teams ensure the discharge complies with SPA standards. The treated

wastewater is discharged to rivers from the SPA's wastewater treatment plants in compliance with river discharge standards. The SPA also conducts random measurement of the discharges of each company in Science Park.

TSMC operates only after ensuring that the environment will not be polluted. Each fab is equipped with effective wastewater treatment systems, including complete backup systems such as emergency power supplies, to reduce the likelihood of abnormal discharge. Operating status of all of TSMC wastewater treatment systems are monitored 24 hours a day by shift personnel. If operating conditions diverge from the preset limits, a warning signal is sent and wastewater discharge is halted. Data gathered for monitoring system effectiveness have been designated an important tracking item to ensure effluent quality.

Developing New Technologies to Response to New Regulations

In addition to complying with SPA standards, TSMC continually works with industries and universities to improve discharge quality in areas such as COD (Chemical Oxygen Demand), TMAH (Tetra-methyl ammonium hydroxide) and $\text{NH}_3\text{-N}$ to reduce hazards to water bodies. For example, we reduced COD discharge for 12-inch fabs by 62.5%.

In addition, TSMC continues to explore new wastewater treatment and chemical recycling technologies. For example, TSMC led the industry in performing a series of experiments to obtain the optimal processing technology for $\text{NH}_3\text{-N}$ -containing backside grinding wastewater, high-concentration fluoride and phosphorus acid wastewater and TMAH recycled by external contractors, which attests to our dedication to protecting the environment.



Wastewater treatment system improves water discharge quality.

Wastewater Discharge Quality Improvement in 2013

TSMC's major wastewater pollution control measures are as follows:

- Establishment of waste Tetramethyl Ammonium Hydroxide recycling system to reduce nitrogen-containing pollutants in 12-inch fabs.
- Establishment of ammonia wastewater treatment system to recycle ammonia sulfate and reduce ammonia-nitrogen in wastewater.
- Replace ammonia by using ultra-pure water for cleaning process to reduce ammonia usage from the source.
- Reuse of high concentration acid or base wastewater through resin regeneration or reverse-osmosis membrane for use as wastewater neutralization chemicals to reduce wastewater conductivity.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

- Use of chemical-free immersion ultra filter to treat chemical mechanical polish wastewater to reduce suspended solids in wastewater.

Wastewater Discharge Quantity

TSMC's wastewater quantity per 8-inch wafer equivalent per mask layer ^{Note 2} in 2013 decreased by 6.8% compared to 2012 from 38.1 liters to 35.5 liters.

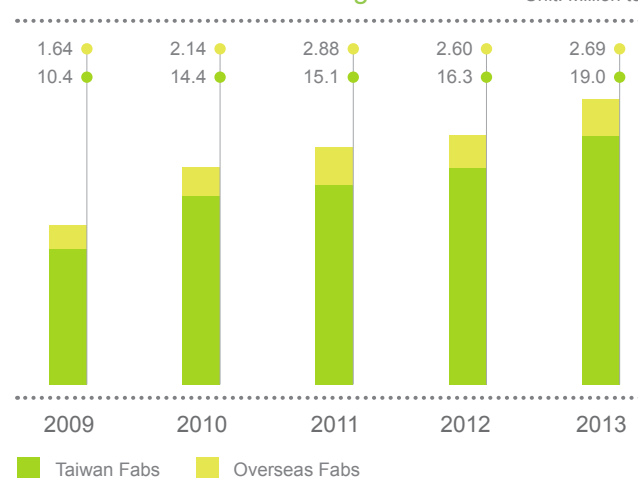
Wastewater Effluent Monitoring

All TSMC fabs are equipped with continuous monitoring equipment to monitor and record changes in water quantity and quality, such as acidity and fluoride ion concentration, in order to take appropriate responses when abnormal situations occur. We also conduct offsite sampling and analyze wastewater effluent quality at least four times a year, which provides a calibration reference for online analyzers, ensuring that TSMC complies with water quality standards.

In 2013, TSMC wastewater effluent quality was close to 2012 levels, indicating good stability in all fabs. The wastewater effluent quality data includes: pH between 5 to 9 (SPA standard is 5 to 10), suspended solids were controlled from 2.4 to 151 mg/L (SPA standard is below 300), and COD was controlled from 10.3 to 331 mg/L (SPA standard is below 500).

TSMC Wastewater Discharge

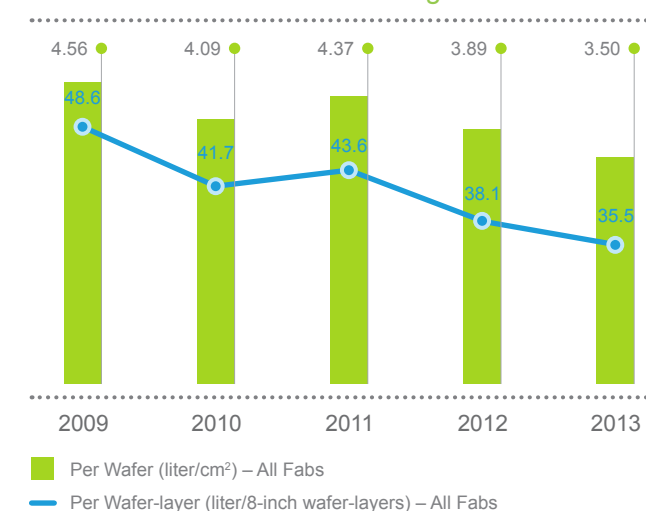
Unit: Million ton



Note 1: TSMC's annual wastewater quantity includes all fabs in Taiwan, as well as all overseas fabs, packing and testing facilities, bumping, EBO, R&D, and water consumed by non-production activities.

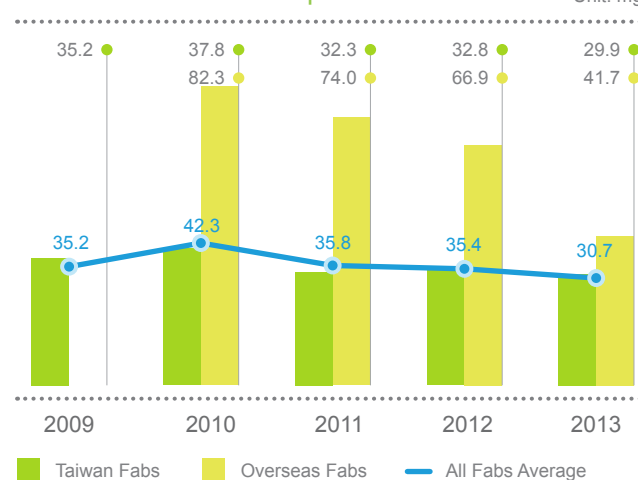
Note 2: Statistical data for unit wastewater quantity density is for wafer fabs in Taiwan and overseas. Beginning in 2009, this index was rationalized by introducing a layer index due to product complexity.

TSMC Unit Wastewater Discharge



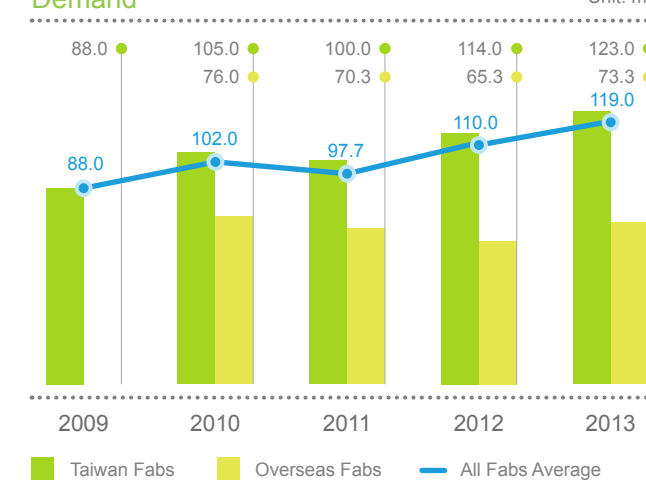
TSMC Wastewater Suspension Solid

Unit: mg/l



TSMC Wastewater Chemical Oxygen Demand

Unit: mg/l



Note: TSMC's annual wastewater effluent Suspended Solid and Chemical Oxygen Demand are the average of all fabs in Taiwan, as well as all overseas fabs, packing and testing facilities, bumping, EBO, R&D, and water consumed by non-production activities.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

8.6.3 Air Pollution Control

Effective Treatment Based on Waste Air Specification

TSMC's air pollution control strategy is to optimize process to reduce pollutants in air exhaust, and then to abate pollutants in air exhaust through high-efficiency equipment to comply with or surpass legal requirements. Air pollutant concentrations in TSMC's exhaust are far below the standards required by Taiwan's EPA, according to actual measurements performed over the years.

Wafer fabs emit three major types of exhaust: acid exhaust, base exhaust, and volatile organic compounds. Heat exhaust emitted by process equipment does not cause air pollution. Air pollution control systems depend on various categories and characteristics of pollutants. TSMC installs local scrubbers behind process tools in order to treat toxic, flammable, and PFC gases. First, high temperatures or other physical and chemical measures are used to significantly reduce the concentration of pollutants in tool exhaust. The gas is then inducted to central waste gas treatment equipment for endpoint treatment. Endpoint treatment includes zeolite-rotary-wheel absorbing equipment for volatile organic compounds (VOC) treatment and wet scrubber equipment for acid or base gases.

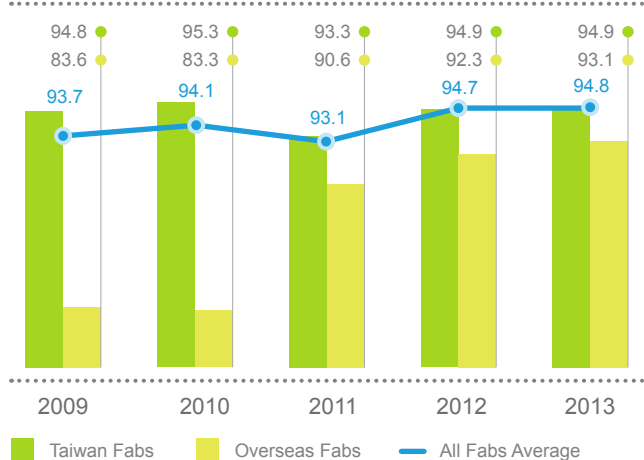
Stable Operation, Continuous Monitoring

The performance of all TSMC fabs, including overseas facilities, is fully compliant or exceeds the air pollutant emissions standards in the areas where they operate. TSMC has deployed high-performance air pollution control equipment with at least N+1 backup systems so that all pollution control equipment can continue waste gas control 24 hours a day, 365 days a year in case of equipment

breakdown. Operational status of all of TSMC air pollution control systems is monitored 24 hours a day by shift personnel. Data collected by system efficiency monitoring have been classified as an important tracking item in order to ensure air exhaust quality. In 2009, we added an electronic quarterly air pollution report system that can automatically confirm the accuracy of declarations.

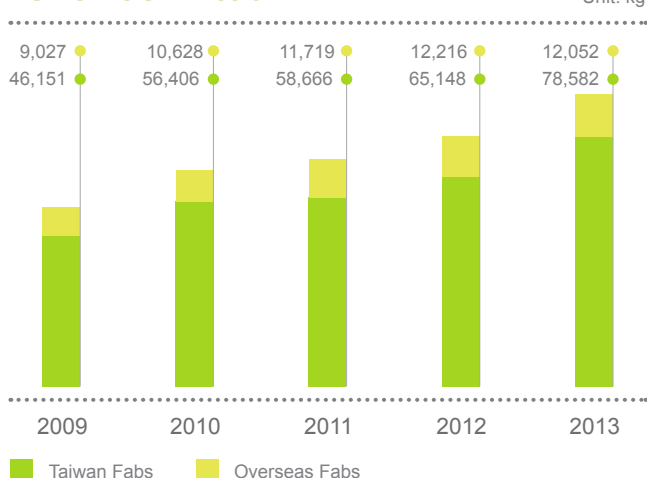
To ensure normal equipment operations and reduce abnormal pollutant emissions, TSMC has installed backup systems, including power generation, to back up malfunctions of operation equipment. TSMC has also installed backup fuel supply systems for VOC pollution control equipment that will engage if the original fuel supply systems experience difficulties.

TSMC VOC Destruction Removal Efficiency Unit: %

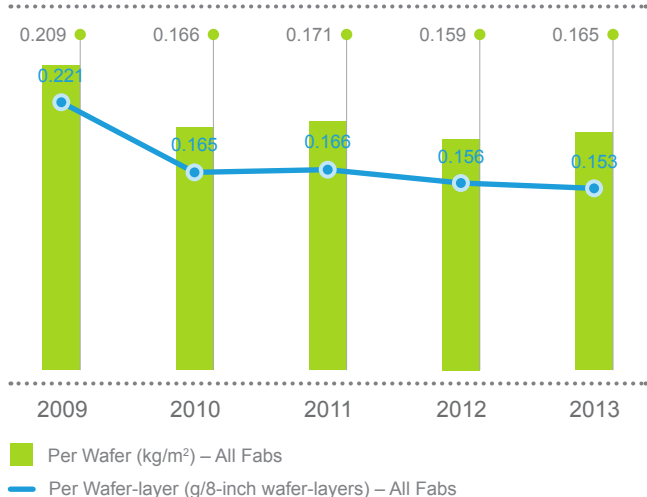


Note: TSMC's annual VOC is the average of all fabs in Taiwan, as well as all overseas fabs, bumping and R&D related to manufacturing process.

TSMC VOC Emission Unit: kg



TSMC Unit VOC Emission



Note 1: The statistical data for VOC emission includes all fabs in Taiwan, as well as all overseas fabs, packing and testing facilities, bumping, EBO, and R&D.

Note 2: Prior to 2009, VOC emission density was defined by total VOC emission quantity divided by total wafer out. Beginning in 2009, this index was rationalized by introducing a layer index due to product complexity.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

Air Emissions Record

In 2013, the average removal efficiency of VOC exhaust remained at a relatively high level of 94.9% in TSMC's Taiwan fabs and 93.1% in overseas fabs, well above the standard for local regulations.

TSMC's VOC volume per 8-inch wafer equivalent per mask layer ^{Note 2} in 2013 decreased by 1.9% compared to 2012 from 0.156 g to 0.153 g. In addition, based on the Taiwan EPA's formula for calculating SO_x and NO_x emissions, TSMC estimates that our NO_x emission was 26.4 tons and SO_x emission was 48.7 tons in 2013.



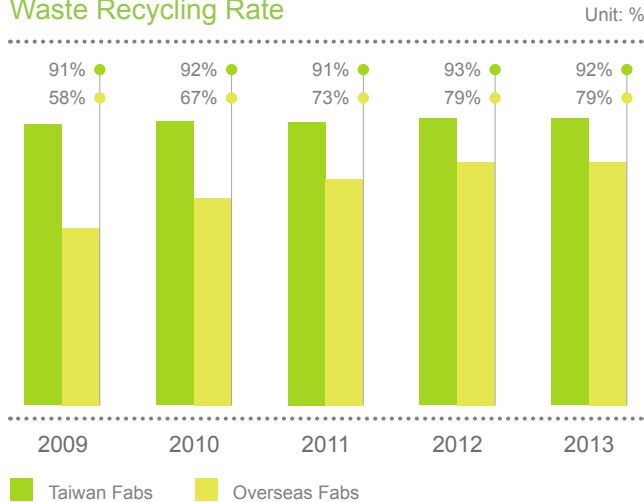
Our air pollution control systems surpass local standards.

8.6.4 Waste Reduction and Resource Recycling

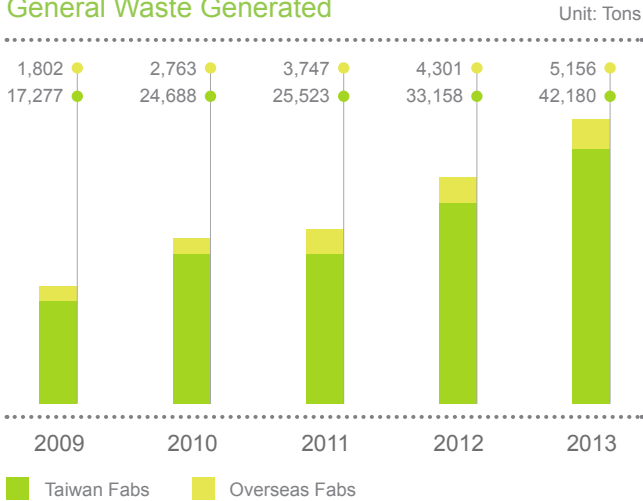
TSMC has transitioned from traditional waste cleaning and disposal to integrated resource management, and has a designated waste resources management unit to treat waste as valuable resources to be recycled as much as possible. In order to sustainably use our resources, the first priority of our waste management is reduction; the second is material recycling, followed by energy recovery, and finally disposal through incineration and landfill.

TSMC has made great efforts in reducing raw materials usage with significant achievements in waste reduction and recycling over the past decade. Although the categories of waste are growing more complex, TSMC continues to develop new waste recycling technology with suppliers to raise its

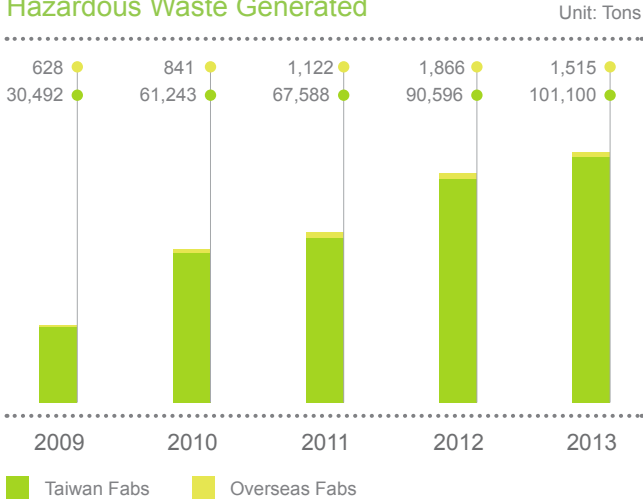
Waste Recycling Rate



General Waste Generated



Hazardous Waste Generated



Note: Hazardous wastes are defined by local governments.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

recycling rate and reduce waste disposed in landfills. TSMC's Taiwan sites continued to carry out reduction and recycling programs in 2013, and our waste recycling rate reached 92%, exceeding 90% for the sixth consecutive year, while our landfill rate was below 1% for the sixth consecutive year. Our overseas subsidiaries are also endeavoring to improve their waste recycling rates.

Innovative 3R Waste Projects

In 2013, TSMC initiated several environmental programs which focused on selected less-hazardous chemicals for reduction, recycling and reuse. For example:

- **Sulfuric Acid Reduction**
TSMC collaborated with process equipment vendors to reduce sulfuric acid usage and waste generation.
- **Chemical Waste Recycling Technology Development**
Worked with supplier to develop a method to re-use developer fluid in other industrial processes to conserve natural resources and reduce ammonia waste; recycled 6,095 tons of developer fluid in 2013.

TSMC's U.S. wafer fab, WaferTech, has successfully reduced hazardous waste by more than 77% since 2003 by actively seeking and implementing reuse opportunities for a number of fabs waste materials. In 2013 WaferTech was recognized by the State of Washington Department of Ecology for achieving significant hazardous waste reduction and pollution prevention.

Computer Reuse and Recycling Campaign

TSMC fully supported ASUSTek Computer Inc.'s "Computer Reuse and Recycling Campaign" project, which has also

received support from the Ministry of Economic Affairs. TSMC has donated more than 41,227 used personal computers, notebook computers, and LCD monitors since 2007, making up one-third of the total amount received in this project to become the largest donor.

Our purpose in participating in this campaign is to promote the concept of material recycling. Through this recycling campaign, refurbished computers are donated to students in rural elementary and junior high schools and to disadvantaged minorities to narrow the digital divide, caring for society and protecting the environment at the same time.

8.7 Environmental Management System

8.7.1 Environmental Management System Establishment

Establishing A Pro-Active Environmental Management Vision

TSMC aims to be a world-class company in environmental protection. Our environmental performance complies with legal requirements and also measures up to recognized international practices.

A Comprehensive Internal Environmental Management Organization

TSMC's environmental management organization consists of: the Corporate ESH Division, the Industrial Safety and Environmental Protection Technical Board, and designated Industrial Safety and Environmental Protection departments in each manufacturing facility. These organizations work together collaboratively with clearly defined responsibilities.

We use ISO 14001 and QC 080000 standards to manage environmental performance at all our manufacturing facilities. It is mandatory for all new manufacturing facilities to receive these certifications within 18 months after mass production.

TSMC Leadership in Data Center and Wafer Fab ISO 50001 Certification

TSMC adopted the ISO 50001 Energy Management System in 2011 to extend its energy conservation efforts. The Fab 12 Phase 4 data center completed ISO 50001 Energy Management System certification in 2011, becoming Taiwan's first company to earn this certification for a high-density computing data center. TSMC believes ISO 50001 supports energy saving and carbon reduction, and continues to apply the ISO 50001 Energy Management System to additional manufacturing facilities. In 2012, the Fab 12 Phase 4/5 and Fab 14 Phase 3/4 facilities and offices also adopted the ISO 50001 system and earned certifications. As of end-2013, TSMC's Fab 12 Phase 4/5, Fab 14 Phase 3/4 and Fab 15 facilities and office buildings have adopted ISO 50001 Energy Management System and earned external certification.

Continuous Improvement According to the Spirit of Our Management System

To sustainably mitigate enterprise risks and to fulfill our corporate social responsibilities, we focus on:

- Air and water pollution prevention and control
- Waste reduction and recycling
- Greenhouse gas reduction (energy conservation and perfluorinated compound emission reduction)
- Resource conservation (water savings and chemical substance use reduction)

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

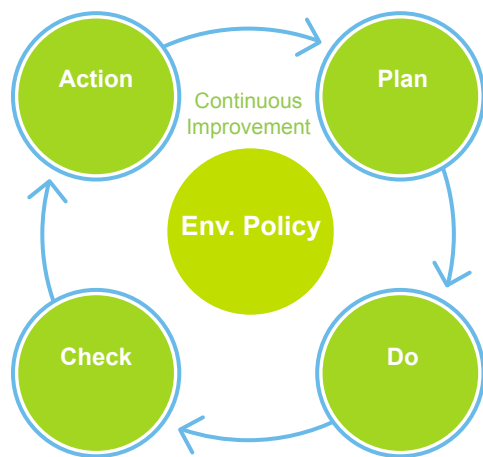
8.8 Green Promotion and Ecological Preservation

Appendix

- Energy-saving products and restriction of hazardous substances

In addition to annual internal audits on the operational status of environmental managements systems conducted by designated Industrial Safety and Environmental Protection departments in each manufacturing facility, we also invite external verification parties to conduct audits and provide recommendations for improvement. The Corporate Environmental, Safety and Health unit also selects topics for annual audits on legal compliance and environmental risk control to enhance the whole company's ESH management.

TSMC Environmental Management System



Collaborating with Suppliers to Expand Sustainability Performance

TSMC also collaborates with our suppliers proactively on managing global ESH risks and working towards supply chain sustainability. Our efforts include:

- Carbon footprinting
- Water footprinting
- Conflict minerals management
- Hazardous substance restriction management

Information on TSMC's supply chain sustainability management can found in [Chapter 6.2](#) of this report.

Setting Up a New Internal ESH Incentive Program

In order to encourage employees to continuously improve environmental, Safety and Health (ESH) performance, we added ESH as a new category of our annual Total Quality Excellence (TQE) program in 2012, which encourages units from across TSMC to learn from each other through competitions. Winning cases were published in the 2013 TQE Forum. There were a total of 27 ESH improvement cases selected by the TQE review committee in 2013, and 6 out of these 27 cases were selected for final competition in the Forum. The habits and methods of continuous ESH improvement are embedded in the daily tasks of employees in each facility through the ESH award competition and experience sharing.

Environmental Accounting

The purpose of TSMC's environmental accounting system is to identify and calculate environmental costs for internal management. At the same time, we can also evaluate the cost reduction or economic benefits of environmental protection programs to promote economically efficient programs. With environmental costs expected to continue growing, environmental accounting can help us manage more effectively. In practice, TSMC's environmental accounting measures define the various environmental costs and set up independent environmental account codes, then provide these to all units for use in annual budgeting. This online system can output data for environmental cost statistics.

Our economic benefit evaluation calculates cost savings for reduction of energy, water or wastes as well as benefits from waste recycling according to our environmental protection programs.

The environmental benefits disclosed in this report include real income from projects such as waste recycling and savings from major environmental protection projects. In 2013, we completed 92 environmental protection projects, and these benefits, in addition to benefits from waste recycling, totaled more than NT\$1,451 million.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

2013 Environmental Cost for TSMC Fabs in Taiwan

Unit: NT\$ Thousands

Classification	Description	Investment	Expense
Direct cost for reducing environmental impact	<ul style="list-style-type: none"> Pollution Control: Fees for air pollution control, water pollution control, and others 	4,303,659	3,139,691
	<ul style="list-style-type: none"> Resource Conservation: Costs for resource (e.g. water) conservation 	1,904,749	106,175
	<ul style="list-style-type: none"> Waste Disposal and Recycling: Costs for waste treatment (including recycling, incineration and landfill) 	0	426,887
Indirect cost for reducing environmental impact (managerial cost)	<ul style="list-style-type: none"> Cost of training Environmental management system and certification expenditures Environmental measurement and monitoring fees Environmental protection product costs Environmental protection organization fees 	306,030	190,105
Other environment-related costs	<ul style="list-style-type: none"> Costs for decontamination and remediation Environmental damage insurance and environmental taxes Costs related to environmental settlement, compensations, penalties and lawsuits 	0	0
Total		6,514,438	3,862,858

2013 Environmental Efficiency of TSMC Fabs in Taiwan

Category	Description	Efficiency (NT\$ thousands)
Cost saving of environmental protection projects	<ul style="list-style-type: none"> Energy saving: completed 35 projects 	665,300
	<ul style="list-style-type: none"> Water saving: completed 11 projects 	95,900
	<ul style="list-style-type: none"> Waste reduction: completed 5 projects 	10,100
	<ul style="list-style-type: none"> Material reduction: completed 41 projects 	499,000
Real income of industrial waste recycling)	<ul style="list-style-type: none"> Recycling of used chemicals, wafers, targets, batteries, lamps, packaging materials, paper cardboard, metals, plastics, and other wastes 	181,000
Total		1,451,300

Environmental Management in TSMC Subsidiaries

TSMC requires our manufacturing subsidiaries, including TSMC China, WaferTech, TSMC Solid State Lighting and TSMC Solar to have the same environmental management measures as TSMC. Subsidiaries are required to be consistent with our environmental policy and work standards.

Our manufacturing subsidiaries have actively set up environmental management systems, and they conform with our practice of requiring facilities to obtain ISO 14001 certification within 18 months of mass production.

TSMC assists its non-semiconductor subsidiaries TSMC SSL and TSMC Solar to assess risk for their specific wastewater, air emissions, wastes, and chemicals to ensure legal compliance. TSMC and its subsidiaries register various environmental performance indices in TSMC's e-platform regularly for monitoring and management to pursue continuous improvement.

8.7.2 Environmental Compliance Record

TSMC had no significant chemical leaks, environmental penalties, or fines in 2013.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

8.8 Green Promotion and Ecological Preservation

TSMC continues to raise employees' environmental awareness through education programs, including new employee training, family day, and the annual "Loving the Earth Begins with Me" program. In addition to professional environmental education courses, TSMC makes use of designated environmental bulletin boards in each fab as well as promotional materials in elevators, restrooms, and employee publications to embed environmental concepts in employees' everyday work and life. The main scheme of 2013 is "happy life and exploring green fashion" through daily habits, local diet, and low-carbon travel, so that our colleagues understand how to live a contemporary low-carbon lifestyle. These convey environmental ideas that are reflected in our employees' actions, and lead many departments to seek opportunities to conserve energy, save water, and reduce waste. In order to give employees easy access to up-to-date environmental knowledge, we maintain an internal environmental protection website which files related information and maintains links to global environmental protection-related websites.



TSMC green fashion promotion poste.

External promotion activities not only include green supply chain management, but also active collaboration with academia, industries and local governments in our operation sites around the world. We aim to use our influence as a corporation to protect the environment and to meet our corporate social responsibilities.

● 2013 DIY Indoor Gardening Event

To celebrate World Environment Day, we provided potted plants to participating colleagues, selecting the best and most effective air purification plants for indoor air quality with three attributes: carbon reduction, decontamination, and green landscaping. Through personal instruction and DIY activities, we provided colleagues with tips for green beautification at the office or at home.



TSMC celebrated World Environment Day by holding Indoor gardening DIY activities.

● Active Participation in External Environmental Protection Activities

In response to the "conservation through local and seasonal eating" World Environment Day activities of the Environmental Protection Administration (EPA), TSMC worked with the EPA to organize a carnival at the Flower Sea forest square at Yuanshan Park in Taipei. A variety of activities, including challenges to recognize local foods, promoted a low-carbon diet to the public and highlighted the influence of climate change on food shortages and environmental resources.

In addition, TSMC also provided battery-free water-powered clocks to participating members of the public to get them started on creating their own low-carbon sustainable homes.



TSMC members interacted with the public at the "conservation through local and seasonal eating" activity on World Environmental Day.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

- **Certification of the Touqian River Ecological Park.**

TSMC continued to cooperate with Hsinchu county government to apply for EPA certification in environmental educational for volunteers serving the Chutung town Touqian River ecological park. In addition to completing seven environmental teaching programs in 2012, TSMC continued to provide support in 2013 by assisting with the review of the teaching plan for the environmental education park, and developed program content for seed teachers, cultivating 21 teachers in total. The project passed EPA verification on July 21st, and has begun to offer a convenient and diverse venue for environmental education for Hsinchu county communities, school, and governmental

organizations. In 2014 we will collaborate with Hsinchu county government to carry out the “See Taiwan, Fall in Love with Touqian River” activity, inviting local students to participate in environmental quiz challenges in the ecological park to sow seeds of environmental education.

- **Green Public Service Tourism Activities**

TSMC not only plans eco-tourism activities for its company outings, it also integrates carbon reduction and ecological culture into the journey, advocating green living and consumption. The Company also combines outings with public service, supporting tribal industries and helping disadvantaged minorities to support institutions working hard but quietly in each corner of Taiwan, rewarding

them for their contributions. In addition, the outings leave colleagues with precious memories, and show that tourism can help society and show the importance of environmental conservation.

Environmental Protection Promotion Activities in TSMC Subsidiaries

TSMC subsidiaries TSMC China Ltd. and WaferTech also continue to raise employees' environmental awareness, and maintain good relationships with local communities through environmental protection promotion activities, as described in the following.

On Sep 22, 2013, 11 volunteers from TSMC China Ltd. went to Songjiang Old City Area to promote “Car-Free Day”. Nearly 500 citizens took part in activities over two hours, enhancing TSMC's social reputation through the activity.

TSMC's U.S. subsidiary WaferTech actively recycles, conserves energy and reduces waste. WaferTech successfully transferred 80 tons of hazardous waste from incineration to recycling. In addition, more than 150 tons of solid wastes were transferred from landfill to recycling, and 630 tons of liquid waste chemicals were also recycled. In 2013, WaferTech held its twelfth annual Earthweek event, which seeks to raise employee's environmental awareness through recycling activities, displays and promoting alternative transportation. During this event, the local High School eco-club visited WaferTech to learn about recycling, energy reduction and water conservation.



Opening ceremony of the “Touqian River environmental educational park”, a project between TSMC and Hsinchu county government



TSMC combines environmental protection with charity at this activity – Green Public Service Tourism – 921 Evergreen Village self-catering health meals.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

8.1 Environmental Protection Major Activities in 2013

8.2 From Green Buildings to Green Sustainability

8.3 Climate Change

8.4 Water Resource Management

8.5 Green Products

8.6 Pollution Prevention

8.7 Environmental Management System

8.8 Green Promotion and Ecological Preservation

Appendix

Although TSMC's green industry subsidiaries TSMC SSL and TSMC Solar are in the start-up stage, they have already established an ESH management system and have stepped on track in a very short time. TSMC SSL adopted green construction materials, and also was recognized by the Hsinchu City Government for excellent green procurement.

Ecological Preservation

All TSMC wafer fabs in Taiwan and China are located in industrial parks, which conducted environmental impact assessment (EIA) on local communities before development, and continue to meet EIA commitments for environmental protection after development. Therefore, all TSMC wafer fabs in Taiwan and China are operating under

the industrial parks' or their own EIA commitments, and do not have a significant environmental impact on their local ecological environments.

TSMC continues to promote the construction of green buildings, and incorporates the concept of ecological preservation in site planning. Since 2006, TSMC's new facilities constructed in Taiwan not only comply with green building standards for energy saving, water conservation, and waste reduction, but also preserve native Taiwan plants and provide ecological ponds as habitats for birds and insects. We have observed birds nesting in the trees around our fabs, as well as butterflies and dragonflies in the air. The results of our efforts have gradually become evident.

Although TSMC's U.S. subsidiary fab, WaferTech, is not located in an industrial park, it maintains a designated department to take responsibility for monitoring and maintaining on-site ecological preservation. WaferTech has successfully completed a 10-year wetlands mitigation project in 2007, where 29 acres of wetlands are in a permanent preservation area, including 8 acres of enhanced wetlands. This project preserves valuable habitat for local wildlife and is home to beavers, deer, rabbits, coyotes and a variety of birds.



TSMC China Volunteer Service Team



Enthusiastic participation from TSMC China employees in the "Car-Free Day" community event

Appendix

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier
Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

GRI G3.1 Index

ISO 26000 Index

United Nation Global Compact
Comparison Table

Contact Information



Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

[Performance Summary](#)

Assurance Statement

GRI G3.1 Index

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

TSMC CSR Performance Summary

Key Indicators	2009	2010	2011	2012	2013
Economic					
Revenue (Billion NT\$)	296	420	427	507	597
Net Income (Billion NT\$)	89	162	134	166	188
Income Tax Expense (Billion NT\$)	6	8	11	16	27
R&D Expenditures (Billion NT\$)	22	30	34	40	48
Capital Expenditures (Billion NT\$)	88	187	214	246	288
Environmental					
Greenhouse Gas Emission (Tons CO ₂ equivalent/8" Equivalent-Layer)	0.013	0.01	0.01	0.009	0.009
Greenhouse Gas Emission (Tons CO ₂ equivalent)	3,140,436	3,748,333	3,996,631	4,606,119	5,061,980
Scope 1	1,330,773	1,491,030	1,375,110	1,563,306	1,714,051
Taiwan Fabs	1,086,341	1,175,625	1,051,254	1,291,662	1,441,095
Overseas Fabs	244,432	315,405	323,856	271,644	272,956
Scope 2	1,772,147	2,217,794	2,580,521	3,042,814	3,347,929
Taiwan Fabs	1,632,421	2,048,718	2,345,625	2,738,598	3,051,981
Overseas Fabs	177,242	208,586	275,898	304,216	295,948
Energy Consumption (TJ – including electricity, nature gas and diesel)	12,437	16,188	18,407	21,052	25,799
Direct Energy Consumption (TJ – including nature gas and diesel)	880	1,028	1,177	1,208	1,365
Indirect Energy Consumption (TJ – electricity)	11,556	15,160	17,230	19,844	24,435
Water Consumption (Million m ³)	18.46	24.81	27.52	29.21	33.23
Taiwan Fabs	16.40	22.30	24.30	25.77	29.76
Overseas Fabs	2.06	2.51	3.22	3.44	3.47

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Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

[Performance Summary](#)

Assurance Statement

GRI G3.1 Index

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Key Indicators	2009	2010	2011	2012	2013
Process Water Recycling Rate (Taiwan Fabs) (%)	83.40	82.87	84.60	86.50	86.9
Process Water Saving (Taiwan Fabs) (Million m ³)	27.05	34.66	37.73	53.37	52.77
Waste Generated (Metric Tons)	50,199	89,536	97,981	129,921	149,951
General Waste Generated (Metric Tons)	19,080	27,453	29,270	37,459	47,336
Taiwan Fabs	17,278	24,690	25,523	33,158	42,180
Overseas Fabs	1,802	2,763	3,747	4,301	5,156
Hazardous Waste Generated (Metric Tons)	31,119	62,083	68,711	92,462	102,615
Taiwan Fabs	30,491	61,242	67,589	90,596	101,100
Overseas Fabs	628	841	1,122	1,866	1,515
Waste Recycling Rate (%)	89.55	90.88	90.47	92.74	92.22
Taiwan Fabs	91.17	91.88	91.37	93.42	92.89
Overseas Fabs	57.59	67.03	73.24	79	78.74
Social					
Numbers of Employee	24,466	33,232	33,669	37,149	40,483
Employee Training Hours	561,403	968,457	795,448	779,442	889,184
Safety – Injury Frequency Rate (Injury Number/Million Labor-hours) (Taiwan Fabs)	0.27	0.27	0.22	0.24	0.25
Safety – Injury Severity Rate (Lost Work Days/Million Labor-hours) (Taiwan Fabs)	4.11	2.56	1.97	5.19	1.34
Charity Donation (Million NT\$)	270	190	152	76.4	95.2

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

GRI G3.1 Index

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

ASSURANCE STATEMENT



Introduction

DNV Business Assurance Co. Ltd. Taiwan ('DNV') has been commissioned by the management of Taiwan Semiconductor Manufacturing Company Ltd. ('TSMC' or 'the Company') to carry out an assurance engagement on the Company's 2013 Corporate Responsibility Report ('the Report') against the AA1000 Assurance Standard (2008) ('AA1000AS 2008') and the Global Reporting Initiative 2011 Sustainability Reporting Guidelines Version 3.1 ('GRI G3.1').

The management of TSMC is responsible for the collection, analysis, aggregation and presentation of information within the Report. Our responsibility in performing this work is to the management of TSMC only and in accordance with terms of reference agreed with the Company. The management of TSMC are the intended users of this statement. The assurance engagement is based on the assumption that the data and information provided to us is complete and true.

Scope of Assurance

The scope of work agreed upon with TSMC included the following:

- The social, environmental and economic indicators presented in the Report, for the period of 12 months ending on 31 December 2013 and covering data on the company's head-office as well as the manufacturing sites in Taiwan, China and the United States.
 - Evaluation of the reporting principles for defining the sustainability report content and the quality as expressed in the Sustainability Reporting Guidelines GRI G3.1.
 - Evaluation of Accountability Principles and Performance Information (Type 2) with a **High level of assurance**, according to AA 1000 Accountability Principles Standard 2008 and AA1000 AS 2008.
- Evaluation of specific sustainability performance information:**
- reported progress against the company's 2013 environmental commitments;
 - the core indicators set forth in the GRI G3.1.

Our verification has not covered data and information related to the financial and Green House Gases data. The data and information of financial data and Green House Gases emission/reduction data has been acquired from the certified balance sheet and GHG Inventory report.

Verification Methodology

The verification was conducted by DNV on March 2014, by suitably qualified and experienced professionals, and in accordance with the DNV Protocol for Verification of Sustainability Reporting. The verification was conducted based only on the Chinese version Report.

The Report has been evaluated against the following criteria:

- Adherence to the principles of Inclusivity, Materiality and Responsiveness, as well as reliability of the specified sustainability performance information mentioned above, as set out in the AA1000AS 2008,
- Adherence to additional principles of Completeness and Neutrality, as set out in DNV's Protocol,
- Adherence to principles and requirements of the GRI G3.1 for an application level A+.

As part of the verification, DNV has challenged the statements and claims made in the Report and assessed the robustness of the underlying data management system, information flow and controls. For example, we have:

- Examined and reviewed documents, data and other information made available to DNV by TSMC;
- Visited the head-office and 4 production sites located in Taiwan;
- Conducted interviews with 50 company representatives, including senior managers, line manager and employees of various functions of the company, as well as NGOs involved in TSMC philanthropic activities;
- Consulted with external stakeholders, Taiwan Semiconductor Industry Association (TSIA);
- Performed sample-based reviews of the mechanisms for implementing the Company's own corporate responsibility-related policies, as described in the Report;
- Performed sample-based checks of the processes for generating, gathering and managing the quantitative and qualitative data included in the Report.

Conclusions

In our opinion, the TSMC 2013 Corporate Responsibility Report meets the content requirements of the GRI Application Level A+, and provides an accurate and fair representation of the level of implementation of related Corporate Social Responsibility (CSR) policies. We have evaluated the Report's adherence to the following principles on a scale of 'Good', 'Acceptable' and 'Needs Improvement':

Page 1 of 2

This Assurance Statement is based on the information made available to us and the engagement conditions detailed above. Hence, DNV can not guarantee the accuracy or correctness of the information. DNV can not be held liable by any party relying or acting upon this Assurance Statement.
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AA1000 AS 2008 principles:

Inclusivity: Acceptable. The Company has identified the expectations of stakeholders through internal mechanisms in dialogue with different groups of stakeholders. The key CSR issues identified through this process are reflected in the Report.

Materiality: Acceptable. The process developed internally has not missed out any significant, known material issues, and these issues are fairly covered in the Report. The Company has continued to adopt the materiality review process over the past year to identify more specific CSR issues. And a risk matrix has been developed to evaluate the priority of these issues.

Responsiveness: Good. The Company has adequately responded to stakeholder concerns through its policies, CSR Committee, and management systems, and this is reflected in the Report.

Additional principles:

Completeness: Good. The Report covers performance against the GRI G3.1 core indicators that are material within the Company's reporting boundary. The information in the Report includes the company's most significant initiatives or events that occurred in the reporting period.

Neutrality: Good. DNV considers that the information contained in the Report is balanced. The emphasis on various topics in the Report is proportionate to their relative materiality.

Finally, in accordance with Type 2, high level assurance requirements, we conclude that the specified CSR data and information presented in the Report is reliable. The Company has developed its own data management system for capturing and reporting its CSR performance. No systematic errors were detected.

Limitations

This statement is based upon the application of sample principles and professional judgment to certain facts, with resulting subjective interpretations. Professional judgments expressed herein are based upon the facts currently available within the limits of the existing data, scope of work, the budget and time schedule. Therefore we cannot provide guarantees that further relevant aspects may not arise in the future which were not known to us during the investigation.

Opportunities for improvement

The following is an excerpt from the observations and opportunities reported back to the management of TSMC. However, these do not affect our conclusions on the Report, and they are indeed generally consistent with the management objectives already in place.

- The improvement can be made to enhance the data collection and analysis from different stakeholder communication channels to identify the key issues.
- We see tsmc is ready to apply GRI G4 guideline in next CR report.
- It is suggested to proactively encourage employee to explore tsmc CR report and to provide feedbacks. We found from employee interview that most of them did not read tsmc CR report; and most of them recognize CSR activities as the philanthropic activities only.

DNV's Competence and Independence

DNV is a global provider of sustainability services, with environmental and social assurance specialists working in over 100 countries. DNV was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement. DNV expressly disclaims any liability or co-responsibility for any decision a person or entity would make based on this Assurance Statement.

For DNV Business Assurance Co. Ltd. Taiwan,

Signed:	Signed:
Name of Lead Verifier: Chun-Nan Lin	Name of Reviewer: David Hsieh District Manager

DNV Business Assurance Co. Ltd.,
Taiwan, R.O.C., 3 April 2014
Statement Number: 00001-2014-ACSR-TWN



Page 2 of 2

This Assurance Statement is based on the information made available to us and the engagement conditions detailed above. Hence, DNV can not guarantee the accuracy or correctness of the information. DNV can not be held liable by any party relying or acting upon this Assurance Statement.
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Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

GRI G3.1 Index
















ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

GRI G3.1 Index

 Fully disclosed
  Partially disclosed

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
Strategy and Analysis					
1.1	Statement from the most senior decision-maker of the organization.		1. Letter from the Chairman	<u>10</u>	
1.2	Description of key impacts, risks, and opportunities.		1. Letter from the Chairman 4.9 Risk Management	<u>10</u> <u>38</u>	
Organizational Profile					
2.1	Name of the organization.		2. Company Profile	<u>13</u>	
2.2	Primary brands, products, and/or services.		2. Company Profile	<u>13</u>	
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.		2. Company Profile	<u>13</u>	
2.4	Location of organization's headquarters.		Contact Information	<u>141</u>	
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.		2. Company Profile	<u>13</u>	
2.6	Nature of ownership and legal form.		2. Company Profile	<u>13</u>	
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).		2.1 Market/Business Summary	<u>14</u>	
2.8	Scale of the reporting organization.		2.6 Financial Highlights 5.1.1 Stable and Healthy Workforce	<u>24</u> <u>40</u>	
2.9	Significant changes during the reporting period regarding size, structure, or ownership.		2. Company Profile 2.1 Market/Business Summary	<u>13</u> <u>14</u>	No significant changes
2.10	Awards received in the reporting period.		Awards and Recognitions	<u>6</u>	
Report Parameters					
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.		Overview	<u>1</u>	
3.2	Date of most recent previous report (if any).		Overview	<u>1</u>	
3.3	Reporting cycle (annual, biennial, etc.)		Overview	<u>1</u>	

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
3.4	Contact point for questions regarding the report or its contents.	●	Contact Information	<u>141</u>	
3.5	Process for defining report content including: Determining materiality; Prioritizing topics within the report; and Identifying stakeholders the organization expects to use the report.	●	3 Stakeholder Engagement	<u>26</u>	
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers). See GRI Boundary Protocol for further guidance.	●	Overview	<u>1</u>	
3.7	State any specific limitations on the scope or boundary of the report (see completeness principle for explanation of scope).	●	Overview	<u>1</u>	
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations.	●	Overview 2 Company Profile	<u>1</u> <u>13</u>	
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report. Explain any decisions not to apply, or to substantially diverge from, the GRI Indicator Protocols.	●	Overview	<u>1</u>	
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g., mergers/ acquisitions, change of base years/periods, nature of business, measurement methods).	●	Overview	<u>1</u>	
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	●	Overview	<u>1</u>	
3.12	Table identifying the location of the Standard Disclosures in the report.	●	GRI Index	<u>124</u>	
3.13	Policy and current practice with regard to seeking external assurance for the report.	●	Overview Independent Assurance Report	<u>1</u> <u>123</u>	

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
Governance, Commitments, and Engagement					
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.	●	4 Corporate Governance 4.1 Governance Structure 4.2 Board of Directors 4.3 Audit Committee 4.4 Compensation Committee 4.5 Corporate Responsibility Committee	<u>32</u> <u>32</u> <u>33</u> <u>34</u> <u>34</u> <u>34</u>	
4.2	Indicate whether the Chair of the highest governance body is also an executive officer.	●	4.2.1 Board Structure	<u>33</u>	
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members.	●	4.2.1 Board Structure	<u>33</u>	
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	●	5.3.2 Open Communication Channels, Unobstructed Employee Participation, Harmonious Labor Relations	<u>50</u>	Our AGM is presided by the Chairman of the Board. Shareholders can provide recommendations or direction to the Board at AGM.
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance).	●	4.2 Board of Directors 4.4 Compensation Committee 4.5 Corporate Responsibility Committee	<u>33</u> <u>34</u> <u>34</u>	Currently, TSMC Directors' compensation consists exclusively of fixed compensation in principle. TSMC's Articles of Incorporation restricts the amount of compensation payable to its directors that the Company may make from its distributable earnings (defined as net income after required regulatory provisions). Over the years, TSMC directors' compensation declined from 1% of TSMC's distributable earnings to 0.3%, before being capped to no more than 0.3% of its distributable compensation. Corporate governance is essential in the Company's operation by the Board of Directors and the Management Team. Social is also regarded as an integral part of corporate governance by TSMC.
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.	●	4.2.5 Avoiding Conflicts of Interests 4.7 Code of Ethics and Business Conduct	<u>34</u> <u>35</u>	

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact
Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
4.7	Process for determining the composition, qualifications, and expertise of the members of the highest governance body and its committees, including any consideration of gender and other indicators of diversity.	●	4.2 Board of Directors 4.3 Audit Committee 4.4 Compensation Committee 4.5 Corporate Responsibility Committee	<u>33</u> <u>34</u> <u>34</u> <u>34</u>	TSMC considers the member of the highest governance body and its committees focusing on his or her qualifications and expertise, regardless of race or gender.
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.	●	4.7 Code of Ethics and Business Conduct	<u>35</u>	
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	●	1 Letter from the Chairman 4.2.2 Board Responsibilities 4.3 Audit Committee 4.5 Corporate Responsibility Committee	<u>10</u> <u>33</u> <u>34</u> <u>34</u>	
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	●	4.3 Audit Committee	<u>34</u>	
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.	●	4.2.2 Board Responsibilities 4.3 Audit Committee 4.5 Corporate Responsibility Committee 4.7.2 Code Administration and Disciplinary Action 4.9 Risk Management	<u>33</u> <u>34</u> <u>34</u> <u>35</u> <u>38</u>	
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	●	1 Letter from the Chairman 8.3.2 Climate Change Mitigation	<u>10</u> <u>96</u>	
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization: * Has positions in governance bodies; * Participates in projects or committees; * Provides substantive funding beyond routine membership dues; or * Views membership as strategic.	●	2.4 Membership in Industry Associations	<u>22</u>	
4.14	List of stakeholder groups engaged by the organization.	●	3 Stakeholder Engagement	<u>26</u>	
4.15	Basis for identification and selection of stakeholders with whom to engage.	●	3 Stakeholder Engagement	<u>26</u>	
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	●	3 Stakeholder Engagement	<u>26</u>	

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.	●	3 Stakeholder Engagement	<u>26</u>	
Management Approach and Performance Indicators					
Economic					
DMA	Disclosures on Management Approach	●	2 Company Profile	<u>13</u>	
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	●	2.6 Financial Highlights	<u>24</u>	
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.	●	8.3 Climate Change	<u>94</u>	
EC3	Coverage of the organization's defined benefit plan obligations.	●	5.2.4 Benefits –Safeguarding Employees' Rights	<u>47</u>	
EC4	Significant financial assistance received from government.	●	2.6 Financial Highlights	<u>24</u>	
EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.	●	5.1.3 Compensation and Rewarding People for Long-Term Growth	<u>43</u>	Taiwan's law regulates that the lowest rate of monthly salary is NT\$19,047. The compensation provided by TSMC is much higher than the figure for both male and female employees.
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.	●	6.2 Supplier Management	<u>63</u>	
EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation	●	5.1.1 Stable and Healthy Workforce 5.1.2 Recruiting the Right People	<u>40</u> <u>41</u>	
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	●			No related investments and services
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.	●	6.1 Customer Service and Satisfaction 6.2 Supplier Management	<u>62</u> <u>63</u>	

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
Environmental					
DMA	Disclosures on Management Approach	●	8 Environmental Protection	<u>88</u>	
EN1	Materials used by weight or volume.	●	8.6.1 Source Reduction – Raw Materials Usage Reduction 8.3.2 Climate Change Mitigation 8.4 Water Resource Management	<u>109</u> <u>96</u> <u>100</u>	
EN2	Percentage of materials used that are recycled input materials.	●	8.6 Pollution Prevention 8.6.1 Source Reduction – Raw Materials Usage Reduction	<u>108</u> <u>109</u>	
EN3	Direct energy consumption by primary energy source.	●	8.3.2 Climate Change Mitigation	<u>96</u>	
EN4	Indirect energy consumption by primary source.	●	8.3.2 Climate Change Mitigation	<u>96</u>	
EN5	Energy saved due to conservation and efficiency improvements.	●	8.3.2 Climate Change Mitigation 8.2 From Green Buildings to Green Sustainability	<u>96</u> <u>91</u>	
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	●	8.3.2 Climate Change Mitigation 8.2 From Green Buildings to Green Sustainability	<u>96</u> <u>91</u>	
EN7	Initiatives to reduce indirect energy consumption and reductions achieved.	●	8.3.2 Climate Change Mitigation 8.2 From Green Buildings to Green Sustainability	<u>96</u> <u>91</u>	
EN8	Total water withdrawal by source.	●	8.4 Water Resource Management	<u>100</u>	Our water source is 100% from city water.
EN9	Water sources significantly affected by withdrawal of water.	●	8.4 Water Resource Management	<u>100</u>	
EN10	Percentage and total volume of water recycled and reused.	●	8.5 Green Product (Water Footprint)	<u>107</u>	
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	●	8.8 Green Promotion and Ecological Preservation	<u>117</u>	WaferTech site has 8 acres wetland preservative area.

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	●	8.2 From Green Buildings to Green Sustainability 8.8 Green Promotion and Ecological Preservation	<u>91</u> <u>117</u>	
EN13	Habitats protected or restored.	●	8.8 Green Promotion and Ecological Preservation	<u>117</u>	
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.	●	8.2 From Green Buildings to Green Sustainability 8.8 Green Promotion and Ecological Preservation	<u>91</u> <u>117</u>	
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	●			TSMC's operational areas have no IUCN Red List species and national conservation list species.
EN16	Total direct and indirect greenhouse gas emissions by weight.	●	8.3.2 Climate Change Mitigation (Greenhouse Gas Inventory)	<u>96</u>	
EN17	Other relevant indirect greenhouse gas emissions by weight.	●	8.5 Green Product (Carbon Footprint)	<u>107</u>	
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.	●	8.3.2 Climate Change Mitigation (GHG Emission Reduction)	<u>97</u>	
EN19	Emissions of ozone-depleting substances by weight.	●			TSMC does not use Montreal Protocol class 1 or 2 ozone-depleting substances.
EN20	NO _x , SO _x and other significant air emissions by type and weight.	●	8.6.3 Air Pollution Control	<u>112</u>	
EN21	Total water discharge by quality and destination.	●	8.5 Green Product (Water Footprint) 8.6.2 Water Pollution Control	<u>107</u> <u>110</u>	
EN22	Total weight of waste by type and disposal method.	●	8.6.4 Waste Reduction and Resource Recycling	<u>113</u>	
EN23	Total number and volume of significant spills.	●	8.7.2 Environmental Compliance Record	<u>116</u>	
EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	●	8.6.4 Waste Reduction and Resource Recycling	<u>113</u>	TSMC is compliant with environmental laws for hazardous waste disposal.

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	●	8.6.4 Waste Reduction and Resource Recycling 8.2 From Green Buildings to Green Sustainability	<u>113</u> <u>91</u>	TSMC's treated wastewater is discharged to the Science Park wastewater treatment plant, there is no significant environmental impact.
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	●	8.5 Green Product	<u>104</u>	
EN27	Percentage of products sold and their packaging materials that are reclaimed by category.	●	8.5 Green Product	<u>104</u>	
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	●	8.7.2 Environmental Compliance Record	<u>116</u>	
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	●	8.3.2 Climate Change Mitigation (Greenhouse Gas Inventory) 8.5 Green Product	<u>96</u> <u>104</u>	There is no significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.
EN30	Total environmental protection expenditures and investments by type.	●	8.7 Environmental Management System	<u>114</u>	
Social: Labor Practices and Decent Work					
DMA	Disclosures on Management Approach	●	5 A Great Place to Work	<u>39</u>	
LA1	Total workforce by employment type, employment contract, and region broken down by gender.	●	5.1.1 Stable and Healthy Workforce	<u>40</u>	
LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region.	●	5.1.1 Stable and Healthy Workforce 5.1.2 Recruiting the Right People	<u>40</u> <u>41</u>	
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation.	●	5.1.3 Compensation and Rewarding People for Long-Term Growth 5.2.4 Benefits –Safeguarding Employees' Rights	<u>43</u> <u>47</u>	TSMC is dedicated to fulfill its commitment to employees by providing them with good compensation and benefits. For a small amount of temporary employees that are hired due to specific needs, the Company is committed to providing them the compensation and benefits that comply to Taiwan's law.
LA4	Percentage of employees covered by collective bargaining agreements.	●	5.3.2 Open Communication Channels, Unobstructed Employee Participation, Harmonious Labor Relations	<u>50</u>	TSMC has no union, no employees covered by collective bargaining agreements.

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.	●			TSMC complies with notification process regulations. If an employee has been employed continuously between three months and one year, 10 days advance notice will be given. For those employed continuously between one year and three years, 20 days advance notice will be given. For those employed continuously for at least three years, 30 days advance notice will be given.
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.	●	5.5 Safety and Health (Safety and Health Committee)	55	
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region and by gender.	●	5.5 Safety and Health (Occupational Injury and Illness Statistics)	56	
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	●	5.5 Safety and Health (Corporate New Contagious Disease Prevention Program)	58	
LA9	Health and safety topics covered in formal agreements with trade unions.	●			TSMC has no union, no related agreements.
LA10	Average hours of training per year per employee by gender and by employee category.	●	5.1.4 The Engine of Employee Growth	44	
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	●	5.1.4 The Engine of Employee Growth	44	
LA12	Percentage of employees receiving regular performance and career development reviews by gender.	●	5.1.4 The Engine of Employee Growth	44	
LA13	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity.	●	5.1.1 Stable and Healthy Workforce	40	
LA14	Ratio of basic salary of women to men by employee category, by significant locations of operation.	●	5.1.3 Compensation and Rewarding People for Long-Term Growth	43	
LA15	Return to work and retention rates after parental leave, by gender.	●	5.2.4 Benefits – Safeguarding Employees' Rights	47	

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
Social: Human Rights					
DMA	Disclosures on Management Approach	●	5 A Great Place to Work	<u>39</u>	
HR1	Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns or that have undergone human rights screening.	●			We don't have related clause in investment agreements and contracts.
HR2	Percentage of significant suppliers, contractors and other business partners that have undergone screening on human rights and actions taken.	●	6.2 Supplier Management	<u>63</u>	We don't apply the requirements to our contractors in our contract.
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	●	5.3.2 Open Communication Channels, Unobstructed Employee Participation, Harmonious Labor Relations	<u>50</u>	
HR4	Total number of incidents of discrimination and corrective actions taken.	●	5.3.2 Open Communication Channels, Unobstructed Employee Participation, Harmonious Labor Relations	<u>50</u>	There were no discrimination case in 2013.
HR5	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights.	●	6.2 Supplier Management	<u>63</u>	No significant risk according to our supplier sustainability questionnaire survey.
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor.	●	6.2 Supplier Management	<u>63</u>	No significant risk according to our supplier sustainability questionnaire survey.
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.	●	6.2 Supplier Management	<u>63</u>	No significant risk according to our supplier sustainability questionnaire survey.
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.	●			All security personnel of tsmc are required to complete training regarding legal awareness, working guideline and reception courtesy.
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.	●			There were no violations involving rights of indigenous people in 2013.

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.	●			We don't have related assessment. However, our new sites are in Science Park and compliant with Science Park's Environmental Impact Assessment commitments and legal requirements.
HR11	Number of grievances related to human rights filed, addressed, and resolved through formal grievance mechanisms.	●	5.3.2 Open Communication Channels, Unobstructed Employee Participation, Harmonious Labor Relations	<u>50</u>	There were no grievances related to human rights filed in 2013.
Social: Society					
DMA	Disclosures on Management Approach	●	4 Corporate Governance 4.2.2 Board Responsibilities 4.5 Corporate Responsibility Committee	<u>32</u> <u>33</u> <u>34</u>	
SO1	"Percentage of operations with implemented local community engagement, impact assessments, and development programs."	●			Our fabs are all in Industry Park and compliant with its Environmental Impact Assessment commitments.
SO2	Percentage and total number of business units analyzed for risks related to corruption.	●	4.7 Code of Ethics and Business Conduct	<u>35</u>	It is stated in 6.2.3 of TSMC Ethics and Business Conduct Policy that employees with a job grade 36 and above must declare the status of conflicts of interest on a yearly basis. For Employees below job grade 36 in the purchasing or sales/marketing functions or any other sensitive functions as determined by the functional Vice Presidents, the respective Vice President will decide on which positions will be required to declare on a yearly basis. Business units of risks related to corruption are defined, and 100% of them have completed 2013 annual declaration of conflicts of interest.
SO3	Percentage of employees trained in organization's anti-corruption policies and procedures.	●	4.7 Code of Ethics and Business Conduct 4.8 Regulatory Compliance	<u>35</u> <u>36</u>	New Employee Orientation delivers TSMC core values and shapes simulated scenarios of the Company's work environment; furthermore, the Company continues to strengthen employees mindset that, with suppliers, one should maintain an objective, consistent, and impartial attitude.
SO4	Actions taken in response to incidents of corruption.	●	4.7.2 Code Administration and Disciplinary Action	<u>35</u>	

(continues on next page)

● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
SO5	Public policy positions and participation in public policy development and lobbying.	●	4.8.1 Major Accomplishments 8.3.1 TSMC's Climate Change Response Strategy 8.4 Water Resource Management	<u>37</u> <u>94</u> <u>100</u>	
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	●	4.6 Political Contributions	<u>34</u>	
SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.	●	4.7 Code of Ethics and Business Conduct 4.8 Regulatory Compliance	<u>35</u>	
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	●	4.8 Regulatory Compliance	<u>36</u>	No significant fine
SO9	Operations with significant potential or actual negative impacts on local communities.	●			No significant impact.
SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.	●			No significant impact.
Social: Product Responsibility					
DMA	Disclosures on Management Approach	●	8.5 Green Product	<u>104</u>	
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	●			Not applicable due to we are not end-product manufacturer.
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	●			Not applicable due to we are not end-product manufacturer.
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	●			Not applicable due to we are not end-product manufacturer.
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	●			There were no non-compliance cases with regulations and voluntary codes concerning product and service information and labeling in 2013.

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● Fully disclosed ● Partially disclosed

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

[GRI G3.1 Index](#)

ISO 26000 Index

United Nation Global Compact
Comparison Table

Contact Information

Profile Disclosure	Description	Extent of reporting	Related TSMC CSR Report Section	Page(s)	Explanatory Notes
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	●	6.1 Customer Service and Satisfaction	<u>62</u>	
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	●			Not applicable due to we are not end-product manufacturer.
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.	●			Not applicable due to we are not end-product manufacturer.
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	●			No case in 2013.
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	●			There were no fines for non-compliance with laws and regulations concerning the provision and use of products and services.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

GRI G3.1 Index

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

ISO 26000 Index

Core Subjects and Issues		Related CSR Report Section	Page(s)	Explanatory Notes
Organizational Governance	Decision-making processes and structures	3 Stakeholder Engagement	<u>26</u>	
		4 Corporate Governance	<u>32</u>	
Human Rights	Due diligence			We don't have related assessment. However, our new sites are in Science Park and compliant with Science Park's Environmental Impact Assessment commitments and legal requirements.
	Human rights risk situations			TSMC complies with law and respects each employee's human rights.
	Avoidance of complicity	4.7 Code of Ethics and Business Conduct	<u>35</u>	
	Resolving grievances	5.3.2 Open Communication Channels, Unobstructed Employee Participation, Harmonious Labor Relations	<u>50</u>	
	Discrimination and vulnerable groups			TSMC carries out its human resources policy and practice without the consideration of race, gender, age, religion, nationality, or political affiliation.
	Civil and political rights	4.6 Political Contributions		
		5.3.2 Open Communication Channels, Unobstructed Employee Participation, Harmonious Labor Relations	<u>34</u> <u>50</u>	
	Economic, social and cultural rights	5.2 Encouraging a Balanced Life	<u>46</u>	
	Fundamental principles and rights at work	5.2.4 Benefits – Safeguarding Employees' Rights	<u>47</u>	
Labor Practices	Employment and employment relationships	5.1.2 Recruiting the Right People	<u>41</u>	
	Conditions of work and social protection	5.2 Encouraging a Balanced Life	<u>46</u>	
		5.3 Employee Engagement	<u>49</u>	
	Social dialogue	3. Stakeholder Engagement	<u>26</u>	
	Health and safety at work	5.4 Employees' Physical and Mental Well-being	<u>51</u>	
		5.5 Safety and Health	<u>54</u>	
	Human development and training in the workplace	5.1.4 The Engine of Employee Growth	<u>44</u>	

(continues on next page)

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

GRI G3.1 Index

[ISO 26000 Index](#)United Nation Global Compact
Comparison Table

Contact Information

Core Subjects and Issues		Related CSR Report Section	Page(s)	Explanatory Notes
The Environment	Prevention of pollution	8.6 Pollution Prevention	108	
	Sustainable resource use	8.4 Water Resource Management	100	
	Climate change mitigation and adaptation	8.3 Climate Change	94	
	Protection of the environment, biodiversity and restoration of natural habitats	8.2 From Green Buildings to Green Sustainability 8.8 Green Promotion and Ecological Preservation	91 117	
Fair Operating Practices	Anti-corruption	4.7 Code of Ethics and Business Conduct	35	
	Responsible political involvement	4.6 Political Contributions	34	
	Fair competition	4.7 Code of Ethics and Business Conduct	35	
	Promoting social responsibility in the value chain	6. Customer Service and Supplier Management	61	
	Respect for property rights			
Consumer Issues	Fair marketing, factual and unbiased information and fair contractual practices	4.7 Code of Ethics and Business Conduct	35	
	Protecting consumers' Health and safety			TSMC is a wafer foundry. We don't provide final products to consumers.
	Sustainable consumption	6.2.1 Ensuring Supply Chain Sustainability	63	
	Consumer service, support, and complaint and dispute resolution	6.1 Customer Service and Satisfaction	62	
	Consumer data protection and privacy	2.3 Trade Secret Protection	21	
	Access to essential services	6.1 Customer Service and Satisfaction	62	
	Education and awareness	6.1 Customer Service and Satisfaction	62	

(continues on next page)

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

GRI G3.1 Index

ISO 26000 Index

United Nation Global Compact Comparison Table

Contact Information

Core Subjects and Issues		Related CSR Report Section	Page(s)	Explanatory Notes
Community Involvement and Development	Community involvement	7 Social Participation	<u>71</u>	
	Education and culture	7.1 TSMC Education and Culture Foundation	<u>73</u>	
	Employment creation and skills development	5.1.2 Recruit the Right People	<u>41</u>	
	Technology development and access	2.2 Innovation Management	<u>15</u>	
	Wealth and income creation	2.5 Investor Engagement	<u>22</u>	
	Health	5.5 Safety and Health	<u>54</u>	
	Social investment			We don't have related investment.

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

GRI G3.1 Index

ISO 26000 Index

[United Nation Global Compact Comparison Table](#)

Contact Information

United Nation Global Compact Comparison Table

Category	10 Principles	Related CSR Report Section	Page(s)	Explanatory Notes
Human Rights	Businesses should support and respect the protection of internationally proclaimed human rights;			TSMC complies with law and respects each employee's human rights.
	Make sure that they are not complicit in human rights abuses.	4.7 Code of Ethics and Business Conduct 6.2.1 Ensuring Supply Chain Sustainability	<u>35</u> <u>63</u>	
Labor	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	5.3.2 Open Communication Channels, Unobstructed Employee Participation, Harmonious Labor Relations	<u>50</u>	
	The elimination of all forms of forced and compulsory labor;	5.3.2 Open Communication Channels, Unobstructed Employee Participation, Harmonious Labor Relations	<u>50</u>	
	The effective abolition of child labor; and	5.1.2 Recruiting the Right People	<u>41</u>	
	The elimination of discrimination in respect of employment and occupation.	5.1.2 Recruiting the Right People	<u>41</u>	
Environment	Businesses should support a precautionary approach to environmental challenges;	8 Environmental Protection 8.7 Environmental Management System	<u>88</u> <u>114</u>	
	Undertake initiatives to promote greater environmental responsibility; and	8.7 Environmental Management System	<u>114</u>	
	Encourage the development and diffusion of environmentally friendly technologies.	8.5 Green Product	<u>104</u>	
Anti-Corruption	Businesses should work against corruption in all its forms, including extortion and bribery.	4.7 Code of Ethics and Business Conduct	<u>35</u>	

Table of Contents

Overview

Letter from the Chairman

Company Profile

Stakeholder Engagement

Corporate Governance

A Great Place to Work

Customer Service and Supplier Management

Social Participation

Environmental Protection

Appendix

Performance Summary

Assurance Statement

GRI G3.1 Index

ISO 26000 Index

United Nation Global Compact Comparison Table

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