



2004  
TSMC China Company Limited begins production

2004  
Fab 14 Phase 1 begins production

2018  
TSMC Nanjing Company Limited begins production

2011  
Fab 15 Phase 1 begins production

2020  
Fab 18 Phase 1 and Phase 2 begin production

# 7. Environmental, Social and Governance (ESG)

## 7.1 Overview

As a global leader in the semiconductor industry, TSMC is dedicated to environmental, social and governance (ESG) issues. The Company collaborates with all stakeholders – employees, shareholders, customers, suppliers, government and society – to drive positive change for society by pursuing three primary missions: acting with integrity, strengthening environmental protection, and caring for the disadvantaged.

### Guidance for the Implementation of ESG

In keeping with its vision of Uplifting Society, TSMC’s ESG policy is the overarching guiding principle for sustainable development. The ESG Matrix, set by TSMC’s founder Dr. Morris Chang, clearly defines the scope of the Company’s ESG responsibility. The horizontal axis shows the seven areas where TSMC strives to demonstrate its ESG commitment: morality, business ethics, economy, rule of law, sustainability, work/life balance and happiness, and philanthropy. On the vertical axis are actions that TSMC has taken to fulfill these commitments.

### TSMC ESG Matrix

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

### ESG Management

The ESG Steering Committee is committed to aligning TSMC closely with best practices in international sustainability. TSMC’s Chairman leads the Steering committee, while the Chairperson of the ESG committee serves as Executive Secretary, and senior executives from a wide variety of functions – all working together to set the short-, medium- and long-term ESG strategic directions that link to the UN’s sustainable development goals (SDGs).

ESG Department coordinates quarterly meeting, on behalf of the ESG Committee that facilitates cross-divisional communication and issue-based discussions among cross-organizational teams, where committee members jointly set the Company’s ESG strategies and targets, identify key issues for the year, draft ESG-related budgets, coordinate resource deployment and carry out annual projects. The committee pursues sustainability in the interest of all stakeholders and ensures the strategies are implemented effectively in daily operations.

The Board of Directors supervises the Company’s sustainability management, strategies, and goals as well as performance measurement. The ESG Committee Chairperson reports quarterly to the Board of Directors on the implementation of plans and

results. In 2021, TSMC focused primarily on climate change strategy (including net zero emission, carbon footprint, and supply chain carbon emission management), human rights protection under the pandemic, maintaining a diverse and inclusive workplace, making sustainability disclosures and performing sustainable culture advocacy (i.e., TSMC ESG awards). At the same time, to attract and retain corporate executives and to link their compensation with shareholders’ interests and ESG achievements, the Board of Directors approved 2021 Employee Restricted Stock Awards Rules and the issuance of 2021 employee restricted stock awards (RSAs). The issuance of the RSAs was approved at the 2021 Annual Shareholders’ Meeting. The number of shares to be vested by corporate executives will be subject to a modifier to increase or decrease up to 10% based on the Compensation Committee’s evaluation of the Company’s ESG achievements.

### Stakeholder Engagement

TSMC respects all stakeholders’ rights and interests in sustainability issues. The Company thus deploys multiple communication venues for stakeholders to express ESG opinions and concerns including the “Contact Us” section of the corporate website, the ESG website and the ESG mailbox, the Irregular Business Conduct Reporting System, as well as the Supply Chain Worker Grievance Channel. Through identification, prioritization and validation, TSMC manages and addresses stakeholders’ concerns.

### Stakeholders and Communication Channels in 2021

Stakeholders	Communication Channels
Employees	<ul style="list-style-type: none"> <li>• Communications and working meetings throughout all levels and all units of the Company</li> <li>• Corporate intranet, internal emails, and other announcement channels (such as promotion posters at facilities)</li> <li>• Human resources team</li> <li>• Employee training and classroom courses</li> <li>• Regular and ad-hoc communication meetings, such as Manager Development Consulting Committee, Operations Engineer Training Committee, Manufacturing Department Technical Committee, Proprietary Information Protection (PIP) Committee, etc.</li> <li>• Employee suggestion channels, such as immediate response system, employee opinion box, Wellness Center, wellness website, employee PIP &amp; IT Security mailbox and hot line, etc.</li> <li>• Ombudsman system</li> <li>• Whistleblower procedures</li> <li>• Employee Welfare Committee event questionnaire survey</li> <li>• The biennial “Employee Opinion Survey on Company Core Values” and “Employee Engagement Survey”</li> <li>• TSMC Human Rights Policy courses</li> <li>• Annual “Ethics and Compliance” training course online regulatory compliance program that includes Insider Trading, Export Control &amp; Antitrust (unfair competition)</li> </ul>
Shareholders/Investors	<ul style="list-style-type: none"> <li>• Annual general meeting of shareholders</li> <li>• Quarterly earnings conference call</li> <li>• Investor conferences</li> <li>• Face-to-face meetings, video conference call and telephone conference call</li> <li>• Emails</li> <li>• Annual reports, Sustainability reports, 20-F filings to US SEC</li> <li>• Material announcements to Taiwan Stock Exchange, and corporate press releases on the Company’s website</li> </ul>
Customers	<ul style="list-style-type: none"> <li>• Customer satisfaction survey</li> <li>• Customer meetings</li> <li>• Customer audits</li> <li>• Business and technology assessment</li> <li>• Email responses to the issues that customers are concerned</li> </ul>
Suppliers/Contractors	<ul style="list-style-type: none"> <li>• Supplier meetings</li> <li>• Supply Chain Security Association Meetings</li> <li>• Environmental, Safety, and Health Training Program - Experience Sharing Workshops</li> <li>• Supplier Ethics and Code of Conduct Promotion</li> <li>• On-site consult and audit</li> <li>• Supply Online 360 - Global responsible supply chain management platform</li> <li>• Supplier self-assessment questionnaire (SAQ)</li> <li>• Supplier ethics survey</li> <li>• Supply Chain Worker Grievance Channel</li> </ul>
Government	<ul style="list-style-type: none"> <li>• Official correspondence and visits</li> <li>• Industry experience and advice sharing, and keynote speeches</li> <li>• Meetings (such as communication meetings, public hearings, forums, seminars or social gatherings)</li> <li>• Communication platforms of the industry associations and NGOs</li> </ul>
Society	<ul style="list-style-type: none"> <li>• Arts events in the communities</li> <li>• Sponsorship of youth development events</li> <li>• Sponsorship of charity projects and emergency aid</li> <li>• Sponsorship of non-profit organizations to support educational projects</li> <li>• Professorship endowments and student scholarships at universities</li> <li>• Project collaboration and visits</li> <li>• Support of non-profit organizations and institutions via monetary and in-kind donation, as well as providing necessary manpower for a good cause</li> <li>• Volunteer activities and services</li> <li>• TSMC ESG website, newsletters, mailbox and Facebook page</li> <li>• TSMC Education and Culture Foundation and TSMC Charity Foundation websites</li> <li>• “Sending Love” charity platform</li> </ul>

## Responsibilities of ESG Steering Committee and ESG Committee Members

Committee Members	Responsibilities	Stakeholders
Legal	Corporate governance, code of conduct, legal compliance (including fair competition, privacy and personal information, and protection for whistle-blowers), intellectual property, protection of confidential information	Employees Government/Industry Associations Society (Note)
Customer Service	Customers' service and satisfaction, customer trust, customer confidentiality, Responsible Business Alliance and its code of conduct	Customers Government/Industry Associations
Information Technology and Materials & Risk Management	Information security, materials and supply chain risk management, supplier management, conflict minerals, Responsible Business Alliance and its code of conduct; risk management, crisis management, emergency response and action plan	Employees Shareholders/Investors Customers Suppliers/Contractors Government/Industry Associations Society
Quality and Reliability	Product quality and reliability, product recall mechanism	Customers Suppliers/Contractors
Research and Development	Innovation management, green products	Employees Customers Government/Industry Associations Suppliers/Contractors
Business Development	Shaping an energy-efficient technology roadmap; building alliance with customers to foster smarter and greener product innovations; establishing & promoting TSMC as a responsible technology thought leader, and sharing its experiences and achievements	Employees Customers Society
Finance	Financial disclosure, dividend policy, tax strategy	Employees Shareholders/Investors Customers Suppliers/Contractors Government/Industry Associations
Investor Relations	Resolving issues of stakeholder concern, establishing trusting long-term relationships, effective two-way communication, annual report production	Shareholders/Investors
Operations	Operational eco-efficiency, pollution prevention, water resource risk management, green manufacturing	Customers Shareholders/Investors Suppliers/Contractors
Environment, Safety and Health	TSMC Environmental Policy and management system, climate change mitigation and adaption, pollution prevention, energy consumption efficiency, carbon emissions and carbon rights management, product environmental responsibility, response mechanism for environmental issues, environmental spending, green supply chain, policy and management systems for occupational health and safety, workplace health and safety, occupational disease prevention and health promotion, communication of ESH regulations	Employees Shareholders/Investors Customers Suppliers/Contractors Government/Industry Associations Society
Human Resources	Diversity and inclusion, talent attraction and retention, talent development, human rights	Employees Government/Industry Associations Society
TSMC Education and Culture Foundation	Cultivate young generation, educational collaboration, promote arts and culture	Society
TSMC Charity Foundation	Philanthropy, community relations	Society
Public Relations	Stakeholder engagement, mechanism for reflecting issues of social concern, media relations	Society

Note: Society includes community, non-governmental organizations, non-profit organizations and the public.

TSMC has issued an annual non-financial report for the 23<sup>rd</sup> consecutive year. The TSMC Sustainability Report (formerly the Corporate Social Responsibility Report) discloses ESG material issues identified following the Global Reporting Initiative (GRI) standards and aligned with stakeholders' feedback. Integrating Enterprise Risk Management (ERM) with ESG management, TSMC demonstrates how the Company implements risk mitigation measures, addresses international & industry trends, and operates sustainably at TSMC Taiwan Facilities (headquarters, wafer fabs, back-end packaging fabs, and testing fabs located in Taiwan), TSMC China, TSMC Nanjing, WaferTech in the United States, VisEra and other subsidiaries. In addition to GRI, the report also adopts the Task Force on Climate-related Financial Disclosures (TCFD Recommendations) framework, Sustainability Accounting Standards Board (SASB) reporting standards, AA 1000 Accountability Principle and is assured by DNV GL Business Assurance Co. Ltd. in accordance with DNV VeriSustain™ protocol and GRI standards.

The Company will continue to operate responsibly and with integrity regardless of future challenges. TSMC has adopted nine UN Sustainable Development Goals (SDGs), set 2030 long-term goals, and implemented approaches accordingly. Anchored in the concept of Global Partnerships, SDG 17, TSMC collaborates with stakeholders as well as business partners of the value chain to create sustainable value for its stakeholders and is the only semiconductor company chosen for the Dow Jones Sustainability World Indices for the past 21 consecutive years.

## 2021 ESG Awards and Ratings

Category	Organization	Awards and Ratings
Overall ESG	Dow Jones Sustainability Indices (DJSI)	<ul style="list-style-type: none"> <li>•Dow Jones Sustainability World Index for the 21<sup>st</sup> consecutive year</li> <li>•Dow Jones Sustainability Emerging Markets Index</li> </ul>
	MSCI ESG Indexes	<ul style="list-style-type: none"> <li>•MSCI ACWI ESG Leaders Index component</li> <li>•MSCI ESG Research – AAA Ratings</li> <li>•MSCI ACWI SRI Index component</li> <li>•MSCI ACWI Islamic Index component</li> <li>•MSCI Emerging Markets ESG Leaders Index</li> </ul>
	Sustainalytics	•Company ESG Risk Ratings: Low ESG Risk – Semiconductor Industry
	ISS ESG	•“Prime” Rated by ISS ESG Corporate Rating
	Terra Carta Seal	•The Sustainable Markets Initiative
	FTSE4Good Index	<ul style="list-style-type: none"> <li>•FTSE4Good Emerging Index component</li> <li>•FTSE4Good All-World Index component</li> <li>•FTSE4Good TIP Taiwan ESG Index component</li> </ul>
	Corporate Knights	•Global 100 Most Sustainable Corporations
	World Benchmarking Alliance (WBA)	•SDG 2000 – The 2,000 Most Influential Companies
	RobecoSAM (S&P Global)	•The Sustainability Yearbook Award 2021 – Silver Class
	CommonWealth Magazine	•Excellence in Corporate Social Responsibility Award – Large cap –1 <sup>st</sup> Place
	Taiwan Institute of Sustainable Energy	<ul style="list-style-type: none"> <li>•The Most Prestigious Sustainability Awards – Top Ten Domestic Corporates for the 6<sup>th</sup> consecutive year</li> <li>•Sustainability Action Awards – Gold Award</li> <li>•Best Sustainability Report Award</li> <li>•English Report – Gold Award</li> <li>•Cyclical Economy Leadership Award</li> <li>•Information Security Leadership Award</li> <li>•Supply Chain Leadership Awards</li> </ul>

(Continued)

Category	Organization	Awards and Ratings
Economy, Governance	TIME Magazine	•TIME100 Most Influential Companies
	Institutional Investor Magazine	•Most Honored Company (Technology/Semiconductors) – All-Asia •Best Overall ESG (Technology/Semiconductors) – 1 <sup>st</sup> Place (buy-side and sell-side) – All-Asia •Best CEO (Technology/Semiconductors) – 1 <sup>st</sup> Place (buy-side and sell-side) – All-Asia •Best CFO (Technology/Semiconductors) – 1 <sup>st</sup> Place (buy-side and sell-side) – All-Asia •Best Investor Relations Program (Technology/Semiconductors) – 1 <sup>st</sup> Place (buy-side and sell-side)- All-Asia •Best Investor Relations Professional (Technology/Semiconductors) - 1 <sup>st</sup> Place (buy-side and sell-side) – All-Asia •Best Investor Relations Team (Technology/Semiconductors) – 1 <sup>st</sup> Place (buy-side and sell-side) – All-Asia
	IFI Claims	•2021 Top 50 US Patent Assignees
	Forbes	•The World's Top 10 Largest Technology Companies in 2021 •Global 2000
	PricewaterhouseCoopers (PwC)	•FutureBrand Index component
	FORTUNE	•2021 World's Most Admired Companies •Fortune Global 500
	Brand Finance	•Tech 100 2021
	FinanceAsia	•Best Managed Listed Company
	Asiamoney	•2021 Asia's Outstanding Companies – Semiconductors & Semiconductor Equipment Sector for the 4 <sup>th</sup> consecutive year
	Business Today	•Top 1,000 Enterprises in Taiwan, Hong Kong and Mainland China
	Taiwan Stock Exchange	•Top 5% in Corporate Governance Evaluation of Listed Companies for the 7 <sup>th</sup> consecutive year
	PricewaterhouseCoopers	•Global Top 100 Companies by market capitalization for the 9 <sup>th</sup> consecutive year
	R.O.C. Ministry of Economic Affairs Intellectual Property Office	•Ranked No.1 in Taiwan patent applications for the 6 <sup>th</sup> consecutive year •Ranked No.1 in Taiwan patent grants for the 2 <sup>nd</sup> consecutive year
	R.O.C. Ministry of Economic Affairs Industrial Bureau	•Taiwan Intellectual Property Management System (TIPS) AAA certification (The first and only company to receive the highest certification)
	Germany Federal Office for Information Security	•Common Criteria, ISO/IEC 15408 – EAL6 Site Certification – Fab 12B, Fab 14A, Fab14B, Fab 15B
	British Standards Institution	•ISO/IEC 27001 Information Security Management Certification
Corporate Synergy Development Center	•Taiwan Continuous Improvement Award – Gold Tower Award – Fab 3, Fab 8, Fab 14A, Corporate Information Technology •Taiwan Continuous Improvement Award – Silver Tower Award – Fab 8, Fab 15A, Fab 15B •Taiwan Continuous Improvement Award – Best Improvement Innovation Award – Fab 14A	
Environment, Safety and Health	Corporate Knights & As You Sow	•2021 Carbon Clean 200™ List
	Carbon Disclosure Project (CDP)	•2021 CDP Supplier Engagement Leaderboard •Water Security A Ratings •Climate Change B Ratings
	Alliance for Water Stewardship (AWS)	•"Platinum" class certification – Fab 5, Fab 12A, Fab 12B, Advanced Backend Fab 3
	U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) certification	•"Gold" class certification – Fab 18 P2, P3 Manufacturing Facility, Fab 18 P1 Office
	UL 2799	•Zero Waste to Landfill "Platinum" class certification – Fab 12
	R.O.C. Industrial Development Bureau, Ministry of Economic Affairs	•Excellence in Voluntary Carbon Offsets Award – Fab 14A, Fab 15A
	Environmental Protection Administration, Executive Yuan, R.O.C.	•National Enterprise Environmental Protection Award
Society	Cheers	•Ranked No.1 in Most Admired Companies to Young Generations for the 5 <sup>th</sup> consecutive year
	Forbes	•2021 World's Best Employers
	R.O.C. Ministry of Culture	•The 15 <sup>th</sup> Arts and Business Awards – Special Award – The Long-term Patron Award
	R.O.C. Ministry of Education	•Social Education Contributions Awards – Group Award

## 7.2 Environmental, Safety and Health (ESH) Management

TSMC believes its environmental, safety and health practices must not only meet legal requirements but should also align with internationally recognized best practices. The Company's ESH policies aim to achieve "zero incident" and "environmental sustainability" and to make TSMC a world-class organization in environmental, safety and health management. The Company's strategies for attaining these goals are to comply with regulations, promote safety and health, strengthen recycling and pollution prevention, manage ESH risks, instill an ESH culture, establish a green supply chain, and fulfill its related corporate social responsibilities.

All TSMC and its subsidiaries' manufacturing facilities have received ISO 14001: 2015 certification for environmental management systems and ISO 45001: 2018 certification for occupational safety and health management systems. All fabs in Taiwan have been certified by TOSHMS (Taiwan Occupational Safety and Health Management System). All the above certifications are maintained valid. New facilities are required to receive aforementioned certifications within 18 months after receiving facility license per TSMC's internal policy.

TSMC strives for continuous improvement and actively seeks to enhance climate-change management, pollution prevention and control, power and resource conservation, waste reduction and recycling, safety and health management, and fire and explosion prevention as well as to minimize the impact of earthquake damage, so as to reduce overall environmental, safety and health risks.

In order to meet regulatory and customer requirements for the management of hazardous materials, TSMC has adopted the IECQ QC 080000 Hazardous Substance Process Management (HSPM) System. All TSMC Fabs have been QC 080000 certified and maintained valid since 2007. Through the establishment of QC 080000, TSMC ensures that its products comply with international regulatory and customer requirements, including the European Union's "Restriction of Hazardous Substances (RoHS) Directive," the EU's "Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)," the "Montreal Protocol on Substances that Deplete the Ozone Layer," the "halogen-free in electronic products" initiative, perfluorooctane sulfonates (PFOS), perfluorooctanoic acid (PFOA) and related substances restriction standards. In

addition, TSMC started a project for reducing usage of hazardous substance N-methylpyrrolidinone (NMP) in 2016. NMP usage in process has been reduced 75% by 2021 comparing to 2016, and the project will continue promoting for further reduction.

Since 2011, TSMC has adopted the ISO 50001 Energy Management System for continuous improvement in energy conservation. As of 2021, all TSMC and its subsidiaries' manufacturing facilities had received ISO 50001 Energy Management System certification and maintained valid except for the WaferTech subsidiary in the U.S. WaferTech was originally scheduled to receive the certification in 2021 but certification was postponed to 2022 due to the impact of the COVID-19 pandemic.

Aiming to establish the healthiest possible workplace, in 2017 TSMC formed a corporate-level health promotion committee led by managers at the vice president level, which will hold irregular meetings per occupational disease cases or certain needs. The committee members include site directors, managers of safety and health department, and representatives from wellness, HR and legal affairs divisions. External experts have also been invited to discuss the potential risks of occupational diseases in the semiconductor manufacturing process and prevention plans for such diseases. To mitigate health risks to employees, suppliers and contractors in the workplace, TSMC has adopted rigorous safety and health control measures focused on preventing occupational injuries and diseases and promoting employee safety, physical and mental health.

To minimize the supply chain risk and fulfill corporate social responsibility, TSMC not only follows ESH best practices internally but also strives to improve the ESH performance of its suppliers and contractors through audits and counselling.

TSMC uses priority work management and self-management to govern services provided by contractors. The Company requires contractors performing level-one high-risk operations to complete certification for technicians and to establish their own ISO 45001 safety and health management system. The emphasis on self-management nurtures the sense of responsibility, with the goal of promoting safety awareness and technical improvement for all contractors in the industry. For onsite contractor personnel, TSMC has standardized courses on safety and health and increased the frequency of such

courses to improve training effectiveness and safety awareness. To ensure the Company's safety protocols are accurately delivered to contractors on a timely basis, TSMC has established a digital platform for mutual communication so that onsite operational risks can be mitigated.

TSMC collaborates with suppliers to manage the sustainability of the supply chain, including formulating supplier sustainability standards, drawing up audit plans, performing audits and tracking improvements, coaching and training, and re-coaching for suppliers with poor performance. Coaching and training are key focuses in 2021, including the establishment of a fire protection designated personnel system (113 suppliers have established) and fire protection practice training (48 participants from 48 suppliers), inviting suppliers to participate as observers for TSMC's annual emergency response drills for six consecutive years (131 participants from 131 suppliers for the cumulative number), environmental, safety and health sustainability forum and good cases sharing (298 participants from 201 suppliers), etc., to improve the performances of environmental protection, safety, health and fire protection. TSMC conducts environmental, safety and health audits to suppliers' manufacturing sites, and actively assists suppliers to improve their environmental, safety and health performances. In addition, the Company requests that suppliers conduct carbon emissions inventory and encourages them to implement measures to save energy, reduce carbon emissions, conserve water and reduce waste.

### 7.2.1 Environmental Protection

#### Climate Change and Energy Management

##### • Task Force on Climate-related Financial Disclosures (TCFD)

Given that climate change could potentially affect operations and pose financial risk, in 2018 TSMC adopted recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) released by the Financial Stability Board (FSB) to identify risks and opportunities and further establish metrics and target management based on the results identified.

#### Management Structure of TSMC Climate-related Risks and Opportunities

Category	Management Strategy and Actions
Governance	Board of Directors periodically reviews climate change related risks and opportunities <ul style="list-style-type: none"> <li>ESG Steering Committee led by the Chairman is the Company's top organization dealing with climate change management. The Chairperson of ESG Committee serves as the Executive Secretary. The ESG Steering Committee reviews TSMC's climate change strategies and goals every quarter and reports to the Board of Directors.</li> <li>The Energy and Carbon Reduction Committee led by the Vice President of Fab Operations is the organization that deals with action implementation of climate change risks and opportunities TSMC. This committee develops management plans, reviews the execution status and discusses future plans on a quarterly basis.</li> </ul>
Strategy	Identify short-, medium- and long-term climate risks and opportunities through cross-departmental discussion
	Assess the potential operational and financial impact of significant climate risks and opportunities to the Company
	Conduct situational analysis, evaluate SBT (Science Based Targets) and net-zero emissions
Risk Management	Use the TCFD framework to establish TSMC's climate risk identification process
	Follow the risk identification and ranking on climate change to develop relevant responding projects
	Integrate climate risk identification and assessment into the Enterprise Risk Management (ERM) process
Metrics and Targets	Set management metrics related to climate change
	Examine the impact on Company operations and assess the risks and mitigation strategies for scope 1, 2 and 3 through annual inventory of ISO 14064-1 and disclosure of greenhouse gas emissions
	Develop climate change management objectives and review achievement progress and actual performance

#### Financial Impact Analysis of Climate Risks and Opportunities

Climate Risks	Potential Financial Impact	Climate Opportunities	Potential Financial Impact	2021 Actions
GHG Emissions Cap and Carbon Tax/Carbon Fee	Restriction on capacity expansion, increase in operation costs	<ul style="list-style-type: none"> <li>Participation in renewable energy plans</li> <li>Participation in carbon trading market</li> </ul>	Early purchases of renewable energy, successfully increasing production capacity	<ul style="list-style-type: none"> <li>TSMC's power purchasing agreements for renewable energy totaled 1.6 GW (Gigawatts)</li> <li>Purchased 1,660 GWh in renewable energy, renewable energy certificates (REC), and carbon credit to offset 100% of the electricity carbon emissions of overseas subsidiaries and offices</li> </ul>
Trend of Net Zero Emission	<ul style="list-style-type: none"> <li>Increased cost of installation and operation of carbon reduction equipment</li> <li>Increased cost of purchasing carbon offset products</li> </ul>	Win public recognition and carbon emissions offset cooperation	Accumulate carbon credits in preparation for future carbon emissions offset	<ul style="list-style-type: none"> <li>Passed the application for fluorinated-GHG and nitrous oxide reduction offset project reward</li> <li>TSMC global offices used carbon credits to achieve net zero emissions</li> </ul>
		Develop low-carbon product services to improve product energy efficiency	Satisfy customers' needs for energy-saving products and increase revenue	Developed energy saving products for the 5nm and more advanced manufacturing process
Commitment of EIA (Environmental Impact Assessment)	The development of advanced technologies potentially hampered by inability to obtain renewable energy and reclaim water	Use reclaimed water	Smooth construction of advanced production lines	Continued the construction of TSMC reclaimed water plant in Southern Taiwan Science Park
Uncertainty of Development of New Energy Saving Technology	Rising electricity consumption in advanced technology production lines increases production costs	Construct green buildings	Lower utility costs	Received three green building certifications
Impact on the Company's Reputation	Inability to satisfy the expectations of stakeholders, negatively impacting the Company's reputation	Improve the Company's reputation	Upgrade TSMC performance in stakeholders' sustainability ranking	<ul style="list-style-type: none"> <li>Leads the industry as the only semiconductor company chosen for the Dow Jones Sustainability Indices (DJSI) for the 21<sup>st</sup> consecutive years</li> <li>TSMC ranked as one of CDP (carbon disclosure program) Water Security Leaders A class</li> </ul>
Flood	Production negatively affected, causing financial losses and a decrease in revenue	Increase resilience and ability to cope with natural disasters	Strengthen climate resilience, lower risk of operations disruption, and reduce potential losses	<ul style="list-style-type: none"> <li>Raised the building base of Fab 18 Phase 4 and Phase 5 two meters higher</li> <li>Fab 18 Phase 4 and Phase 5 are committed to using and developing reclaimed water</li> <li>Established a comprehensive water monitoring system</li> </ul>
Drought				
Increasing Insurance Premiums for Natural Disasters	Increase in operating costs			
Rising Temperatures	Increase in electricity consumption, cost, and carbon emissions	Strive for low-carbon, green manufacturing	Save energy and cut costs	Conserved 700 GWh of electricity through energy-saving projects

#### Greenhouse Gas (GHG) Emission Reduction and Energy Management

Facing the threats presented by extreme weather, TSMC sets strategies and targets, ensure sound execution and build a sustainable culture. In 2021, TSMC declared the long-term goal of Net Zero Emissions by 2050, while setting the short-term goal of zero growth in emissions by 2025. By actively implementing emission reduction measures, the Company is working to return its carbon emissions to the 2020 level by 2030. TSMC commits to becoming a global leader in green manufacturing.

TSMC actively participates in the initiatives of the World Semiconductor Council (WSC), and has incorporated its past experience to develop PFC (perfluorinated compounds) emissions reduction best practices, and fully adopted and implemented since 2012. In 2013, in accordance with the "EPA Early Actions for Carbon Credit of Greenhouse Gases Reduction" regulation, TSMC applied for the recognition of greenhouse gas reduction from 2005 to 2011, and received 5.28 million tons of carbon dioxide credits in 2015. Those carbon credits can be used to offset greenhouse gas emissions of new manufacturing facilities regulated by Environmental Impact Assessment (EIA) Act, which can support the Company's sustainable operations and mitigate climate-change risk.

Since 2005, TSMC has completed the GHG (Greenhouse Gas) inventory program and taken a complete inventory of its GHG emissions to gain ISO 14064 certification. The inventory shows that the major direct GHG emissions are PFCs, which are widely used in the semiconductor manufacturing process. The primary indirect GHG emission is electricity consumption. The analysis of the inventory data is not only to meet domestic regulatory reporting requirements but also to serve as a baseline reference for the Company's strategy to reduce GHG emissions. Since 2005, TSMC has also participated the international organization Carbon Disclosure Program (CDP) to publicly disclose climate change related information for 17 consecutive years and to continuously review and improve management practices through it.

In response to the commitment of global climate summit "Paris Agreement" and the Republic of China's "Greenhouse Gas Reduction and Management Act" promulgated in 2015, TSMC initiated a cross-functional platform for corporate carbon management in 2016. The three areas of focus of this platform are legal compliance, carbon emission reduction, and carbon credit acquisition. In addition to participating in official regulatory consultation and communications meetings, TSMC also sets short-, medium- and long-term reduction targets through the energy and carbon reduction committee led by the Fab Operations vice president. The measures are carried out by energy and carbon reduction teams of individual fabs. Because more than 75% of TSMC's GHG emissions come from electricity consumption, the Company always emphasizes energy conservation and carbon reduction initiatives. TSMC has not only implemented energy-conserving designs in its manufacturing fabs and offices but has also continuously improved the energy efficiency of its facilities during operation. These efforts simultaneously reduce both carbon dioxide gas emissions and costs. As a result, TSMC has conserved 2.4 billion kilowatt hours (kWh) of power since 2016.

From 2015 to 2017, TSMC voluntarily participated in the R.O.C. Ministry of Economic Affairs' green power purchasing program for three consecutive years and became the largest buyer in Taiwan, purchasing 400 million kilowatt hours (kWh) of green power. Although the Taiwan Power Company stopped selling green power in 2018, TSMC still aggressively negotiates the purchase of renewable energy with renewable energy suppliers in Taiwan. Targeting a long-term commitment

of 100% renewable energy for the Company, TSMC has committed to achieving a target of 40% renewable energy by 2030. Since 2018, the overseas manufacturing fabs and offices have purchased renewable energy, REC and carbon credits to offset all carbon emissions caused by power consumption. All TSMC overseas sites achieved zero carbon emission of electricity consumption in 2021 again. TSMC also used carbon credits to offset carbon emissions of natural gas consumption in kitchens, achieving the milestone of net zero emissions for TSMC global offices. Although development of renewable energy in Taiwan is in an early stage, TSMC has established a renewable energy task force and continues to communicate closely with government through the Association of Science Park Industries and Taiwan Semiconductor Industry Association. The Company has made recommendations to the government in the hope that the collaboration would speed up renewable energy development in Taiwan. The recommendations include expanding the development of offshore wind power and increasing the supply of the renewable energy trading platform. TSMC continues to find renewable energy. By the end of 2021, the total installation capacity of renewable energy contracted reached 1.6 GW (Gigawatts). The renewable energy will be provided to TSMC gradually after the related business process has been completed. This is a clear manifestation of the Company's active support of the UN Sustainable Development Goals (SDGs).

In 2020 TSMC became the first semiconductor company to join RE100 (the global corporate renewable energy initiative) and pledged that power consumption of all the Company's manufacturing plants and offices will be 100% supplied from renewable energy by 2050.

#### TSMC GHG Emissions in Recent Two Years

Unit: Metric ton CO<sub>2</sub> equivalent

Year	Scope 1	Scope 2
2021	2,591,231	8,045,102
2020	2,450,354	7,459,856

Note 1: GHG includes CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HCFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>

Note 2: Scope 1: Direct emissions, e.g., direct emission sources owned or controlled by the Company

Scope 2: Indirect emissions from energy, e.g., indirect GHG emissions caused by externally purchased electricity, heat or steam

Note 3: The data in the table are preliminary results calculated by TSMC and have not yet been verified by a third party.

#### TSMC GHG Reduction Target and Achievement Status

Strategy	2030 Goal	2021 Target and Achievement	Achievement Status
Continue to use best available technology to reduce emissions of GHG and become an industry leader in low-carbon manufacturing	Reduce GHG emissions per unit product (metric ton of carbon dioxide equivalent (MTCO <sub>2</sub> e)/12-inch equivalent wafer mask layer) by 40% (Base year: 2010)	Reduced GHG emissions per unit product (metric ton of carbon dioxide equivalent (MTCO <sub>2</sub> e)/12-inch equivalent wafer mask layer) by 23% (Target: 20%)	Achieved

#### Air and Water Pollution Control

The Company has installed effective air and water pollution control equipment in each wafer fab to meet regulatory emissions standards. In addition, TSMC maintains backup pollution control systems, including emergency power supplies, to lower the risk of pollutant emissions in the event of equipment failure. The Company centrally monitors the operations of its air and water pollution control equipment monitored by 24 hours a day rotating staff and treats system effectiveness as an important tracking item to ensure the quality of emitted air and discharged water.

To make the most effective use of Taiwan's limited water resources, all TSMC fabs strive to increase water reclamation rates by adjusting the water usage of manufacturing equipment and improving wastewater reclamation systems. By 2021, TSMC's unit product water consumption had decreased by 15% from 2010 levels. The long-term target is a 30% decrease by 2030. All fabs meet or exceed the process water reclamation rate standard of the Science Park Administration. Some fabs are able to reclaim more than 90% of process water, outperforming most semiconductor fabs around the world. The Company also makes every effort to reduce non-manufacturing-related water consumption, including water used in air conditioning systems, sanitary facilities, wall cleaning and landscaping activities and in kitchens. TSMC uses an intranet website to collect and measure water recycling volumes company-wide.

Since water resources are inherently local, TSMC shares its water saving experience and expertise with other semiconductor companies through the Association of Science-Based Industrial Park to promote water conservation in order to achieve the Science Park's goals and ensure a long-term balance of supply and demand. In addition, TSMC

has committed to using partially reclaimed water in newly constructed fabs in the future in order to further reuse water resources and support government policy and promotion for reclaimed water.

To further enhance water resources management, TSMC has adopted and followed the AWS Standard, the world's only sustainable water management standard. Early in 2019, Fab 6 and Fab 14 Phase 5/6/7 began serving as demonstration factories and received AWS certification, making TSMC the first semiconductor enterprise in the world to receive AWS platinum level certification. In 2020, Fab 15A and Fab 15B, located in Central Taiwan Science Park, passed a third-party verification audit and obtained AWS platinum level certification simultaneously. In December 2021, Fab 12A, Fab 12B, Fab 5, located in Hsinchu Science Park, and Longtan Science Park Advanced Backend Fab 3 passed a third-party verification audit and will obtain AWS platinum level certification in early 2022.

#### TSMC Water Usage in Recent Two Years

Year	Total Water Usage (m <sup>3</sup> )	Unit Product Water Usage (L/12-inch wafer-e-layer)
2021	82,674,982	119.7
2020	77,257,163	128.4

Note 1: Including TSMC fabs in Taiwan and Subsidiaries.

Note 2: The data in the table are preliminary results collected by TSMC and have not yet been verified by a third party.

#### TSMC Water Usage Reduction Target and Achievement Status

Strategy	2030 Goal	2021 Target and Achievement	Achievement Status
Enforce climate change mitigation policies, implement water conservation and water shortage adaptation measures	Reduce unit water consumption (liter/12-inch equivalent wafer mask layer) by 30% (Base year: 2010)	Reduced unit water consumption by 15% (Target: 9%)	Achieved

#### Waste Management and Recycling

TSMC has expanded its facilities rapidly in recent years both at home in Taiwan and overseas. In 2021 the Company's total outsourced general waste was 335,080 tons; its hazardous waste was 339,623 tons; and its unit waste disposal was 0.99 kg/12-inch equivalent wafer mask layers. This compared to 277,340 tons of outside general waste, and 298,400 tons of

hazardous waste, and unit waste disposal of 1.01 kg/12-inch equivalent wafer mask layers in 2020, respectively.

To achieve the goal of sustainable resource utilization, TSMC has a designated unit responsible for waste recycling and disposal. The priorities are process waste reduction, onsite and offsite recycling and regeneration, with the last options being incineration and landfill. In 2017, TSMC amended its articles of incorporation to add four business items for chemical materials to ensure waste flow and reduce risks of improper waste disposal by commissioned agencies. It also set up onsite resource activation facilities to convert waste resources produced by processing activities into products to be used onsite or to sell to other factories. In 2021, TSMC recycled waste copper sulfate, cobalt-containing liquid, waste sulfuric acid and waste ammonium sulfate, all of which were regenerated into products. The Company also developed the system of cryolite synthesis whereby waste HF (hydrogen fluoride) is recycled and regenerated into raw material for other industries. As a result, it has become a leader in waste resources regeneration. At the same time, TSMC's fabs in Taiwan achieved a 95% waste recycling rate for the seventh consecutive year, with a landfill rate below 1% for the twelfth consecutive year, and Fab 12 won the platinum UL 2799 certification, the highest grade for zero landfill.

#### TSMC Waste Quantity and Outsourced Unit Waste Disposal in Recent Two Years

Year	Outsourced General Waste (ton) (Note 1)	Outsourced Hazardous Waste (ton) (Note 1)	Outsourced Unit Waste Disposal (Note 2) (kg/12-inch equivalent wafer mask layer)
2021	335,080	339,623	0.99
2020	277,340	298,400	1.01

Note 1: The total quantity of outsourced waste includes Taiwan facilities and subsidiaries.

Note 2: The data is Outsourced Unit Waste Disposal of Taiwan facilities.

Note 3: The data in the table are preliminary results collected by TSMC and have not yet been verified by a third party.

#### TSMC Waste Reduction Target and Achievement Status

Strategy	2030 Goal	2021 Target and Achievement	Achievement Status
Promote waste reduction by source separation and require vendors to provide low chemical consumption equipment	Outsourced unit waste disposal per wafer $\leq 0.50$ (kg/12-inch equivalent wafer mask layer)	Outsourced unit waste disposal per wafer 0.99 (kg/12-inch equivalent wafer mask layer) (Target: $\leq 1.15\%$ )	Exceeded

In order to ensure that all waste is treated and recycled properly, TSMC closely tracks the waste that is implemented in the process of recycling and reuse by clean and disposal vendors. The Company carefully selects waste disposal and recycling vendors that have certificates and permits, regularly checks the onsite operational status, disposal declaration forms, operational records, etc., compares with actual reuse and disposal, and takes proactive steps to strengthen vendor auditing. For example, all waste transportation contractors have agreed to join the GPS Satellite Fleet so that the cleanup transportation routes and abnormal stays for all trucks can be traced. All waste recycling and disposal vendors have installed closed-circuit TV systems at operating sites to monitor and audit waste handling. In addition, TSMC also conducts an ongoing survey of recycled product tracking and requires all recycling contractors to report their recycled product sales monthly to track waste flow and ensure that actions are taken to adhere to lawful and proper waste recycling and treatment.

#### Environmental Accounting

The purpose of TSMC's environmental accounting system is to identify and quantify environmental costs for internal management. At the same time, the Company also evaluates the savings or economic benefits of environmental protection programs so as to continuously promote economically-effective programs. While environmental expenses are expected to continue to rise, environmental accounting can help manage these costs more effectively. TSMC's environmental accounting measures various environmental costs, establishes independent environmental account codes, and provides the data to all units for use in annual budgeting. The Company's economic benefit evaluation calculates cost savings for energy conservation, water or waste reductions and recycling benefits in accordance with its environmental protection programs. The benefits disclosed in this report include real income from projects such as waste recycling and savings from major environmental projects. In 2021, the total benefits of environmental protection programs of TSMC fabs including waste recycling exceeded NT\$5,457 million.

#### 2021 Environmental Cost of TSMC Fabs in Taiwan

Unit: NT\$ thousands

Classification	Description	Expense	Investment
1. Direct Costs for Reducing Environmental Impact			
(1) Pollution Control	Fees for air pollution control, water pollution control, and others	7,436,815	7,139,312
(2) Resource Conservation	Costs for resource (e.g. water) conservation	0	2,904,434
(3) Energy Conservation	Costs for electricity consumption saving	0	2,202,263
(4) Greenhouse Gas Emissions Reduction	Include: (1) Process greenhouse gas emissions abatement equipment; (2) Premium for purchasing renewable energy; (3) Costs for purchasing carbon credits; (4) Other costs for direct greenhouse gas emissions reduction	1,090,032	4,075,604
(5) Industrial Waste Disposal and Recycling	Costs for waste treatment (including recycling, incineration and landfill)	2,932,377	0
2. Indirect Costs for Reducing Environmental Impact (Environmental Managerial Costs)			
	(1) Cost of training (2) Environmental management system and certification expenditures (3) Environmental impact measurement and monitoring fees (4) Environmental protection product costs (5) Environmental protection organization fees	432,606	693,743
3. Other Environmental Costs			
	(1) Costs for soil decontamination and natural environment remediation (2) Environmental damage insurance fees and environmental taxes and expenses (3) Costs related to environmental settlement, compensations, penalties and lawsuits	127	0
Total		11,891,957	17,015,356

#### 2021 Environmental Efficiency of TSMC Fabs in Taiwan

Unit: NT\$ thousands

Category	Description	Efficiency
1. Cost Savings of Environmental Protection Projects		
	Energy savings	3,999,575
	Water savings	31,002
	Waste reduction	818,000
2. Economic Efficiency for Industrial Waste Recycling		
	Recycling of used chemicals, wafers, sputter targets, batteries, lamps, packaging materials, paper cardboard, metals, plastics, and other waste	609,200
Total		5,457,777

#### Green Building and Green Factory

Since 2006, TSMC has adopted standards from both the Taiwan Green Building and the U.S. Green Building Council – Leadership in Energy and Environmental Design (LEED) for new fab and office building designs to achieve better energy and resource efficiency than conventional designs. The Company has also continued to upgrade existing office buildings to comply with the LEED standard each year. From 2008 to 2021, 37 of TSMC's fabs and office buildings achieved LEED certifications: three platinum and 34 gold. During this time, the Company also received five Taiwan Intelligent Building diamond-class certifications and 25 Taiwan EEW (ecology, energy saving, waste reduction and health) certifications: 20 diamond, four gold and one silver. Since 2009, the Company has been a leading supporter of the Taiwan government's Green Factory Label standard, including the Clean Production and Factory Green Building evaluation systems. TSMC received Taiwan's first Green Factory Label and 13 labels in total as of the end of 2021, and is the most awarded company in Taiwan.

#### Environmental Audit Results in Violation of Environmental Regulations

In 2021 and as of the date of this Annual Report, TSMC has no incurred any environmental pollution related losses. However, the Company was given two fines totaling NT\$127,000 for violating environmental regulations: NT\$100,000 issued on 01/06/2021 for failing to take effective air pollutant control measures at our construction site (Section 2 of Article 23 of the Air Pollution Control Act) – the Company took immediate corrective action after the audit by the competent authority; NT\$27,000 issued on 01/28/2021 for construction site work failing to conform with the Run-off Wastewater Reduction Plan approved by competent authority (Article

18 of the Water Pollution Control Act; Article 10 of Water Pollution Control Measures and Test Reporting Management Regulations) – the Company updated the Run-off Wastewater Reduction Plan after the audit by the competent authority and enhanced related management measures.

### 7.2.2 Sustainable Products

TSMC collaborates with its upstream material and equipment suppliers, design ecosystem partners and downstream assembly and testing service providers to minimize environmental impact. Reducing the resources and energy consumed for each unit of production allows the Company to provide customers with more advanced, power efficient and ecologically sound products. These include ultra-low power (ULP) and low operating voltage (low Vdd) chips for wearables and IoT devices, low-power chips for mobile devices, high-efficiency LED driver chips for flat panel display backlighting, indoor/outdoor solid state LED lighting, Energy Star certified low standby AC-DC adaptor chips, high-efficiency DC brushless motor chips, electric vehicle chips and low-power server chips. By leveraging TSMC’s superior energy-efficient technologies, these chips support sustainable city infrastructure, greener vehicles, smart grids, more energy efficient servers and data centers and other applications. In addition to helping customers design low power, high performance products to reduce resource consumption over the product’s life cycle, TSMC’s green manufacturing practices provide further green value to customers and other stakeholders.

TSMC-manufactured ICs are used in a broad variety of applications in various segments of the computer, communications, consumer, industrial, electric vehicle, server and data center, and other electronics markets. Through TSMC’s manufacturing technologies, customers’ designs are realized and their products are incorporated into people’s lives. These chips, therefore, make significant contributions to the progress of modern society. TSMC endeavors to achieve profitable growth while providing products that add environmental and social value. Listed below are several examples of how TSMC-manufactured products make significant contributions to the environment and society.

### Environmental Contributions by TSMC Foundry Services

#### 1. Continue to Drive Technology to Reduce Power Consumption and Save Resources

- To improve sustainability, TSMC continues to drive the development of advanced semiconductor process technologies to support customer designs that result

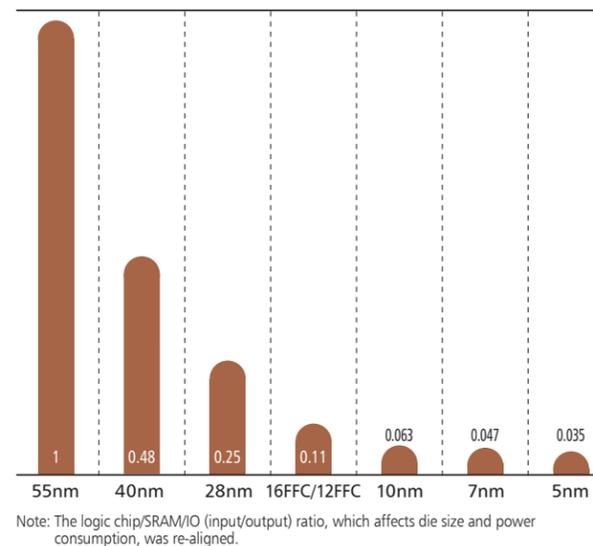
in the most advanced, more energy-efficient and more environmentally friendly products. In each new technology generation, circuitry line widths shrink, making transistors smaller and reducing product power consumption for completing the same tasks or achieving the same level of performance. In addition, calculations using the Industry, Science, and Technology International Strategy Center’s model reveal that, in 2020, TSMC helped the world conserve 4kWh of energy for each 1kWh spent in production – a testimony to TSMC’s commitment to green manufacturing both internally and externally. (Please refer to “Sustainable Products by TSMC Facilitates Global Energy Conservation” on page 11 of TSMC’s 2020 Corporate Social Responsibility Report.)

- As TSMC quickly ramped up its 7nm and newer generation technologies, combined wafer revenue contribution grew significantly from 9% in 2018 to 50% in 2021. TSMC’s objective is to continue R&D investment and to increase wafer revenue contribution in 7nm and beyond technologies, helping the Company achieve both profitable growth and sustainability.

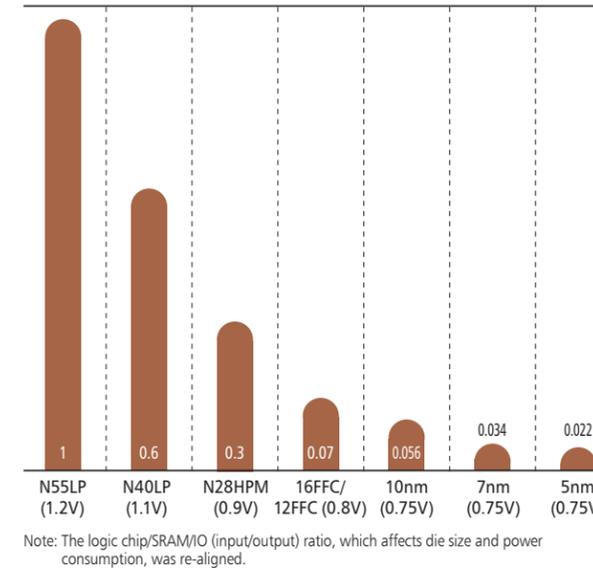
TSMC Wafer Revenue Contribution from 7nm and Beyond Technologies

2018	2019	2020	2021
9%	27%	41%	50%

Chip Die Size Cross-Technology Comparison  
Die size reduces as line width shrinks



Chip Total Power Consumption  
Cross-Technology Comparison  
More power is saved as line width shrinks



#### 2. Provide Customers Leading Power Management IC Process with the Highest Efficiency

- TSMC’s leading manufacturing technology helps customers design and produce green products. Power management ICs, the key components that supply and regulate power to all other IC components within electronic devices, are the most notable green IC products. TSMC helps customers produce industry-leading power management chips with more stable and efficient power supplies and lower energy consumption. Power management ICs manufactured by TSMC for customers are widely used in computer, communication, consumer, electric vehicle, server and data center, and other systems around the globe.

#### 3. Drive Industry-leading, Comprehensive ULP Technology Platform

- To meet low-power consumption requirements for IoT markets, such as wearable and smart home products, TSMC continues to invest in expanding and enhancing its ultra-low power processes. The Company provides industry’s leading and most comprehensive ultra-low power (ULP) technology platform to support innovations for a wide range of IoT applications that demand increased computing capabilities in smart edge devices, including smart speakers, smart cameras and various other smart appliances. TSMC’s industry-leading ULP offerings include FinFET-based 12-nanometer technology,

N12e™, featuring energy efficiency with high performance that results in more computing power and AI inferencing, 22nm Ultra-low leakage (ULL), 28nm ULP, 40nm ULP, and 55nm ULP, which have been widely adopted by various edge AI system-on-a-chip (SoC), battery-powered applications. TSMC has also extended its low Vdd offerings with wide-range operating voltage SPICE (simulation program with integrated circuit emphasis) models for extreme low-power applications.

#### 4. Develop Greener Manufacturing to Lower Energy Consumption

- TSMC continues to develop more advanced and efficient technologies to reduce energy/resource consumption and pollution per unit during the manufacturing process, as well as power consumption and pollution during product use. In each new technology generation, circuitry line widths shrink, making chips smaller for the same circuit designs and lowering the energy and raw materials consumed for per chip in manufacturing. In addition, the Company continuously provides process simplification and new design methodology based on its manufacturing excellence to help customers reduce design and process waste so as to produce more advanced, energy-saving and environmentally friendly products. For total energy savings and benefits realized in 2021 through TSMC’s green manufacturing, see Environmental Accounting on page 150-151 in this Annual Report.

### Social Contributions by TSMC Foundry Services

#### 1. Unleash Customers’ Mobile and Wireless Chip Innovations that Enhance Mobility and Convenience

- The rapid growth of smartphones and tablets in recent years reflects strong demand for mobile devices, which accelerates innovations for IC products such as baseband, RF transceivers, application processors (AP), wireless local area networks (WLAN), CMOS image sensors (CIS), near field communication (NFC), Bluetooth, and global positioning systems (GPS) among others. These mobile devices offer remarkable convenience in daily living, and TSMC contributes significant value to these devices in the following ways: (1) new TSMC process technologies help chips achieve faster computing speeds in smaller sizes, leading to smaller form factors for these electronic devices. In addition, TSMC SoC technology integrates more functions into one chip, reducing the total number of chips in electronic devices, again resulting in a smaller system form factor; (2) new TSMC process technologies also help chips reduce power

consumption, allowing mobile devices to be used for a longer period of time; and (3) TSMC helps spread the growth of more convenient wireless connectivity such as 3G/4G/5G and WLAN/Bluetooth, meaning people can communicate more efficiently and “work anytime and anywhere,” significantly increasing the mobility of modern society.

**2. Unleash Customers’ Innovations in CMOS Image Sensor (CIS) and Micro-electromechanical Systems (MEMS) that Enhance Human Health and Safety; Create Green Products**

• To make machines smarter, safer and more user and environmentally friendly, sensors are a must. Optical, acoustic, motion, and environment sensors are mostly made using either CIS or MEMS technologies. TSMC continues to put substantial effort into developing more advanced CIS and MEMS technologies to enable customers to create new products for new applications. For CIS, TSMC and customers have extended applications from traditional RGB (red, green, blue) sensing to 3D depth sensing, optical fingerprint, and near infrared NIR (NIR) machine vision, etc. For MEMS, TSMC and customers have extended applications from traditional motion sensing to microphone, bio-sensing, micro-speakers, medical ultrasound actuators and more. TSMC customers’ sensing devices are used in consumer electronics, mobile communication, automotive electronics, industrial, and medical devices, and so on. They are increasingly smaller, faster, more accurate and more energy efficient, greatly enhancing human convenience, health and safety, and contributing to sustainability. For instance, TSMC customers’ CIS and MEMS products are used in a number of advanced medical treatments as well as in preventative health care applications. Examples include early warning systems to minimize the injury from falls for the elderly, systems to detect physiological changes, car safety systems and other applications that significantly improve human health and safety. One noteworthy example in 2021: TSMC helped a customer deliver innovative DNA sequencing chips. These chips assisted researchers in quickly identifying variants of the COVID-19 virus, including the first Omicron, contributing significantly to the understanding and control of the pandemic. Moreover, advanced sensors can make equipment smarter by monitoring the working environment and conditions so that it can operate in a more energy efficient way.

**7.2.3 Safety and Health**

**Safety and Health Management**

TSMC’s safety and health management is compliant with local and international standards and adheres to the management approach of “Plan, Do, Check, Act” to prevent accidents, promote employee safety and health, and protect Company assets. All TSMC fabs in Taiwan have received TOSHMS (Taiwan Occupational Safety and Health Management System) certification since 2009. In 2018, the International Organization for Standardization released ISO 45001: 2018, replacing OHSAS 18001, with major changes in the expansion of the scope, support and participation of the leadership, the collection and planning of internal and external issues, the expectations and demand of stakeholders, the evaluation of risk inspections, communication and consultation with non-managers, the application of performance indicators, and the evaluation of corrective and preventive actions. Meanwhile, ISO 45001 ensures the spirit of the system can be effectively implemented at the management level through management review, internal audit, automatic check, and security patrol to find safety concerns and opportunities for improvement. All fabs in Taiwan received ISO 45001 certification for occupational health and safety in 2019 and all TSMC subsidiaries obtained the certification in 2020. All the above certifications are maintained valid. New facilities are required to receive aforementioned certifications within 18 months after receiving facility license per TSMC’s internal policy.

Besides accident prevention, TSMC has established emergency response procedures to protect employees and contractors if a disaster should occur, as well as to prevent and/or reduce the negative impact on the community and the environment. TSMC communicates regularly with suppliers to ensure that potential risk in the operation of production equipment is minimized and that safety control procedures are followed rigorously during installation. The Company places stringent controls on high-risk operations and also evaluates the seismic tolerance of its facilities and equipment to reduce the risk of earthquake damage.

For epidemics, TSMC has established corporate-level prevention committees and procedures for emergency response to outbreaks of infectious diseases.

**Working Environment and Employee Safety and Health Protection**

The Company’s ESH policy is focused on establishing a safe working environment, preventing occupational injury and illness, keeping employees healthy, enhancing every employee’s awareness and sense of accountability to ESH, and building an ESH culture.

There were a total of 44 occupational injuries in 2021, with 44 people, representing approximately 0.08% of the total number of employees. The disabling injury frequency rate (FR) was 0.38, under the 0.4 target, but the disability injury severity rate (SR) was 7, in excess of the target of 4. In response, TSMC is reviewing potential improvement measures, such as interlocking devices for machine safety, as well as standard safety operation procedures. In addition to regular reviews, the caring program for employees has been enhanced and managers have been directed to pay closer attention to the physical and mental state of employees to ensure their safety and health during their work.

TSMC safety and health management operations apply to the following:

**• Equipment Safety and Health Management**

In addition to meeting regulatory requirements and internal standards, as well as mitigating ESH-related risks when building or expanding facilities, TSMC also maintains procedures governing new equipment and raw materials, requires safety approvals for bringing new tools online, updates safety rules, and implements seismic protection and other safety measures. TSMC requires that all new tools meet SEMI-S8 requirements and that appropriate supplementary control measures be taken to reduce ergonomic risk. Moreover, the Company endeavors to automate 300mm front-opening unified pod (FOUP) transportation to prevent accumulative physical damage caused by repetitive manual handling of 300mm FOUPs. TSMC 300mm fabs have converted to automatic transportation control.

**• Environmental, Safety and Health Evaluation of New Tools and New Chemical Substances**

As a technology leader in the global semiconductor industry, TSMC operates increasingly diversified process tools and introduces new chemicals in the R&D stage. Before using new tools or new chemicals, they are reviewed carefully by the new tools and new chemical review committee. The purpose is to

ensure that new tools are compliant with the semiconductor industry’s safety standards (such as SEMI-S2) and that new chemicals’ environmental, safety and health concerns can be well controlled, including engineering controls, application of personal protection equipment, and operational safety training during storage, transportation, usage and disposal. A total of 403 cases of new tools and chemical substances were passed by the New Tool and New Chemical Review Committee in 2021, and they were evaluated and reviewed in accordance with the aforementioned standards before entering TSMC.

**• General Safety Management, Training and Audit**

All TSMC manufacturing facilities hold environmental, safety and health committee meetings on a monthly basis. TSMC has adopted multiple preventive measures such as controls on high-risk work, contractor management, chemical safety management, personal protective equipment requirements, and safety audit management. In addition, the Company maintains detailed disaster response procedures and performs regular drills designed to minimize damage to employees and property, as well as the impact on society and the environment in the event of a disaster.

**TSMC Safety-Related Training and Promotion in the Recent Two Years**

Year	Total Number of Employees who have Completed Safety-related Training
2021	289,398
2020	244,747

**• Working Environment Hazardous Factors Management**

TSMC conducts workplace hazard assessments to provide a comfortable, safe workplace to employees. The Company also educates and requires employees to use personal protective equipment (PPE) to prevent hazardous exposures.

The Company performs semi-annual workplace environment assessments of physical and chemical hazards, including CO<sub>2</sub> concentration, illumination, noise, and hazardous chemical substances regulated by local laws. In addition, TSMC performs exposure assessments and uses hierarchy management control for chemicals with potential health hazards. If abnormal measurements occur, events happen, or an exposure assessment indicates there is an adverse health effect on employees, ESH professionals immediately conduct onsite observation and intervention to reduce the exposure to acceptable levels.

#### ● Health Promotion Program

In order to establish the healthiest possible workplace and reduce the incidence of occupational disease, TSMC formed a corporate-level committee to carry out health promotion programs covering three key areas:

1. Exposure and health risk assessment: develop an exposure assessment system to identify high health risk employees.
2. Hazardous training and notification: use standardized training materials for employees and contractors in all TSMC fabs. Inform them of the health risks and prevention measures at the workplace before working or providing any services there.
3. Strengthen management of chemicals with significant health risks: inform suppliers that all materials they provide to TSMC must comply with applicable laws including clear disclosure of any hazardous substances. Perform sampling of raw materials used in the manufacturing process to confirm that they do not contain any carcinogenic, mutagenic or toxic-reproductive materials as claimed in supplier's safety data sheet (SDS).

#### ● Emergency Response

The planning and execution of an effective emergency response should identify potential high-risk events via risk assessment and be prepared for various scenarios. It should focus on continuous improvement and drills covering all potentially serious events. TSMC's emergency response plans include procedures for rapid-response crisis management and disaster recovery for potential incidents.

All TSMC fabs conduct major annual emergency response exercises and evacuation drills. TSMC's onsite service contractors are also required to participate in emergency response planning and exercises to ensure cooperation in handling accidents and to effectively minimize any damage caused by disasters. At least every two years, each fab director invites fab management and support functions to participate in business continuity drills for potentially high-risk events such as earthquake, fire and flood (at the Tainan site). Since 2018, TSMC has conducted complex accident emergency response drills, which include simultaneous scenarios for earthquake, fire and chemical spills to ensure rapid response to emergencies so that losses can be minimized in the event of a real disaster. In 2020, TSMC took lead in the industry to introduce the All-Hazard approach recommended by the Federal Emergency Management Agency (FEMA) to conduct disaster prevention exercises.

In response to the COVID-19 pandemic, TSMC added tabletop exercises to disaster prevention training in an effort to minimize the risks of group infections that may arise as a result of full-scale exercises. The inclusion of tabletop exercises also aids in the verification of full-scale exercise procedures to make disaster response more comprehensive, thus effectively mitigating the impact of various types of disasters on business continuity in the future. As of 2021, 215 sessions of tabletop exercises had been completed in addition to 125 full-scale exercises.

In addition to the regular emergency response drills held by engineering and facilities departments each quarter, the Company's laboratory, canteen, dormitory, and shuttle bus personnel also hold emergency response drills to prepare for events such as earthquakes, chemical spills, ammonia release, fires and traffic accidents.

#### ● Emerging Infectious Disease Response

TSMC has a dedicated corporate ESH organization to monitor emerging infectious diseases around the world, to assess any potential impact on the workplace, and to provide an appropriate strategic response plan. In previous outbreaks such as SARS in 2003, H1N1 influenza in 2009, and MERS in 2015, as well as with the current COVID-19 threat, TSMC followed the Taiwan CDC's (Centers for Disease Control) rules and convened the corporate influenza response committee to develop the Company's strategies. These strategies included educating employees in prevention and response, publishing guidelines for managers, establishing guidelines for employee sick leave due to flu, and installing alcohol-based hand sanitizers at appropriate locations. The Committee also monitors the status of employee leave due to illness and, at the same time, develops a continuity plan to address manpower shortages and minimize business impact. In order to protect the health of TSMC employees, their families, and work partners, employees are encouraged to be fully vaccinated if in healthy condition. In addition, employees should complete daily body temperature checks and update vaccination information before entering TSMC, and continue to follow epidemic prevention regulations such as wearing a mask, washing their hands frequently and maintaining safe social distancing.

#### ● Employee Physical and Mental Health Enhancement

TSMC believes that employee physical and mental health is not only fundamental to maintaining sound business operations

but is also an important part of a corporation's responsibility. To preserve and promote the physical and mental health of its employees, TSMC fosters collaboration among the onsite industrial safety and environmental protection department, the onsite medical personnel of the health center, and physicians of occupational medicine. TSMC strives to reduce cerebral and cardiovascular conditions or injuries that might be induced or aggravated by overwork, night work or shift work. The Company conducts programs for maternal health protection and for prevention of cumulative trauma disorders as well. TSMC devotes significant resources to mental health awareness, focused not only on hazards at work but also on employee health in general. In 2021, through planned personal health management, (1) 550 female employees participated in the maternal health program, and the completion rate was 100%. All but one of them were at first degree risk, where there was no potential harm to the mother or infant. One woman was assessed as second degree risk, with potential harm to the mother or infant, but after proper adjustments to her work duties, her risk was downgraded to first degree. (2) Through analysis of historical cerebral and cardiovascular cases of its employees, TSMC has sharpened the disease assessment criteria used by contracted doctors, and, in combination with internal annual health examination reports and work scheduling information, the Company was able to identify 3,520 employees with middle to high risk for cerebral and cardiovascular diseases. These employees were provided with health education and medical assistance. Also, they and their managers received recommended changes in working hours and shifts to reduce health risks. (3) 168 employees were identified as high risk for cumulative trauma disorders, including one who might also have job-related risks, and the Company adjusted working conditions accordingly to reduce potential risks. (4) As obesity has been considered as a precursor to hyperglycemia, dyslipidemia, and hypertension, TSMC has held health promotion programs for several consecutive years. In 2021, in light of the COVID-19 pandemic and catering to the younger generation's preference for social and video media, apart from physical weight loss activities (671 participants; total weight loss reached 3,155.82kg), TSMC conducted a series of online interactive activities including: three sessions of "Health Lecture Online" with 1,527 attendees in total; three health education videos about Weight-loss Diets/Sport and improving sleeping, with a total of 8,947 visits; three sessions of online quizzes on the same three topics of Weight-loss Diets/Sport and improving sleeping, with a total of 14,910 attendees; and two sessions of "Selection of Health

Diet" of Low-sugar diets and 211 balanced diet, with 3,373 participants. In addition, one-on-one sleep counseling related to psychology has been increased in 2021, 220 attendees in total. The above activities have all received positive feedback from employees. In the future, we will continue to implement relevant health promotion activities to take care of the health of employees.

#### 7.2.4 Supplier Management

##### Management Aspect

For better supply chain management, TSMC is committed to communicating with and encouraging its suppliers, including contractors, to increase their quality, cost effectiveness and delivery performance, and make continuous improvement in environmental protection, safety and health. Through regular communication with senior managers, site audits and experience sharing, the Company collaborates with major suppliers and contractors to enhance partnerships and ensure continued improvement of performance and increased joint contributions to society. As noted above, contractors performing high-risk activities must lay out clearly defined safety precautions and preventative measures. In addition, contractors working on high-risk engineering projects must establish ISO 45001 or OHSAS 18001 systems and the workers must successfully complete work-related skill training. All contractors performing high-risk activities have obtained ISO 45001 certification before the end of 2021.

##### Supply Chain Sustainability

TSMC works with suppliers in several fields of sustainable development, such as greening the supply chain, carbon management for climate change, mitigation of fire risk, ESH management and business continuity plans in the event of a natural disaster.

Since becoming a full member of the Responsible Business Alliance (RBA) in 2015, TSMC has completed implementation of the RBA code of conduct throughout the Company by performing self-assessments at its facilities worldwide and reviewing policies and procedures in the areas of labor, health and safety, environment, ethics and management systems.

To enhance supply chain sustainability and streamline risk management, the Company is committed to collaborating with its suppliers to maintain full compliance with Taiwan's environmental, safety, health and fire protection regulations. TSMC developed a supplier's code of conduct, which

affirmed basic labor rights and standards for health, safety, environment, ethics and management systems. TSMC works with suppliers to evaluate the risk and impact on the economy, the environment, and society and to make continuous improvement. The Company has helped boost suppliers' performance of sustainability through experience sharing and training and hopes to establish a world-class semiconductor supply chain that exceeds international standards and serves as a global benchmark.

TSMC is subject to the U.S. Securities & Exchange Commission (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 high-tech supply chain, the Company acknowledges its corporate social responsibility to strive to procure conflict-free minerals in an effort to recognize humanitarian and ethical social principles that protect the dignity of all people. To this end, TSMC has implemented a series of compliance safeguards in accordance with leading industry practices such as adopting the due diligence framework in the Organization for Economic Cooperation and Development (OECD)'s Model Supply Chain Policy for a Responsible Global Supply Chain of Minerals from Conflict-Affected and High Risk Areas issued in 2011.

TSMC is a strong supporter of the Responsible Business Alliance and the Global e-Sustainability Initiative (GeSI), which will help the Company's suppliers source conflict-free minerals through their jointly developed Responsible Minerals Initiative (RMI). Since 2011, TSMC has asked its suppliers to disclose information and make timely updates on smelters and mines. The Company encourages suppliers to source minerals from facilities or smelters that have received a "conflict free" designation by a recognized industry group (such as the RBA) and also requires those who have not received such designation to become compliant with Responsible Minerals Initiative or an equivalent third-party audit program. TSMC requires the use of conflict-free tantalum, tin, tungsten and gold in its products.

TSMC will continue to conduct the supplier survey annually and require suppliers to improve and expand their disclosure to fulfill regulatory and customer requirements. For further information, see the Company's Form SD filed with the U.S. SEC. ([https://www.tsmc.com/english/investorRelations/sec\\_filings.htm](https://www.tsmc.com/english/investorRelations/sec_filings.htm))

### 7.3 TSMC Education and Culture Foundation

Taiwan has had its biggest battle against the COVID-19 pandemic in 2021. Every sector in the society has been gravely affected and the efforts to launch artistic, cultural and educational campaigns have been seriously challenged. In the face of the pandemic, the TSMC Education and Culture Foundation still endeavours to continue its support for various educational and cultural events, art exhibitions and performance. At the same time, as a response to pandemic restriction measures, the Foundation taps into the power of technology to make its utmost efforts to encourage girls' high schools to engage in the scientific fields, to empower teachers in rural communities, and to initiate classes that teach and continue traditional theater courses on university campuses. In doing so, the cultural and educational work to which the Foundation has dedicated itself would not be disrupted because of the severe pandemic situation. In 2021, the TSMC Education and Culture Foundation has invested NT\$87 millions in culture and education events that revolve around three main themes: "nurture young talents," "education collaboration," and "advocacy for arts and culture". The Foundation's efforts continue to inject abundant resources into the arts and education sectors in the society in order to drive the society to the common good, begin a positive cycle, and grow sustainably.

#### Value Gender Diversity, Encourage Women to Engage in STEM Fields

The TSMC Education and Culture Foundation teams up with National Museum of Natural Science to organize the TSMC Female Scientists Tour. Through trips to science museums and talks by female scientists, the Foundation hopes to spark female students' interest and nurture female talent in the sciences. In 2021, the Foundation invited 450 girls from 12 girls' high schools in Taiwan to take part in the TSMC Female Scientists Tour, whose program includes a visit to the educational hall at the World of Semiconductors. The trip was guided by female engineers at TSMC, giving students a chance to further understand the designing, manufacturing and application of semi-conductors. Other events in the trip include talks by renown Taiwanese female scientists and outstanding female engineers to share with young students their educational trajectory and work experiences. The students further learned the application of basic electronics at circuit board workshops. The TSMC Education and Culture

Foundation hopes to encourage more female high school students to engage in studying in the STEM fields, thereby nurturing more science and technology talents for the country.

In 2021, the TSMC Education and Culture Foundation also continues to hold the TSMC Cup – Competition of Scientific Short Talk. Held online due to the pandemic, the competition had two award categories: "competition for expressing scientific innovation" and "essay awards on reading popular science books". Apart from the two competition themes, the Foundation organized a series of online classes for competing participants, aiming to strengthen their ability to express themselves. Pandemic constraints did not diminish participation, as 530 total students took part.

On top of promoting popular science education, the TSMC Education and Culture Foundation continues its advocacy for youngsters to pursue and realize their dreams. In 2021, the Foundation expands the TSMC U Dreamer from a regional competition into a national one, inviting college students from all over Taiwan to take part in the competition and form projects base on the UN's Sustainable Development Goals (SDGs). This competition expects the students to care about and pay attention to UN's 17 sustainable development goals while pursuing individual dreams, thereby making a personal contribution to society. The 2021 TSMC U Dreamer has 122 teams of college students from all over Taiwan. The finalists are teams from the National Taiwan Ocean University, National Taiwan University, National Taiwan Normal University, Taipei National University of the Arts, National Taipei University, National Chengchi University, Hsuan Chuang University, National Tsing Hua University, National Yang Ming Chiao Tung University, National Chung Cheng University and National Taitung University. The winning teams are awarded a total prize of NT\$3 million at the TSMC U Dreamer competition and begin a one-year Dreamer project.

#### Empower Teachers in Rural Areas, Narrow the Gap between Urban and Rural Schools

The TSMC Education and Culture Foundation pays special attention to the gap between the education resources in the urban versus rural areas. Since 2004, the Foundation has partnered with CommonWealth Education Foundation to launch the "Hope Reading Project," which continues to improve the reading environment and culture in schools in rural areas. As a response to the implementation of the

new *General Guidelines of Curriculum Guidelines of 12-Year Basic Education*, the Foundation recognises the importance of empowering frontline educators. Therefore, in 2021, the TSMC Education and Culture Foundation works in tandem with the CommonWealth Education Foundation and the Reading Research and Education Center of Dr. Hwawei Ko of National Tsing Hua University to initiate a five-year "Teaching & Learning" project. This project is launched in 51 schools in rural communities, whose contents include offering professional lesson plans for teachers, online educational recommendations, and support system while building a mechanism to research and discuss classroom teaching plans. The project creates a strong support for teachers in the rural areas, helps the teachers guide children in rural communities to improve their reading and writing capacities in real terms, opens up makeover opportunities, and narrows the gap between urban and rural schooling in real terms.

On top of the empowering project for teachers in rural schools, the TSMC Education and Culture Foundation continues to invest in education for the underprivileged students, encouraging them to attain a college education. In 2021, a total of 82 students from disadvantage backgrounds have been awarded scholarships to study at National Central University, National Tsing Hua University, National Chung Cheng University, National Cheng Kung University, and National Sun Yat-sen University. The scholarships allow the students to study without care.

#### Arts and Culture Education Takes Root in the Young, Pass the Cultural Torch

The TSMC Education and Culture Foundation places a high value on culture, continues to support the foundations of arts and culture education. In 2021, the Foundation collaborates with GuoGuang Opera Company on the "Pass the Theater Torch on College Campus" project, funding a year-long course at National Tsing Hua University and Tunghai University. The course contents include background knowledge on Peking opera and textual analysis of the plays. The classes invited professional actors from GuoGuang Opera Company to teach the students the acting techniques of Peking opera in person. The performance practices in class deepen the students' experience of traditional theater, created opportunities for traditional art to reach to a new generation and provide the soil for the seeds of theater to take root. Apart from offering classes on university campuses, the Foundation organized four special "TSMC Theater – When Love Knocks at your Door"

performances of Peking opera for nearly 500 students from high schools in the Hsinchu area, from National Tsing Hua and Yang Ming Chiao Tung Universities. Through professional guided talks and demonstrations from professional actors, the Foundation lead the younger generation to appreciate the beauty of Peking opera. Furthermore, in 2021 the TSMC Education and Culture Foundation sponsors the broadcasting program “The Stories of Peking Opera” on the radio station, Sound of IC: Sound of Hsinchu Science Park. The program is hosted by GuoGuang Opera Company’s artistic director Anqi Wang and National Tsing Hua University’s Associate Professor Lo Shih-lung of the Department of Chinese Literature, introducing theater culture in depth but in way easy for lay people to understand by giving the audience a peek into the interesting cultural allusions behind the traditional drama plays.

As well as the traditional theatre, the Foundation continues to sponsor National Symphony Orchestra, beginning the second year “Music Traverse” project and inviting conductor Lü Shao-chia to teach a master class. The Foundation hopes to broaden the music students’ artistic horizon through the experience of music maestros and the continuation of techniques. Meanwhile, the master classes were preserved in the form of documentaries, which will be publicly broadcast in media and streamed online, thereby allowing more students and the public to appreciate the beauty of classical music.

The annual TSMC Hsinchu Arts Festival in 2021 centered around the theme of Her Stage, painting portraits of female artists through exhibitions, performances and public talks. The theme of Her Stage demonstrated to the public the extraordinary achievements of female artists and presented their life stories. Although some of the 28 exquisite programs took place online due to the pandemic, they still attracted over 17,000 viewers.

#### 7.4 TSMC Charity Foundation

Since its establishment in 2017, the TSMC Charity Foundation has focused on the four pillars of public welfare in its charitable programs and projects: Care for the Disadvantaged, Taking Care of the Elderly, Filial Piety Promotion, and Protection of the Environment. Under the guidance of Chairperson Sophie Chang, the TSMC Charity Foundation observes social issues and incidents from the front lines and strives to resolve social inequalities through enhancement of rural education and

provision of emergency aid, allowing disadvantaged families and children from rural areas to receive material assistance and a chance to improve their situation. The TSMC Charity Foundation has established a public welfare platform to connect love from all corners of society, to promote social change through charitable acts, and to bring together corporations for the betterment of society.

The TSMC Charity Foundation continued to invest in public welfare and expand project impacts in 2021 to improve its scope of services:

- **Care for the Disadvantaged:** This pillar is focused on the two main themes of “rural empowerment” and “support for the disadvantaged.” The TSMC Charity Foundation continued to provide education and life assistance to institutes in need and to children in rural areas, including volunteer services, economic support, food supplement, purchasing high-tech equipment and developing educational materials. In 2021, the TSMC Charity Foundation emphasized rural students’ employability. The Foundation integrated with 2 enterprise (HO TAI DEVELOPMENT CO., LTD. and HAPPY RECOME CO. LTD), providing training for 78 rural students from 3 vocational high school obtaining the skills to work locally, meanwhile addressing labor shortage. By collaborating with 104 JOB BANK to publish 55 career exploring videos (target 100 videos above) and designing vocational aptitude tests. We assist grade 7 and 8 to match their interest and potential, find the suitable career path for them.

In 2021, the TSMC Charity Foundation assisted 8,359 students at 96 rural care institutes and collaborated with TSMC volunteers to produce tutorial videos of scientific experiments and science education. When classes were suspended due to the pandemic, the TSMC Charity Foundation supplied science learning materials to help students study at home and moved physical classes online to ensure students could continue their studies. The TSMC Charity Foundation’s “Sending Love” initiative visited and screened disadvantaged individuals in need of financial support, and also provided financial assistance and daily necessities funded using internal and external donations from TSMC to improve the living conditions of highly vulnerable and disadvantaged families. As of 2021, the TSMC Charity Foundation had supported a total of 182 families.

- **Take Care of the Elderly:** The TSMC Charity Foundation collaborated with Networking of Love partners to enhance the health and welfare of solitary elders by connecting them with social welfare groups and medical units. In 2021, the TSMC Charity Foundation provided shuttle buses to the Home Clinic Dulan and Longchang Health Promotion Station in Taitung County for solitary elders to increase medical mobility and efficiency, and to enhance medical service quality and effectiveness. The TSMC Charity Foundation continued to collaborate with the TSMC Facility Division to provide repairs for disadvantaged elders living in five earthquake-damaged locations in Hualien, thus giving them a safe and healthy living space. Current Networking of Love partners include Taipei Municipal Gandau Hospital, Taipei Veterans General Hospital, Miao-Li Hospital, Old Five Old Foundation, Fongyuan Hospital, China Medical University Hospital, Taichung City Private Lin Tseng Lien Welfare And Charity Foundation, Taiwan Puli Care Association, Sin-Lau Hospital, Tainan Municipal Hospital, Jianan Psychiatric Center Department of Health, Mennonite Christian Hospital, Mennonite Social Welfare Foundation, Fooyin University, Penghu Hospital, and Cishan Hospital.

- **Promote Filial Piety:** The TSMC Charity Foundation promoted and passed on the spirit of filial piety in Eastern culture by enhancing its awareness in younger generations so as to alleviate social risks and issues related to aging societies. In 2021, the TSMC Charity Foundation continued to work with the Filial Piety Resource Center of the K-12 Education Administration Ministry of Education to promote these concepts, conducting two filial piety parent-child workshops at elementary schools where TSMC volunteers provide long-term care, while jointly producing short filial piety films and organizing award ceremonies to recognize excellent teaching plans so as to encourage both teachers and students in initiating intergenerational dialogues and to implant the modern spirit of filial piety within the hearts of all participants.

- **Protect the Environment:** The TSMC Charity Foundation helped disadvantaged social welfare institutes increase green energy usage and save power while also promoting environmental awareness online and continuing to implement the Cherish Food Program to reduce resource wastage. In 2021, the TSMC Charity Foundation launched the “Green Energy” project, installing solar panels and LED lights for

disadvantaged social welfare institutes so they could utilize green energies, save energy, and reduce carbon emissions. Charitable donations fell sharply during the pandemic, and therefore income from wholesale energy helped these social welfare institutes maintain operations. To help students continue their studies when classes were suspended during the pandemic, the TSMC Charity Foundation promoted environmental education themed around local ecological characteristics through online classes so that students unable to leave their homes could learn environmental knowledge on their computers. The TSMC Charity Foundation continued to work with many food companies to donate imperfect foods to 122 collaborating care institutes for the disadvantaged, thereby achieving the goals of reducing food waste and protecting the environment. Current collaborators include Chi Mei Frozen Food Co., Ltd., Hunya Food Co., Ltd., Laurel Corporation, Lian-Hwa Foods Corp., HSIN TUNG YANG Co., Ltd., Great Wall Group, and LAO XIE ZHEN Co., Ltd.

#### 7.5 TSMC i-Charity Platform

The TSMC i-Charity Platform, launched in 2014, is an interactive intranet site that employees use to propose charity projects, share project results, provide responses and suggestions, and conduct timely funding activities to give back to society.

In 2021, a total of 45,500 people donated more than NT\$80.05 million to the “Support Medical Personnel Project,” the “Oxygen for India” campaign, the “Taroko Express crash” donation campaign, “Junyi Academy,” “Teach for Taiwan,” and other charity projects.

The TSMC i-Charity Platform has accumulated more than NT\$194 million in donations from 2014 to 2021. TSMC continues to carry out its social commitments and encourages its employees to care for and give back to society in various ways.

## 7.6 Sustainable Development Implementation Status as Required by the Taiwan Financial Supervisory Commission

Assessment Item	Implementation Status			Non-implementation and Its Reason(s)
	Yes	No	Summary	
1. Does the Company have a governance structure for sustainability development and a dedicated (or ad-hoc) sustainable development organization with Board of Directors authorization for senior management, which is reviewed by the Board of Directors?	V		For the Company's governance structure for sustainability development, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 140-144 of this Annual Report.  For the structure, operations, implementation status and frequency of reporting to the Board of Directors of the Company's dedicated organization for sustainability development, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 140-144 of this Annual Report.  For progress of the Board of Directors' supervision of the Company's sustainability development, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 140-144 of this Annual Report.	None
2. Does the Company follow materiality principle to conduct risk assessment for environmental, social and corporate governance topics related to company operation, and establish risk management related policy or strategy?	V		For the Company's scope of risk assessment, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 140-144 of this Annual Report.  For the principle, process and result of the Company's materiality analysis of ESG related topics and risk management related policy or strategy, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 140-144 of this Annual Report.	None
3. Environmental Topic (1) Has the Company set an environmental management system designed to industry characteristics?	V		(1) For the Company's environmental management system and the regulations on which it is based, please refer to "7.2 Environmental, Safety and Health (ESH) Management" on page 145-158 and "6.3.6 Risks Regarding Non-Compliance with Export Control, Environmental and Climate Change Related Laws, Regulations and Accords, and Failure to Timely Obtain Requisite Approvals Necessary for Conducting Business" on page 136-137 of this Annual Report.  For the Company's international certifications and their scope, please refer to "7.2 Environmental, Safety and Health (ESH) Management" on page 145-158 of this Annual Report.	None
(2) Is the Company committed to improving resource efficiency and to the use of renewable materials with low environmental impact?	V		(2) For the Company's improvement of resource efficiency and the use of renewable materials, please refer to "7.2.1 Environmental Protection – Climate Change and Energy Management/Waste Management and Recycling" on page 146-147 of this Annual Report.	
(3) Does the Company evaluate current and future climate change potential risks and opportunities and take measures related to climate related topics?	V		(3) For the Company's evaluation of potential risks and opportunities of current and future climate change and measures taken related to climate topics, please refer to "7.2.1 Environmental Protection – Climate Change and Energy Management" on page 146-147 of this Annual Report.	
(4) Does the Company collect data for greenhouse gas emissions, water usage and waste quantity in the past two years, and set greenhouse gas emissions reduction, water usage reduction and other waste management policies?	V		(4) For the Company's statistical data, intensity and data coverage for greenhouse gas emissions, water usage and waste quantity in the past two years, please refer to "7.2.1 Environmental Protection – Climate Change and Energy Management/Greenhouse Gas (GHG) Emission Reduction and Energy Management/Air and Water Pollution Control/Waste Management and Recycling" on page 146-150 of this Annual Report.  For the Company's policies on the reduction of greenhouse gas emissions, water usage and waste management, please refer to "7.2.1 Environmental Protection" on page 146-152 of this Annual Report.  For the Company's certification status of each data set and its scope, please refer to "7.2.1 Environmental Protection – Climate Change and Energy Management/Greenhouse Gas (GHG) Emission Reduction and Energy Management/Air and Water Pollution Control/Waste Management and Recycling" on page 146-150 of this Annual Report.	

(Continued)

Assessment Item	Implementation Status			Non-implementation and Its Reason(s)
	Yes	No	Summary	
4. Social Topic (1) Does the Company set policies and procedures in compliance with regulations and internationally recognized human rights principles?	V		(1) For the Company's policies and specific programs in compliance with regulations and internationally recognized human rights principles, please refer to "5.6.1 Human Rights Policy and Specific Actions" on page 104 of this Annual Report.	None
(2) Has the Company established appropriately managed employee welfare measures (include salary and compensation, leave and others), and link operational performance or achievements with employee salary and compensation?	V		(2) For the Company's employee welfare measures, including salary and compensation, diverse and fair workplace, leave, allowance, bonuses, and subsidies, please refer to "5.6.6 Competitive Overall Compensation" on page 107, "5.6.2 Diversity and Inclusion" on page 105, "5.6.3 Workforce Structure" on page 105, and "5.6.7 Employee Benefit System Superior to Statute" on page 107-108 of this Annual Report.	
(3) Does the Company provide employees with a safe and healthy working environment, with regular safety and health training?	V		(3) For the Company's status with respect to providing employees with a safe and healthy working environment, with regular safety and health training, please refer to "7.2.3 Safety and Health" on page 154-157 of this Annual Report.  For the Company's related certification status and its scope, please refer to "7.2.3 Safety and Health" on page 154-157 of this Annual Report.  For a presentation and analysis of the Company's occupational accidents in the current year and the number of employees involved, as well as related improvement measures taken, please refer to "7.2.3 Safety and Health" on page 154-157 of this Annual Report.	
(4) Has the Company established effective career development training plans?	V		(4) For the scope and implementation of the Company's employee training plans, please refer to "5.6.5 People Development" on page 105-106 of this Annual Report.	
(5) Does the Company's product and service comply with related regulations and international rules for customers' health and safety, privacy, sales, labelling and set policies to protect consumers' or customers' rights and consumer appeal procedures?	V		(5) Not applicable as TSMC is not an end product manufacturer.  For the Company's policy to protect customers' rights, please refer to "5.4.1 Customers" on page 100 of this Annual Report.	
(6) Does the Company set supplier management policy and request suppliers to comply with related standards on the topics of environmental, occupational safety and health or labor right, and their implementation status?	V		(6) For the Company's supplier management policy and related compliance norms, and specific requirements for suppliers in environmental protection, occupational safety and health or labor rights, please refer to "7.2.4 Supplier Management" on page 157-158 and "5.6.1 Human Rights Policy and Specific Actions" on page 104 of this Annual Report.  For a description of the implementation of the Company's supplier management policy and related compliance norms, please refer to "7.2.4 Supplier Management" on page 157-158 of this Annual Report.	
5. Does the Company refer to international reporting rules or guidelines to publish Sustainability Report to disclose non-financial information of the Company? Has the said Report acquire third party verification or statement of assurance?	V		For the reporting rules and guidelines that the Company follows in disclosing non-financial information in the Sustainability Report, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 140-144 of this Annual Report.  For third party verification of the Sustainability Report, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 140-144 of this Annual Report.	None
6. If the Company has established its sustainable development code of practice according to "Listed Companies Sustainable Development Code of Practice," please describe the operational status and differences.			TSMC follows the ESG Policy set by the Chairman, Dr. Mark Liu. For sustainable development operational status, please refer to "7. Environmental, Social and Governance (ESG)" on page 140-163 of this Annual Report and environmental social governance related information on the Company's website: <a href="https://esg.tsmc.com/en/index.html">https://esg.tsmc.com/en/index.html</a>	
7. Other important information to facilitate better understanding of the Company's implementation of sustainable development:			Please refer to TSMC's website for its sustainable development implementation status: <a href="https://esg.tsmc.com/en/index.html">https://esg.tsmc.com/en/index.html</a>	