2022 ESG REPORT

TAIWAN SEMICONDUCTOR
Sustainability Report

TAIWAN SEMICONDUCTOR

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About This Report

In response to global climate change issues, in 2022, Taiwan Semiconductor Co., Ltd. (TSC or the Company) formed an ESG Committee to conduct our sustainability strategy blueprint. This led to the establishment of the ESG Office and various task forces to implement ESG projects and improve our ESG efforts from all perspectives. In addition, this report is the first sustainability report issued by TSC to disclose the status of its sustainable development. It also serves as the first annual report to release non-financial information publicly.

This report is written by TSC based on the principles of integrity and transparency, to communicate the Company's sustainable development strategies and performance in environmental, society, and governance matters to stakeholders, reflecting TSC's concern and commitment to sustainability issues. This report has been reviewed and approved by the ESG Committee before its release.

Principles of Report Compilation

This report referred to the GRI Standards released in 2021, the Task Force on Climate-related Financial Disclosures (TCFD), and the Semiconductors Sustainability Accounting Standard 2018 by Sustainability Accounting Standards Board (SASB). It is prepared in accordance with the procedures for compiling and submitting sustainability reports by listed companies.

Report Boundary

This report discloses the specific achievements of Taiwan Semiconductor Co., Ltd. sustainable practices for the year 2022. As this is the first time Taiwan Semiconductor Co., Ltd. has compiled a sustainability report, the scope of this report is limited to the operations in Taiwan (Taiwan headquarters, I-lan Site and Li-Je Site) within the consolidated financial report boundary. In the future, overseas operations and subsidiaries will gradually be included in the disclosure scope. To present the trend of changes over the years, some data will be traced back to information before 2022. Any inconsistencies of the report period or adjustments to the information disclosure scope will be noted and explained in the report.

This report was issued in September 2023, with an information disclosure period from January 1, 2022, to December 31, 2022. It is expected to be published annually, with the next edition scheduled for June 2024.

Restatements of Information

This report is the first sustainability report compiled by Taiwan Semiconductor Co., Ltd., so there is no need for restatements of information.

Third-party Guarantee and Assurance

This report was collected, compiled, and written by the ESG team of TSC, and confirmed by each functional Supervisor to ensure that the report covers all material topics. The Company has commissioned KPMG in Taiwan to conduct a limited assurance in accordance with TWSAE 3000 of the Taiwan ARDF on Financial Reporting Standards for Non-Historical Financial Information Audit or Review (established referring to ISAE 3000 Revised). The Certified Public Accountant/CPA's independent assurance statement is attached to Appendix Independent Limited Assurance Report of this report.

Contact Information

Should you have any questions or suggestions about the content of this report, please feel free to contact us.

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Message from the Chairman

The COVID-19 pandemic has accelerated digital transformation in recent years, while extreme weather events, geopolitical turmoil, and the new establishment of Global Semiconductor Climate Consortium, have caused semiconductor industry to focus more on sustainable development issues. As a member of the global semiconductor supply chain, Taiwan Semiconductor Co., Ltd. is committed to adhering to international standards, engaging with stakeholders, and integrating sustainable development strategies into our core business. We have prioritized carbon reduction, green operations, environmental safety, talent development, and community engagement to achieve sustainable development and stay up-to-date with international trends. To align with the United Nations Sustainable Development Goals (SDGs) and increase transparency of environmental, social, and governance (ESG) information, we published our first ESG report in 2023. Our goal is to use our positive influence as a company and collaborate with our industry chain to move towards sustainability and create a better future for the world.

Sustainable Governance on the Basis of Integrity

In 2022, we formed an ESG Committee to conduct our sustainability strategy blueprint. This led to the establishment of the ESG Office and various task forces to implement ESG projects and improve our ESG efforts in all perspectives. In terms of governance, we are committed to ethical practice and have strengthened our risk control, information security, and sustainable supply chain management. We have also integrated ESG targets into our brand and daily operations.

In terms of environment, we are actively responding to the global vision for carbon reduction and Taiwan's goal of Net Zero by 2050. We have implemented various carbon reduction measures, and identified the Company's climate risks and opportunities, in alignment with the Task Force on Climate-related Financial Disclosures (TCFD) framework. These all demonstrates our determination to take climate action. Moving forward, we will continue to comply with domestic and international laws, such as carbon taxes and fees. We will launch corresponding carbon reduction and renewable energy projects and evaluate the feasibility of joining the Science Based Targets Initiative (SBTi) to take responsibility for carbon reduction as an enterprise.

Innovative Product Research and Development

Thanks to the collective efforts of all our employees, the Company's revenue in 2022 exceeded NT$560 million, which is a 20% increase from the previous year. This outstanding operating performance has laid a solid foundation for the Company's sustainable development. In terms of products, we assist automobile clients in developing new energy vehicles and improving their car performance with our high-quality automotive products. This contribution helps conserve energy and reduce carbon emissions. Additionally, we plan to use fully recyclable and decomposable eco-friendly packaging materials.

In terms of manufacturing, we have optimized our processes by removing lead, treating wastewater, and adjusting our electroplating process. We are paying close attention to the major markets of automotive and industrial automation and control to consolidate our main business and respond to the European Union's End of Life Vehicles Directive (ELV). We are committed to meeting the needs of all our stakeholders.

Shared Prosperity Through Social Charity

Employees are a valuable asset. Since 2022, our Company has launched several talent development initiatives, including expanding industry-academia collaborations and improving our internal education and training programs. These efforts aim to actively enhance our employees' professional skills and technical know-how. Additionally, we hold employee engagement conferences where our management team personally shares the Company's future outlook. To foster open communication with our employees, we regularly conduct employee opinion surveys and utilize various communication methods to ensure a healthy, safe, and friendly workplace. We also prioritize giving back to society through social charity events and creating value for our community.

Our first ESG report demonstrates to the public our Company's commitment to and efforts toward corporate sustainability. As we navigate the constantly evolving landscape, we remain committed to addressing all aspects of ESG concerns, listening to stakeholder feedback, and promoting positive environmental, social, and economic growth through a comprehensive sustainable governance framework. We will continue to prioritize business performance while working towards these goals. We are excited to collaborate with industry partners across all sectors to build a sustainable future together.

Chairman Wang Shiu-Ting

Sustainability Performance Highlights

Environment

In the past three years, the energy-saving plan has achieved savings of **1,418,830 kWh**.

In the past three years, the intensity of greenhouse gas emissions has continued to decrease.

The cooling water recycling project has reduced water consumption by more than **2,520 tons** per year.

Dedicated to promoting circular economy, achieving **100%** recycling and reuse of discarded sludge.

The use of renewable materials in green packaging has **increased by 14.67%** compared to the previous year.

Society

Average training hours per person for the management level is 61.65 hours, while for non-management level it is 56.39 hours.

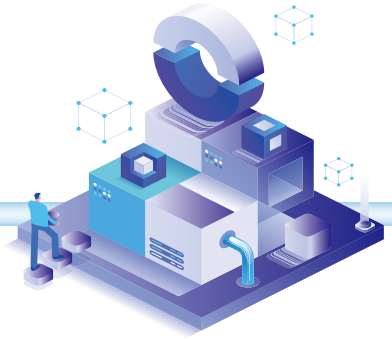
In non-supervisory positions, the median salary of full-time employees in non-supervisory positions **increased by 8.13%** over the previous year.

All employees are provided with health check-ups annually. In 2022, over 80% of employees underwent check-ups.

Implement occupational disease prevention and health management, and maintain **zero occupational disease cases** for three consecutive years.

The proportion of employees who have undergone performance and career development checks reached 100%.

Over the years, social charitable assistance and donations to impoverished students has **exceeded NT$5 million**.



Governance

The annual Corporate Governance Evaluation System ranking reached the 21%-35% bracket.

The proportion of Independent Directors reached 57%.

In the past three years, there have been **no data security breaches**.

Equipment automation coverage in TSC's sites in Taiwan has reached **68.8%**.

Introduce a knowledge management system, with **38 patents**.

Local purchases account for **72.7%** of procurement.

Material Topics GRI 3-1, 3-2, 3-3

Material Topic Identification

TSC conducts significant theme analysis and identification in accordance with GRI Standards. Through the five steps of identification, evaluation, analysis, inspection, and approval, it examines the potential and actual impacts that operational activities may have on the economy, environment, and society/people, and uses this as a basis for planning and adjusting sustainable management strategies.

TSC referenced the domestic and international sustainability-related evaluations and industry indicators, such as Dow Jones Sustainability Indices (DJSI), Carbon Disclosure Project (CDP), Sustainability Accounting Standards Board (SASB), Corporate Sustainability Assessment (CSA), United Nations Sustainable Development Goals (SDGs), industry regulations and norms, issues of concern to benchmark companies in the upstream and downstream, expectations of stakeholders, and opinions of expert consultants in the identification process, identifying 21 actual and potential impacts. In the evaluation stage, the ESG Committee of TSC assesses the significance of the impacts based on their impact and potential level. At the same time, surveys are sent to important stakeholders to understand their level of concern for sustainability issues. After analyzing and ranking the impact assessment results, taking into account stakeholder feedback and industry concerns, six major themes are identified.

The six material topics for 2022 are: customer relationship management, human resource management, climate change mitigation and strategy, employee safety and health, product liability, and environmental pollution prevention.

- Customer Relationship Management
- Human Resource Management
- Climate Change Mitigation And Strategy
- Employee Safety and Health
- Product Liability
- Environmental Pollution Prevention

1 Identification

- **Eight main stakeholders：**
  The main communication targets of TSC are suppliers, customers, employees, investors, government, media, general public, and academic institutions.
- **Twenty-one positive/negative impacts：**
  We have summarized 21 actual and potential impacts by referencing information such as the Semiconductor Industry Dow Jones Sustainability Index (DJSI), Carbon Disclosure Project (CDP), Sustainability Accounting Standards Board (SASB), Corporate Sustainability Assessment (CSA), United Nations Sustainable Development Goals (SDGs), industry regulations and norms, issues of concern to benchmark companies in the upstream and downstream, expectations of stakeholders, and opinions of expert consultants.

2 Evaluation

- **Degree of Impact and Significance：**
  Based on the positive/negative impact and significance on the environment, society, and economy in 2022, the issue is assessed on a four-level scale from 0 (zero impact) to 3 (serious impact).
- **Possibility of occurrence：**
  Assess the possibility of future occurrence based on the impact, using a four-level scale from 0 (impossibility) to 3 (high possibility).
- **Calculation of Impact Significance：**
  The significance of the impact = impact x possibility.

3 Analysis

- **Prioritization：**
  Identify and prioritize sustainability issues into positive/negative impacts, using a threshold value of 33%. Any issue exceeding the threshold will be classified as a material topic.
- Select six sustainable issues of concern as the material topic for 2022, and create a TSC material topic matrix.

4 Inspection

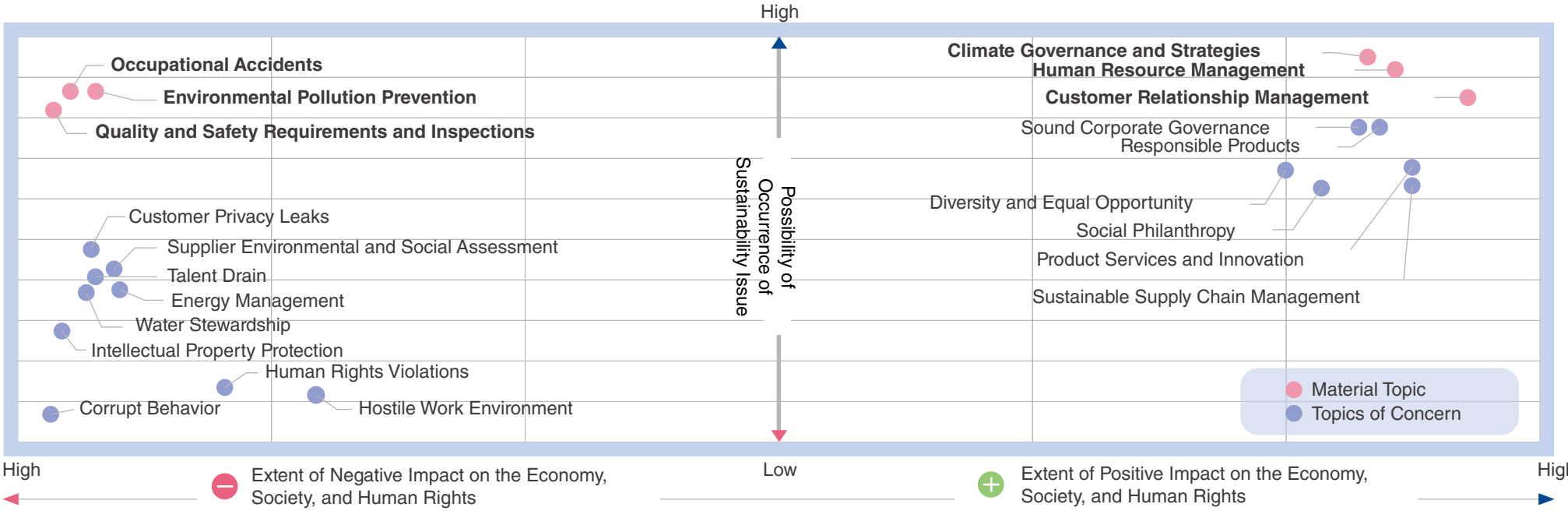
- **Stakeholder feedback：**
  Through the 2022 TSC Stakeholder and Material Topic Questionnaire, surveys and interviews were conducted on closely related and influential subjects.

5 Approval

- After review by the ESG Office, it is submitted to the ESG Committee for approval.

Material Topic Matrix

In response to the GRI concept, TSC considers factors such as industry, geographic location, and organization to define the positive and negative impacts of various sustainability issues. Through the concept of risk management, TSC identifies the actual and potential significance of these impacts. The X-axis of the material topic matrix is set to represent the organization's impact on the economy, environment, and society/people for each issue, with the magnitude of the impact differentiated by numerical values. The Y-axis of the matrix represents stakeholders' assessment of the likelihood of the issue occurring. A total of six material topics for 2022 have been assessed, as shown in the figure below.



Negative (4 governance ; 3 environment ; 4 society ; 1 products)

Governance	Environment	Society	Product
Corrupt Behavior	**Environmental Pollution Prevention**	Human Rights Violations	**Quality and Safety Requirements and Inspections**
Customer Privacy Leaks	Energy Management	**Occupational Accidents**	
Supplier Environmental and Social Assessment	Water Stewardship	Brain Drain	
Intellectual Property Protection		Hostile Work Environment	

Positive (2 governance ; 1 environment ; 3 society ; 3 products)

Governance	Environment	Society	Product
Sound Corporate Governance	**Climate Governance and Strategies**	**Human Resource Management**	**Customer Relationship Management**
Sustainable Supply Chain Management		Social Philanthropy	Responsible Products
		Diversity and Equal Opportunity	Product Services and Innovation

Note: The bold text in the table indicates material topics.

Material Topic Management

Positve: ⊕ Negative: ⊖

Number	Aspect	Material Topics in 2022	Explanation of Positive/Negative Impact	Value Chain Impact			Management Policy (Corresponding Chapter)
				Upstream	TSC	Downstream	
1	Product	Customer Relationship Management	⊕ Customer Relationship Management Through regular customer meetings organized by the Company's customer service team, we can understand the actual needs of customers and make immediate improvements to operational plans. This will optimize and enhance the customer experience, as well as increase customer retention rate and loyalty, thereby improving economic performance.		●	●	2.2 Customer Relationship Management
2	Society	Human Resource Management	⊕ Human Resource Management Establish an attractive, diverse, and equitable remuneration and benefits system to increase employees' sense of identity and cohesion towards the Company. Develop diverse recruitment channels to recruit excellent talents to enhance operational efficiency. Meanwhile, enhance employee professional capabilities through a comprehensive talent development and cultivation system, provide appropriate positions for different employee characteristics, and thereby improve employee job satisfaction and operational performance.		●		4.1.1 Diversity and Inclusion
3	Environment	Mitigation and Strategies for Climate Change	⊕ Climate Governance and Strategies Strengthening strategic deployment and the management of climate issues in enterprises (such as increasing the proportion of renewable energy sources) helps to reduce environmental impacts like carbon emissions and waste, mitigate future financial costs such as carbon taxes/fees, and enhance the management measures of climate-related risks through investment. It also helps to lead the development of low-carbon industries and enhance the climate resilience of TSC.	●	●		1.3.3 Climate Risk Management
4	Society	Employee Safety and Health	⊖ Occupational Accidents The Company's operational safety regulations are not perfect, resulting in employees encountering occupational accidents and diseases, or chemical hazards, causing disability and harm to employees. As a result, the Company may face compensation and litigation issues.		●		4.2.3 Workplace Safety Management
5	Governance	Responsible Products	⊖ Quality and Safety Requirements and Inspections If there are any product safety/quality incidents, there may be related legal proceedings and violations, resulting in litigation costs, compensation, and other economic losses, while also compromising customer health and safety.	●	●	●	2.1.1 Products and Services
6	Environment	Environmental Pollution Prevention	⊖ Environmental Pollution Prevention Waste, water, and air pollution from plants can have a serious negative impact on the environment. If companies do not have waste and wastewater management or fail to implement air pollution prevention and control regulations and greenhouse gas reduction measures, this may lead to their being required by relevant government agencies to clean up and take responsibility for environmental improvement, which will also affect their reputation and increase operating costs.	●	●		5.2 Waste Management

Communication with Stakeholders

TSC values and listens to the voices of various stakeholders. Through discussions and reviews within the units and departments under the ESG Committee, we gather information on internal and external groups or individuals that have an impact on or are affected by the Company's operations. We also reference the five principles of the AA1000 Stakeholder Engagement Standard (SES) to identify eight main stakeholders: suppliers, customers, employees, investors, government, media, the general public, and academic institutions. Through regular and irregular communication with stakeholders, we aim to understand the actual and potential impacts of our operations on stakeholders. This understanding serves as the basis for our future planning of relevant preventive and mitigation actions.

Communication with Stakeholders

Stakeholders	Description	Issues of Concern	Communication Frequency and Channels	Communication Achievements in 2022
 Suppliers	Provide TSC products, services, or enterprises and their branch companies that have commercial relationships with TSC	• Responsible Products • Intellectual Property Protection • Sustainable Supply Chain Management • Environmental Pollution Prevention • Occupational Accidents	• Quarterly: Internal meeting on supplier delivery management capabilities and scheduling flexibility. • Annually: Written or physical audits, signing relevant agreements on intellectual property protection with suppliers, RBA self-assessment questionnaire. • Time to time: Communication meetings on intellectual property protection issues for IC design companies, information product promotion activities, informing contractors of hazards before factory construction, and signing occupational safety and health commitment letters.	• Hold at least two information product promotion events. • Hold meetings with IC design companies to discuss intellectual property protection from time to time. • The factory held a pre-construction hazard notification education training session with the participation of more than 500 contractors. • RBA self-assessment questionnaire response rate exceeded 90%.
 Customers	The customer is the source of revenue for TSC. Understand the customer's needs, grasp industry trends, and provide professional services.	• Customer Privacy Leaks • Intellectual Property Protection • Supplier Environmental and Social Assessment • Customer Relationship Management • Quality and Safety Requirements and Inspections • Responsible Products • Climate Governance and Strategies • Sound Corporate Governance	• Annually: Customer Satisfaction Survey • Time to time: Conduct meetings with customers regarding quality and specification testing. Respond to questionnaires on specific data platforms (such as Ecovadis, CDP, SupplyOn, etc.) according to customer requirements. Conduct RBA assessments and CSR/ESG evaluations/audits according to customer requirements. Communicate with automotive industry customers about ESG-related progress and plans. Coordinate and communicate with customers with their score card and results.	• Conducting annual customer satisfaction survey, with a response rate of 83%. • Complete three customer evaluation audits. • During Electronica in Munich, at least 15 business meetings were held with customers to discuss future opportunities. • Conduct at least 10 meetings regarding existing and emerging market automotive-related products. The content should cover the latest product developments and achievements, as well as listening to customer needs and evaluating trends in the automotive market.
 Investors	Pay attention the investment value of TSC, focusing on the Company's growth strategy, profitability, shareholder return on investment, and sustainability performance.	• Sound Corporate Governance • Corrupt Behavior • Product Services and Innovation	• Quarterly: Quarterly financial statements • Annually: Annual shareholders' meeting, annual financial statements. • Time to time: Investor conferences, company website updates on operational performance, major announcements on Market Observation Post System.	• Quarterly financial statements held four times • Annual shareholders' meeting held once • Five investor conferences have been held

Stakeholders	Description	Issues of Concern	Communication Frequency and Channels	Communication Achievements in 2022
 Employees	All TSC employees	• Product Services and Innovation • Brain Drain • Human Resource Management • Sound Corporate Governance • Diversity and Equal Opportunity • Occupational Accidents	• Weekly: Product Development Meetings • Quarterly: Independent study courses, production scheduling planning, quality issue communication, cross-functional meetings, senior executive meetings, all-hands meetings, occupational health and safety meetings, labor-management meetings, etc. • Semiannually: SMART performance goal setting principles workshop • Every year: Employee annual on-the-job safety and health training, KPI setting • The Li-Jie and I-lan Site conduct two fire escape drills and one chemical spill drill annually. • Time to time: SMART Train the Trainer workshop, job content and occupational competency development meetings, new employee safety and health training, employee interviews.	• Over 500 people participated in training courses such as SMART workshop and SMART Train The Trainer workshop. • Over 50 safety and health training sessions have been held, with approximately 300 participants.
 Government	The operation of TSC directly or indirectly involves, or is regulated by, the competent authorities	• Environmental Pollution Prevention • Climate Governance and Strategies • Occupational Accidents • Energy Management • Sound Corporate Governance • Responsible Products	• Time to time: Updates on legal compliance matters on the Company website, legal publicity briefings, industrial safety counseling, inspections by the Occupational Safety and Health Administration of the Ministry of Labor, wastewater treatment planning and testing, waste-related audits, energy consumption inspection reports, interaction with government by official documents.	• Conducting over 25 government evaluations or audits
 Media	The media plays the role of a bridge between TSC and stakeholders, helping stakeholders openly obtain accurate company information and solidify the Company's image.	• Sustainable Supply Chain Management • Sound Corporate Governance • Corrupt Behavior	• Time to time: Investor conferences, face-to-face interviews, phone interviews, company official website, press releases.	• Held five investor conferences.
 General Public	TSC's operations can generate positive and negative ESG impacts on the general public.	• Social Philanthropy • Supplier Environmental and Social Assessment	• Quarterly: Donate invoices to Genesis Social Welfare Foundation • Time to time: Disaster relief donations, lunch and miscellaneous fees assistance for impoverished students, blood donation charity events	• Invoice Collection Campaign • Blood drives were held at the Li-Je Site and I-lan Site, and a total of 118 bags of blood were donated
 Academic Institutions	Research institutions collaborate with TSC to develop advanced technologies and applications, assisting industry-academia cooperation in innovative research and development to enhance market competitiveness.	• Human Resource Management • Sound Corporate Governance	• Time to time: Recruitment orientation, Industry-Academia Cooperation Meeting • Annually: Governance and Training of Board of Directors	• Collaboration and exchange activities were held with colleges and universities, with over 150 participants. • Held three recruitment orientations, conduct face to face recruitment and recruit interns.

1

Sustainable Operation and Governance

1.1 About TSC

1.2 Corporate Governance

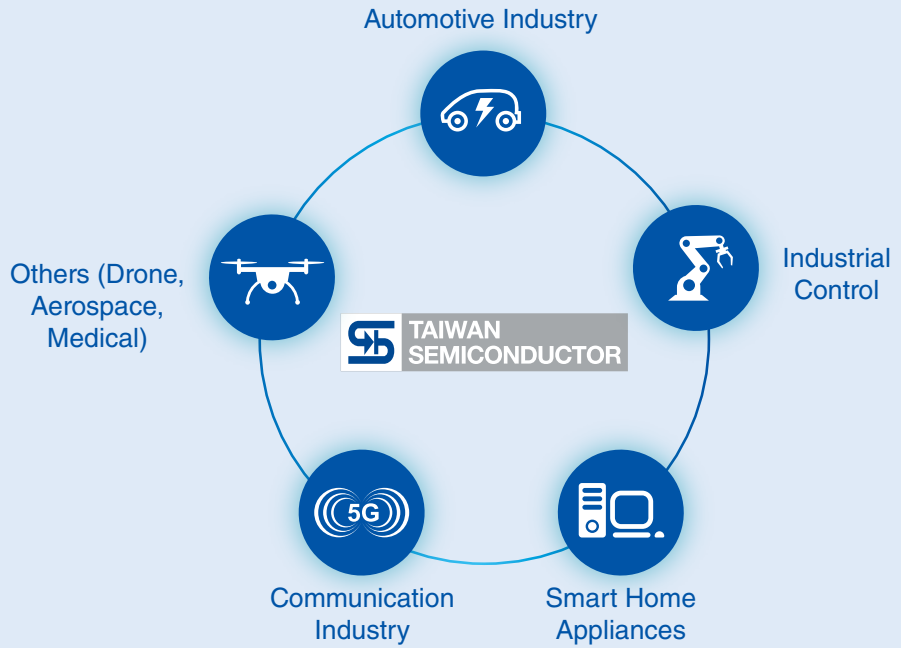
1.3 Risk Management

1.1 About TSC

Taiwan Semiconductor Co., Ltd. (TSC or the Company) was established in 1979 and is a leading manufacturer of power semiconductor devices worldwide. With over 40 years of experience, the Company provides a wide range of products, including power management ICs, rectifiers, ESD protection devices, bridge rectifiers, metal-oxide-semiconductor field-effect transistors (MOSFET), insulated gate bipolar transistors (IGBT), trigger diodes, and silicon controlled rectifiers. These products and solutions are widely applied to automotive electronics, power management systems, lighting, industrial equipment, portable products, communication devices, consumer electronics, and computer 3C products. TSC continuously enhances its competitive advantage through technological innovation, strengthens its sustainable supply chain to serve customers, and continues to develop its global market.

1.1.1 Introduction to TSC

Date of Establishment	Established in accordance with the Company Act in January 1979
Headquarters	Address: 11F., No. 205, Sec. 3, Beishin Rd., Xindian Dist., New Taipei City, Taiwan (R.O.C.)
Capital	NT$2.634 billion
Industry	Semi-conductor manufacture
Affiliates	The business operations of Company affiliates include electronics components manufacturing, office machines manufacturing, computer and peripheral equipment manufacturing, international trade, management consulting, restrained telecom radio frequency equipment and materials import, and controlled telecommunications radio-frequency devices and materials manufacturing.
Date of Listing	Listed for trading on the Taiwan Stock Exchange in February 2000.
Ticker Symbol	5425



Operations

The headquarters of the TSC Group is located in New Taipei City, Taiwan. There are four production sites, including wafer fabs and assembly sites, located in Taiwan and mainland China. Sales offices are located globally in mainland China, Hong Kong, Japan, South Korea, India, the United States, Germany, France, the United Kingdom, and other regions. The global employees are over 1600. The subsidiary TSC Auto ID Technology Co., Ltd.. (Ticker Symbol: 3611) is mainly engaged in the manufacturing and trading of bar-code printers. For more information about TSC Auto ID Technology, please refer to the Company's annual report.

Service Scope of TSC

The development and manufacturing of power semiconductor is the core competitiveness of TSC. From product design, technology research and development, wafer manufacturing, assembly and testing, to global marketing of its brand, TSC provides customers with a comprehensive power semiconductor solution. Our production sites are in I-lan and Li-Je (Wujie Township, I-lan), Tianjin Province and Shandong Province in mainland China. The Li-Je Site and Tianjin Site mainly produce six-inch and four-inch wafers, while the I-lan Site and Shandong Site mainly produce assembly and testing products such as MOSFET rectifiers, surface-mount devices (SMD), and bridge rectifiers. After producing wafers for self-use, the Li-Je Site and Tianjin Site will transfer them to the I-lan Site or Shandong Site for assembly, depending on the production schedule and assembly process requirements of each assembly site. TSC continues strengthening technological innovation and enhancing market competitiveness by integrating resources and collaborating with upstream and downstream supply chain partners.

Service Scope of Main Production Area

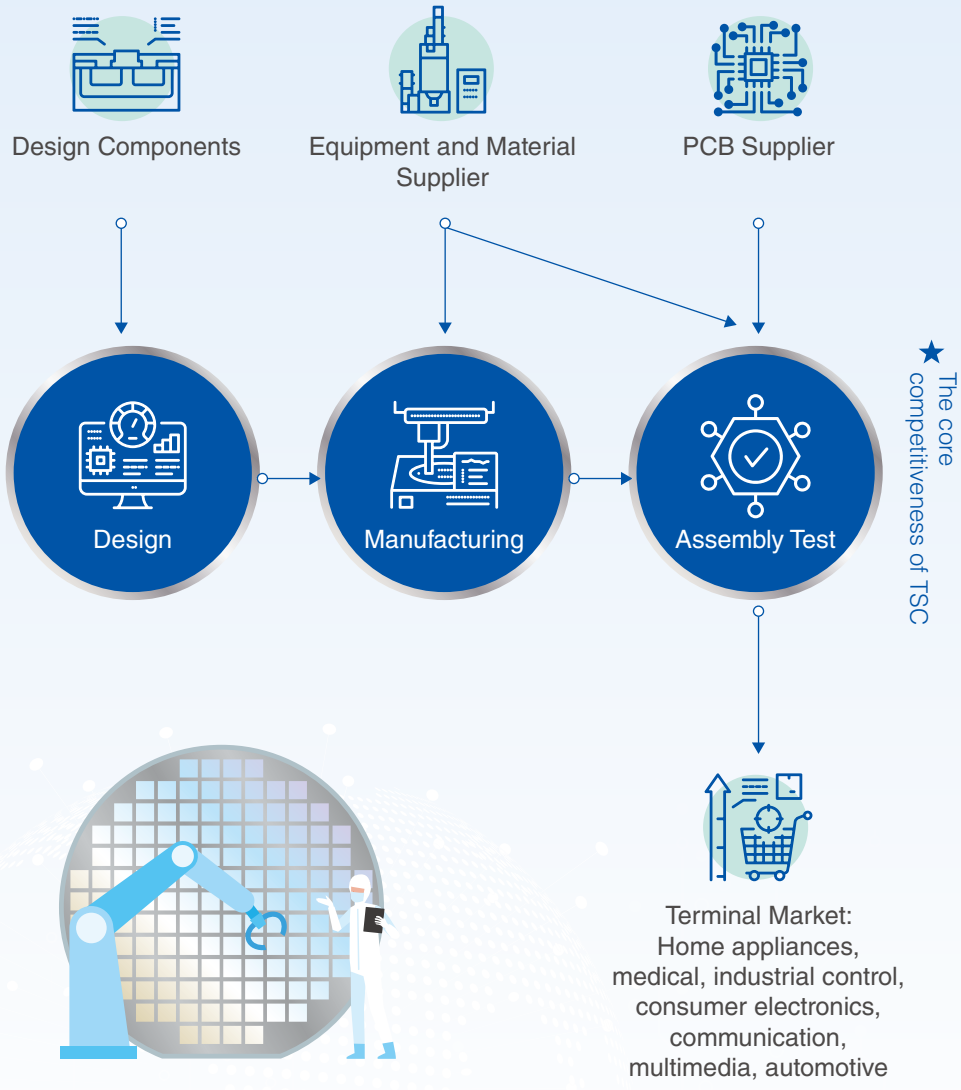
Li-Je Site (wafer fab)

I-lan Site (assembly and testing site)

Tianjin Site
Tianjin Everwell (wafer fab)

Shandong Site
Yangxin Everwell (assembly and testing site)

Industry Value Chain



Business Philosophy

TSC strictly complies with the TSC Corporate Governance Best Practice Principles and deeply implements the concept of sustainable operation. As a significant member of the international semiconductor industry chain, TSC conducts comprehensive layout based on the development and demand of the global industry. TSC takes "Professionalization of Operation, Value Co-creation, Technological Innovation, Quality Commitment, and Brand Internationalization" as the five dimensions for its corporate sustainable development strategy. In response to industry trends, TSC effectively grasps social dynamics, deeply cultivates sustainable values and culture, implements corporate social responsibility, and promotes positive influence within the industry.

1 Professionalization of Operations

- In order to popularize capital, ownership and management rights are clearly divided.
- Professional managers are recruited to enhance operational performance.
- Management is systematized, with the goal of sustainable operation.

2 Value Co-creation

- Employees are encouraged to buy shares.
- The results of operational achievements are shared.

5 Brand Internationalization

- The scale of the industry is expanded and influence enhanced.
- The Company's products and brand strive to become leaders in the industry worldwide.

3 Technological Innovation

- Technology and R&D and innovation are deeply cultivated.
- Strategic partners are collaborated with to jointly develop new products.

4 Quality Commitment

- A zero-defect policy is implemented to ensure superior quality.
- Enthusiastic service responds promptly to customer needs.

Participation in Associations

TSC strives to play an essential role in the global market through continuous technological innovation and a complete deployment in the value chain, responding to changes in the international situation and industry with other companies. We also actively participate in trade organizations and external initiatives related to its industry and sustainable development, leading the industry towards mutual benefit.

List of Participation in Associations

Association Name	About the Association	Participation Methods and Objectives	TSC's Role in the Association
World Semiconductor Trade Statistics, WSTS	WSTS is an international semiconductor industry organization responsible for collecting and publishing statistical data on the global semiconductor market. It assists the industry in making strategic decisions through analysis and forecasting, and its findings are important reference indicators for the semiconductor industry.	TSC became a member in 2012 and provides shipment information to WSTS on a monthly, quarterly, and semi-annual basis. WSTS regularly releases statistical information (including product categories and applications) and market forecast data for members' reference.	Member
Chinese National Association of Industry and Commerce, CNAIC	The CNAIC is one of the representative organizations of Taiwan's business community, serving as a bridge for communication between the government and enterprises.	TSC participates in seminars and events organized by CNAIC on a regular basis to stay updated on the latest economic and trade situations and industry trends.	Member
CommonWealth Magazine Group - ESG committee	The CommonWealth Magazine Group - ESG committee regularly convenes member discussions on legal regulations, customer requirements, and ESG trends such as carbon tariffs being implemented in various countries.	TSC was invited to become a corporate member in 2023 and participate in the SDGs Workshop, actively exchanging ideas with peers and companies from different industries, sharing its own corporate social responsibility and energy-saving measures in the semiconductor industry with the goal of jointly guiding the sustainable development of Taiwanese companies with industry leaders.	Member

Responding to International Sustainability Initiatives

- **TCFD (Task Force on Climate-related Financial Disclosures):**

  In response to the TCFD initiative, TSC implements climate change management based on the TCFD framework starting from 2022. We will follow the TCFD framework to identify climate risks and conduct risk and opportunity analysis through relevant responsible units based on transition and physical risks, and develop adaptation and mitigation strategies.

- **SBT (Science Based Targets):**

  TSC is planning to develop a medium to long-term carbon management plan in the near future, with the following four-stage plan:

Stage 1
- Strengthen carbon inventory foundation
- Streamline supply chain
- promote energy-saving projects

Stage 2
- Establish strategies and goals, set SBT submission time
- Carbon emission hot spots management

Stage 3
- Submit SBT commitments
- Implement related education and training

Stage4
- Implement science-based carbon reduction measures according to SBTs

1.1.2 Financial Performance

TSC believes that good operational performance is the foundation for the sustainable development of a company. In recent years, TSC has been deeply involved in the development of new products such as automotive electronics, industrial control, servers, and analog integrated circuits (ICs). The overall synergy and effectiveness of these efforts have become increasingly evident year by year. TSC complies with the principle of information transparency. We continuously improve capital efficiency and push for communication with stakeholders to provide them with a comprehensive understanding of our operations and growth.

Through industry deployment and the joint efforts of all employees, we achieved a revenue of NT$5.69 billion in 2022, a growth of about 19% compared to the previous year. The average gross profit margin increased to 29%, and net profit after tax reached approximately NT$1.56 billion. Earnings per share (EPS) increased from NT$3.55 to 6.28, and a cash dividend of NT$4 per share was distributed for the year 2022. TSC's tax donations for the year reached NT$260 million, demonstrating its sound, stable operational performance and continuous contribution to society. For more information on the Company's operational performance and financials, please refer to TSC's 2022 financial report and annual report.

Overall Financial Performance

Unit: NT$ thousand

Type	2020	2021	2022
Operating Revenue	3,642,461	4,803,477	5,699,155
Operating Costs	2,920,010	3,954,927	4,437,327
Employee Salary and Benefits	432,171	526,993	700,267
Dividend Distribution	395,228	658,714	1,053,942
Interest Paid	0	5,341	9,810
Payments made to the Government*	44,602	124,583	267,253

*Note: Payments made to the government include all the Company's tax payments and fines as reported.

Revenue Proportion from the Government

Unit: NT$ thousand

Type	2020	2021	2022
Tax Reductions and Deductions	9,416	7,354	28,110
Investment Subsidies, R&D Subsidies, and Other Related Subsidies	818	488	1,879
Other: Ministry of Economic Affairs' Return to Taiwan to Invest Interest Subsidy	1,025	1,823	3,458

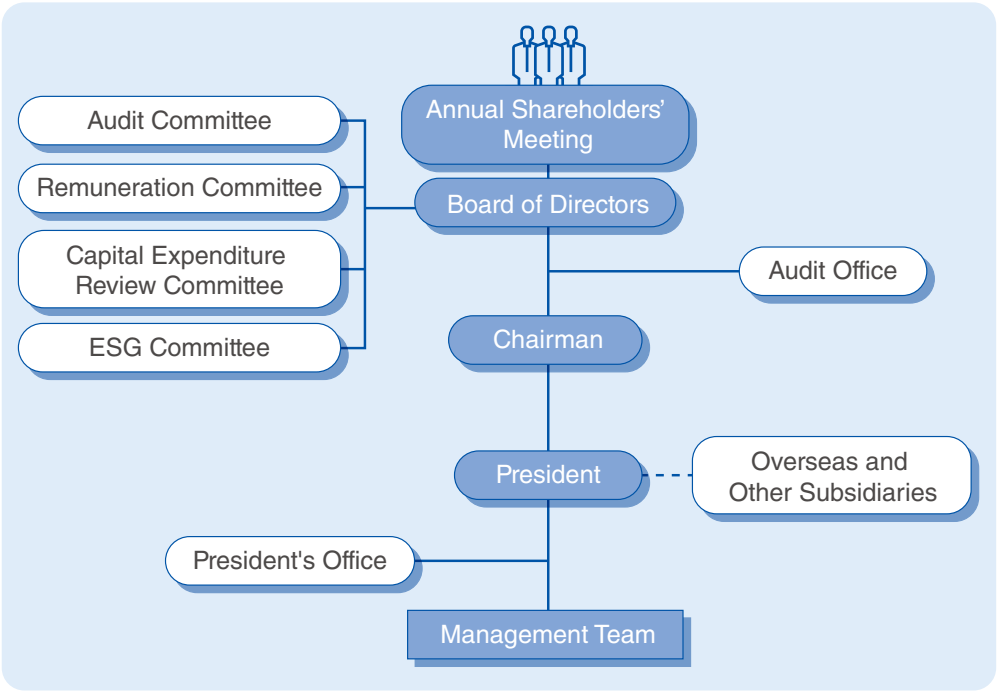
*Note: The government has not held any shares in TSC in the past three years.

1.2 Corporate Governance

1.2.1 Sustainable Governance

To ensure sound corporate governance, TSC complies with the principle of integrity in carrying out various business operations, strictly prohibiting any form of corruption, bribery, and fraudulent activities for personal or others' gain through the abuse of power. We have also set up a dedicated section for investors on the official website, regularly disclosing financial and non-financial information such as annual Shareholders' Meeting reports and ESG Reports. By enhancing information transparency, TSC strengthens communication with stakeholders and safeguards their rights and interests. TSC's Corporate Governance Evaluation System result for 2022 rose one level compared to 2021, indicating a significant improvement in our overall corporate governance efforts over the past year.

Corporate Governance Structure



Composition and Operation of the Board of Directors

The Board of Directors is the highest governance body of TSC, responsible for guiding the Company's strategy, supervising management, and being accountable to shareholders. The Board of Directors of TSC exercises its powers in accordance with laws, Articles of Incorporation, or resolutions of Shareholders' Meetings in relation to various operations and arrangements of the corporate governance system. In order to strengthen supervision and enhance management functions, the Board of Directors has established multiple Functional Committees, including the Audit Committee, Remuneration Committee, and Capital Expenditure Review Committee, and has specified organizational regulations to assist the Board of Directors in fulfilling its supervisory responsibilities. The committees regularly report their activities and decisions to the corporate governance body. The Audit Office of TSC is responsible for regularly conducting internal audit operations, and its effectiveness and efficiency are supervised by the Audit Committee.

As of the end of 2022, the average term of office for all Directors is three years. According to Article 206 of the Company Act, attendance by the Board of Directors' should reach a majority. In the first half of 2022, the Board of Directors held seven meetings, with at least six Directors attending each meeting. The average attendance rate of Directors was 95.9%, indicating good attendance and compliance with regulations. The ratio of total Director remuneration to the Company's net profit after tax in 2022 was 3.92%.

Nomination and Selection of Directors

The Board of Directors establishes the election system for Directors in accordance with laws and the Articles of Incorporation. The selection process for all Directors is open and fair, in compliance with the "Articles of Incorporation of Taiwan Semiconductor Co., Ltd." Currently, the Board of Directors of TSC consists of seven Directors, including four Independent Directors and one External Director. Among them, two Directors also hold positions as employees or executives, which does not exceed the majority and complies with legal regulations.

In addition, according to the Rules for Election of Directors established by the Company, the method of selecting Directors and Independent Directors adopts a cumulative voting system and a candidate nomination system, allowing shareholders holding a certain number of shares or more to propose a list of candidates to promote shareholder participation and avoid the monopolization or excessive use of nomination rights, thereby maintaining independence. For more details, please refer to the TSC's Rules for Election of Directors.

Diversified Composition of the Board of Directors

According to the articles of the TSC Corporate Governance Best Practice Principles, the Company has established a policy of diversity and specific management objectives for the Board of Directors. The diversity of Board of Directors is achieved by taking gender, age, nationality, culture, professional background, and industry experience into consideration with regard to its composition. In this way, TSC can be guided by a diverse industry and international market perspective. Currently, all seven Directors of the Company are male R.O.C nationals, and each possess the necessary knowledge, skills, and education for fulfilling their duties. Each of them has a wealth of expertise in accounting, finance, business, law, marketing, or industry technology. Please refer to the 2022 TSC Annual Report for the CVs of the Directors.

Board of Directors

Name of Director	Functional Committee Members	Date First Elected	Attendance Rate
Wang Shiu-Ting (Chairman and President)	ESG Committee (Chairman)	1998.06.19	100%
TSC Auto ID Technology Co., Ltd. Representative: Wang Xing-Lei	Member of ESG Committee	2015.06.18	100%
UMC Capital Co., Ltd. Representative: Liu Chang-Yu	None	2021.07.26	85.71%
Jhan Cian-Long (Independent Director)	Audit Committee (Convener) Member of Remuneration Committee	2012.06.27	85.71%
Lin Bo-Sheng (Independent Director)	Member of Audit Committee Member of Remuneration Committee	2012.06.27	100%
Fan Hong-Shu (Independent Director)	Member of Audit Committee Member of Remuneration Committee (Convener)	2012.06.27	100%
Ma Shu-Zhuang (Independent Director)	Member of Audit Committee	2021.07.26	100%

Performance Evaluation of Board of Directors

To implement corporate governance and enhance the functioning and efficiency of the Board of Directors, we have established performance goals. In accordance with Rules for Performance Evaluations of the Board of Directors, TSC conducts performance evaluation annually. In 2022, the evaluation will be conducted online or through self-assessment forms. The evaluation will assess the overall operation of the board members, functional committees, and performance of each Director. The evaluation results and improvement plans will be submitted to the Board of Directors. The evaluation results for 2022 are rated as "excellent" to "outstanding" and will be disclosed in the Company's Annual Report and official website

Performance Evaluation Items of Board of Directors

Management of Conflicts of Interest in the Board of Directors

TSC follows relevant laws and regulations, with Independent Directors serving as members of the Audit Committee to ensure the independence of the Board and fulfill its supervisory function. TSC discloses positions of the Board of Directors' members in other companies in the Annual Report, indicating that there is no cross-shareholding with major suppliers or other stakeholders.

Functional Committee

Functional Committee	Responsibilities	Frequency of Meeting	Major Resolutions
Audit Committee	The main purpose of the Audit Committee is to supervise the following matters: • The proper expression of the Company's financial statements. • Selection, appointment, independence, and performance of Certified Public Accountants/CPAs • Effective implementation of internal controls within the Company. • Company compliance with relevant laws and regulations. • The management of existing of potential risks to the Company.	At least once per quarter; a total of 6 times in 2022.	• Annual and Quarterly Financial Statements Report • Internal Audit Activities Report • Major Investment Projects of the Company
Capital Expenditure Review Committee	Tracking operational performance by reviewing capital expenditure budgets, long-term development strategies, implementing plans, and making cost-effectiveness adjustments.	At least once per quarter; a total of 3 times in 2022.	• Discussion of capital expenditure budgeting, and implementation, revision, and addition of plans.
Remuneration Committee	The Committee is responsible for evaluating the remuneration policy and system for directors, supervisors, and managers of the Company in a professional and objective manner, and for submitting its suggestions to the Board of Directors as a reference in the decision-making process.	At least once per quarter; a total of 3 times in 2022.	• Discuss and approve the performance evaluation of Directors and managers for 3Q22. • Study and discuss the remuneration of Directors and managers for 2023. • Discuss and approve the proposals of the Compensation Committee for 2023 • Discuss and review the results of the performance evaluation of Directors and managers of the Company in 2022 and relevance and reasonableness of salary and compensation. • Discuss and approve the review of the actual payment of various salaries and remuneration of Company's Directors and managers in 2022. • Discuss and approve the review of the Company's 2022 remuneration of Directors and remuneration case of employees.
ESG Committee	• Formulate the Company's sustainable development policy. • The Company's sustainable development, including the establishment of goals, strategies, and implementation plans for sustainable governance, integrity in operational, environmental, and social aspects. • Review, track, and revise the implementation and effectiveness of the Company's sustainable development, and regularly report to the Board of Directors. • Pay attention to the concerns and supervisory communication plans of various stakeholders, including shareholders, customers, suppliers, employees, government, non-profit organizations, communities, and media.	At least once per year; a total of one time in 2022.	• Formulate TSC Sustainable Development Goals • Establish the 2050 net zero goal • Establish an ESG Office and set up various functional teams.

Note: The Capital Expenditure Review Committee was established in March 2022, and the ESG Committee was established in May 2022. Therefore, the number of meetings held by these two committees in the same year was lower than initially planned.

Audit Office

In accordance with the Regulations Governing Establishment of Internal Control Systems by Public Companies, an Audit Office directly subordinate to the Board of Directors has been established to set up a comprehensive internal risk control system and effectively implement it. An internal audit plan is conducted once a year between November and December, and the audit plan for the following year is reported to the Board of Directors in order to respond to changes in the internal and external environment of the group and ensure the continuous effectiveness of the system.

The main purpose and execution requirements of the Audit Office are to investigate and evaluate deficiencies in the internal control system and the efficiency of operations as well as providing timely improvement suggestions to assist the Board of Directors and management in fulfilling their responsibilities. The Audit Office adopts independent full-time internal auditing, conducting regular and irregular business audits and financial audits to effectively evaluate the soundness, reasonableness, and effectiveness of the internal control systems. When auditors engage in audit work, they will provide an audit report and a specified time limit for improvement to the inspected unit, so that they can provide explanations and implement improvement measures for abnormalities, and continuously track the progress of improvements.

Remuneration of Governance Body and Senior Managers

The remuneration provided TSC includes cash compensation, stock warrants, profit-sharing and stock ownership, retirement benefits or severance pay, various perks, and other substantial incentives. The scope of these measures is consistent with the guidelines for the disclosure of remuneration for directors, supervisors, and executives in the Company's Annual Report. In order to improve the remuneration system for directors, supervisors, and executives, the Company has also established a Remuneration Committee and formulated the Remuneration Committee Charter. The gender ratio of senior managers' remuneration has shown a continuous upward trend over the past three years.

Female to Male Remuneration Scale for Senior Managers

Year	2020	2021	2022
Female : Male	23%	19%	41%

Note:

1. This table uses calculations based on basic salary plus additional remuneration.
2. "Senior managers" refers to people in positions at the level of vice president or above.

ESG Governance

The highest sustainable governance unit of TSC is the ESG Committee, established in May 2022. It serves as the decision-making and supervisory unit for our sustainable development efforts, dedicated to promoting environmental conservation and fulfilling social responsibilities. The committee has also formulated an ESG Committee Charter to ensure that the Company fulfills its responsibilities in safeguarding the rights and interests of the Company, employees, shareholders, and stakeholders.

Under the ESG Committee are the ESG Office and the Corporate Social Responsibility Functional Team that ensure the promotion and implementation of corporate sustainable development-related work. The ESG Committee is responsible for formulating the Company's sustainable development policies, strategies, and implementation plans for corporate sustainable governance, integrity operation, and environmental and social goals. It is also responsible for reviewing, tracking, and revising the implementation and effectiveness of the Company's sustainable development, and reporting to the chairman at least twice a year. Additionally, ESG Committee should pay attention to the concerns of various stakeholders, including shareholders, customers, suppliers, employees, government, non-profit organizations, communities, and the media, and supervise communication plans.

The ESG Office is composed of supervisors of the Administration Division, and supervisors and executive secretaries of each site. They are responsible for managing relevant policies and action plans for sustainability goals, coordinating and tracking the progress of various actions, and regularly reporting on the progress of sustainability projects and other significant issues to the ESG Committee.

Sustainable Governance Organizational Structure Chart

1.2.2 Integrity Management

Integrity management has been the cornerstone of our business strategy for nearly 40 years. In addition to complying with relevant regulations in Taiwan, the Company also establishes policies related to honesty and integrity management, as well as internal supervision and whistle-blower protection systems. We promote various training and advocacy programs to ensure that the behavior of all employees aligns with the moral values of TSC.

Policies and Norms of Ethical Conduct

TSC is committed to the soundness of integrity management, following relevant national laws and regulations, and has established the TSC Ethical Corporate Management Best Practice Principles, Work Rules, Codes of Ethical Conduct, and various ethical conduct management and guidelines as the ethical and behavior indicators for all employees (including managers), expecting to shape a corporate culture of integrity and moral values. The integrity operation policies and prevention plans are reviewed for their promotion and compliance by the ESG Committee, and a report is submitted to the Board of Directors at least once a year. Relevant policies and practices are disclosed on the Company's internal management platform and official website for all employees and other stakeholders to refer to. For more details, please refer to the Corporate Governance Regulations on the official website.

Internal Supervision of Integrity Management

The Audit Office of the Company continues to use effective accounting systems and internal control systems to regularly analyze and supervise business activities within the scope of operations that involve higher risks of integrity violations. Through this, we establish audit targets, scope, items, frequency, and other preventive measures, and regularly conduct audits to ensure effective supervision and control. In addition to establishing internal monitoring mechanisms, we also appoint CPAs to conduct audits or engage professional consultants for assistance. After producing audit reports based on the audit results, we report on the implementation status to the Board of Directors at least once a year. For specific responsibilities of the Audit Office, please refer to Section 1.2.1 Sustainable Governance.

Whistle-blowing and Protection Mechanism

For improper behavior that violates the policy on unethical conduct, TSC has established a grievance email address (Tsgrumble@ts.com.tw), through which employees and relevant stakeholders can file grievances with the Company. The handling of grievances is kept confidential throughout the process to protect the whistleblower from any improper retaliation. Subsequently, the supervisors of each site, the Audit Office, and the Legal Department will handle grievances according to their responsibilities. We plan to establish smoother communication and a more comprehensive grievance channel by completing the update of the official website by the end of 2023.

Violation of Integrity Grievance Reporting Procedure

Regulatory Compliance

Since the establishment of TSC, we have followed the standards and relevant regulations for public companies, established various internal operating procedures, and continuously paid attention to any domestic and international laws and regulatory policies that may affect its operations, making necessary adjustments at any time. In the TSC Ethical Corporate Management Best Practice Principles, it clearly stipulates that all employees should comply with the Company Act, Securities and Exchange Act, Political Donations Act, Government Procurement Act, and other regulations. It strictly prohibits bribery, accepting bribes, or giving or receiving political donations. It also adopts relevant preventive measures for business activities that pose a higher risk of dishonest behavior within the scope of Article 7, Paragraph 2 of the Ethical Corporate Management Best Practice Principles for TWSE/TPEx Listed Companies, or other business activities. We comply with the highest professional ethical standards to uphold the Company's reputation and maintain the trust of all stakeholders.

To avoid improper disclosure of information and ensure the consistency and accuracy of external information, TSC has established a sound internal system for processing and disclosing significant information. Additionally, in order to prevent insider trading, the Company has formulated and published the Internal Handling of Significant Information and Prevention of Insider Trading Management Measures on its website for compliance. For more information, please refer to Internal Handling of Significant Information and Prevention of Insider Trading Management Measures on the official website.

Regulatory Compliance Status

From 2020 to 2022, there have been no behaviors or significant incidents that relate to integrity violations, corruption, or any violations of integrity management, ethical business conduct, anti-competitive behavior regulations, or related fines and political donations, ensuring independent operation and a politically neutral position.

To avoid future incidents of corruption, we will conduct anti-corruption assessments for each site. Simultaneously, it has identified risks related to corporate image and social responsibility and proposed corresponding measures, as detailed in 1.3.1 Risk Management in the ESG report.

Training and Information

When new employees join TSC, they are required to carefully read TSC Ethical Corporate Management Best Practice Principles, which includes topics such as anti-corruption, respect for intellectual property, and compliance with laws and regulations. In the future, we will continue to strengthen related education and training. Starting in the second half of 2023, the Legal Department plans to hold face to face education and training sessions on the Trade Secrets Act and intellectual property rights to ensure that our employees fully understand the relevant policies, content, and consequences of violating ethical behavior. In addition, TSC also promotes and requires its supply chain to sign the RBA Vendor Code of Conduct to ensure that business partners who engage in commercial activities with the Company have guidelines to follow. See Section 3.1.2 Sustainable Supply Chain Management for more details.

2022 Integrity Management Training Courses

Course Information	Total Number of People	Total Hours
TSC Code of Ethical Conduct and TSC Ethical Corporate Management Best Practice Principles	280	280
Prevention of Insider Trading Courses	7	111

Note: The total number of people and total hours in this table are for general employees (excluding 17 executives).

In addition to conducting anti-corruption communication training with the governance body and employees, TSC promotes the RBA Vendor Code of Conduct to suppliers, communicating anti-corruption policies and procedures with business partners. In 2022, we successfully communicated with a total of 81 business partners, achieving a completion rate of 100%.

Communication Training for Anti-corruption Policies / Procedures

Communication Training Targets		2022
Governance Body	Number of Members (People)	7
	Number of People in Communication Training (People)	7
	Communication Rate (%)	100%
	Number of People who have Completed Training (People)	3
	Completion Rate (%)	43%
Employees	Number of Employees (People)	612
	Number of People in Communication Training (People)	280
	Communication Rate (%)	46%
	Number of People who have Completed Training (People)	280
	Completion Rate (%)	46%

Note:
1. Definition of business partner: suppliers, value chain partners.
2. The seven individuals in the governance body refer to Directors and Supervisors, excluding other governance body.

Senior Governance of Integrity Management

To maintain alignment with national and industrial standards and uphold professional ethics, the Board of Directors and senior managers regularly participate in relevant legal training. The course topics include corporate mergers and acquisitions, the Controlled Foreign Company (CFC) system, information security management, corporate governance, securities regulations, greenhouse gas inventory, and corporate sustainable development, among others. Through regular education and training for governance body and senior managers, we strive to implement honest and ethical business practices.

Participation of Directors and Supervisors in External Training Courses on Integrity Management from 2020 to 2022

	2020	2021	2022
Number of Participants	4	7	7*
Total Hours	30	49	44
Course Completion Rate	57%	100%	100%

*Note: Organizers of the course: Securities and Futures Institute, Taipei Exchange, Taiwan Academy of Banking and Finance, Financial Supervisory Commission R.O.C (Taiwan), Accounting Research and Development Foundation, Taiwan Corporate Governance Association, and Taiwan Institute of Directors.

1.3 Risk Management

1.3.1 Risk Management System

To identify and promptly grasp internal and external operational risks, safeguard the rights and interests of all internal and external stakeholders, as well as effectively control risks, TSC has constructed a sound risk management framework and policy, and included all stakeholders within the scope of management. Additionally, regular risk identification and risk testing plans are proposed to ensure that potential risks arising from various operations are strictly regulated within the control range.

Risk Management Framework

The Board of Directors is fully responsible for establishing and supervising TSC's risk management framework. The current supervisory department for risk control is the President's Office, which is responsible for risk assessment and auditing. The risk control implementing unit under the Office of the General Manager is the RBA Implementation Committee, established in accordance with the RBA Code of Conduct, with the President serving as the Chairman. The committee is responsible for implementing overall risk control and related policy issuance for the headquarters and each site, and submits the risk assessment form to President in December annually for further submission to the Board of Directors for resolution, ensuring that its management objectives reasonably reflect market and operational changes of the Company. The supervisors, assistant vice presidents, and vice presidents of each site are responsible for executing the risk policies assigned by the President's Office and the RBA Implementation Committee, and controlling and reviewing the risks identified by the responsible personnel for environmental safety and health in each site. For more information on the four-level framework and responsibilities for risk control and review, please refer to the 2022 TSC Annual Report.

The Corporate Governance Team is scheduled to implement risk management and establish its policies in the second half of 2023. The organizational structure of this management will be divided from top to bottom into the Board of Directors, the ESG Committee, the ESG Office, and the Corporate Governance Team, aiming to effectively integrate the overall risk management capabilities and establish a more comprehensive risk management system.

Risk Management Policies

With reference to the RBA Code of Conduct, TSC has established relevant policies and management measures regarding professional ethics, social responsibility, safety and health, environment, and risk possibilities. This includes the revision and control of the Professional Ethics Risk Assessment Management Measures, Social Responsibility Risk Assessment Management Measures, and Risk and Opportunity Management Procedures by the President's Office. Additionally, the environmental safety and health departments and personnel of each site implement the Safety and Health Hazard Identification and Risk Management Procedures and Environmental Consideration Identification and Management Procedures based on ISO 14001 guidelines. These serve as guiding and implementing principles for risk management, facilitating risk identification and the development of mitigation measures. We plan to establish the Risk Management Policy as the overarching risk control regulation in 2023, integrating the aforementioned measures and procedures as the basis for risk identification audits. Currently, our risk management process includes identification, assessment, reporting, and response, as shown in the diagram below.

Risk Management Procedures

For important matters such as investment and financial management, signing necessary contracts, and significant procurement cases, TSC conducts reviews and undergoes regular audits by the Audit Office. In terms of corporate sustainable development, TSC conducts risk assessments on major climate change issues and has developed corresponding risk management policies or strategies. Refer to chapter 1.3.3 Climate Risk Management for more details.

Risk Identification Assessment and Response

In the face of external challenges such as climate change, we have evaluated the possibility of occurrence and the significant impact of four major risks in the short- and medium-term future, and divided them into four dimensions: strategy, finance, operations, and disaster prevention. The four major risks are as follows, and the remaining risks are related to information security, occupational health and safety, and climate change.

Identification of Four Risk Categories

Policy and Law Change Risk

Risk Description	Changes in national policies and laws may have a significant impact on the operation of TSC. For example, with the rise of global sustainability awareness, governments worldwide are strengthening measures to reduce carbon emissions, such as imposing carbon taxes or fees (CBAM). Taiwan also announced that it will implement provisions for large electricity consumers in 2025 to restrict the carbon emissions of high-energy-consuming enterprises and impose carbon fees. Mainland China also implements dual controls on energy consumption and power restrictions to force companies to undergo energy transition.
Potential Impact	The issue of global net zero carbon emissions has become prominent, and more stakeholders are concerned about our carbon reduction performance and the extent of renewable energy use. This may result in increased costs for companies. If we cannot meet this requirement, there may be compliance risks and an impact on customer recognition and corporate image.
Countermeasures	In order to respond to the risks of overall policy and regulatory changes, we established a ESG Committee in 2022 to closely monitor domestic and international trends and changes in policies and regulations to prepare and adjust for upcoming challenges beforehand. For example, establishing a cross-functional environmental and energy management team will be considered to develop plans for equipment replacement and the construction of solar panels on the site premises, seeking innovative opportunities and increasing sustainable competitiveness. Additionally, TSC will gradually promote a carbon management program in the future to reduce greenhouse gas emissions through scientific reduction methods.

Geopolitical Risk

Risk Description	Countries affect business activities by formulating or revising laws, including Export Administration Regulations (EAR) and tense cross-strait relations, which may affect Chinese customers or suppliers and result in the loss of potential business opportunities. Additionally, the Russian invasion of Ukraine has caused energy supply fluctuations and triggered geopolitical risks, intensifying the tension in the international regional situation.
Potential Impact	Geopolitical risks may have a significant impact on interest rates and exchange rates, affecting the development of economic globalization. They may also affect TSC's entry into new markets or face issues such as supply chain disruptions, which would have a significant impact on our operations.
Countermeasures	In order to respond to these risks, we have already implemented a regional diversification investment deployment for its manufacturing bases and established a diversified supply chain to reduce reliance on a single country or region. In the future, TSC will closely monitor changes in the international situation and strengthen its contingency plans to maintain industry competitiveness.

Disaster & Hazard Prevention Risk

Risk Description	Losses and casualties may be incurred through natural or man-made hazards. With the frequent occurrence of climate-related disaster events globally, only by actively facing and adopting various environmentally friendly and energy-saving activities can we mitigate the impact of environmental disasters and reduce the costs caused by environmental destruction.
Potential Impact	Extreme weather could lead to future energy and water resource crises, as well as an increased probability of various natural disasters occurring. TSC may be forced to increase operational costs.
Countermeasures	In order to mitigate the impact and influence of environmental hazards on operations, TSC is committed to producing and designing environmentally friendly products. We also implement measures such as planning for the reuse of recycled water and reducing energy consumption to cope with the impact of natural disasters.

Corporate Image and Social Responsibility Risk

Risk Description	Corporate image plays a significant role in risk management, covering our values, reputation, brand image, and corporate social responsibility (CSR), reflecting the overall impression and trustworthiness of TSC to the outside world.
Potential Impact	Damage to reputation can lead to investor uncertainty, customer loss, partner doubts, and even potential legal action.
Countermeasures	1. Various departments jointly maintain the Company to ensure business practices comply with ethical and legal requirements, and uphold transparency and integrity principles. In 2022, we established a Public Relationship Department to enhance transparency in corporate information disclosure and improve communication with stakeholders. 2. In order to ensure the responsible operation towards society and the environment, the Company has proactively conducted an RBA and published the RBA Management Manual on the official website. Meanwhile, corresponding regulations have been communicated to employees, integrating the spirit of sustainability into daily business operations. 3. TSC also values human rights issues. Regardless of race, gender, religion, nationality, or other characteristics, everyone should enjoy equal rights. Through the establishment of a supply chain management policy that respects human rights and the promotion of employee training and education practices, we ensure that both itself and its suppliers comply with basic labor rights policies. Please refer 4.2.2 Labor Relations and Human Rights Management for more details.

Internal Control Systems

TSC cooperates with accounting firms annually to conduct listed company audits and assurance. During the auditing, the effectiveness of the internal control systems is also examined. The Company's internal control information cycle testing covers testing and evaluation of our internal control system to ensure proper risk management and business operations.

Risk Reporting Mechanism

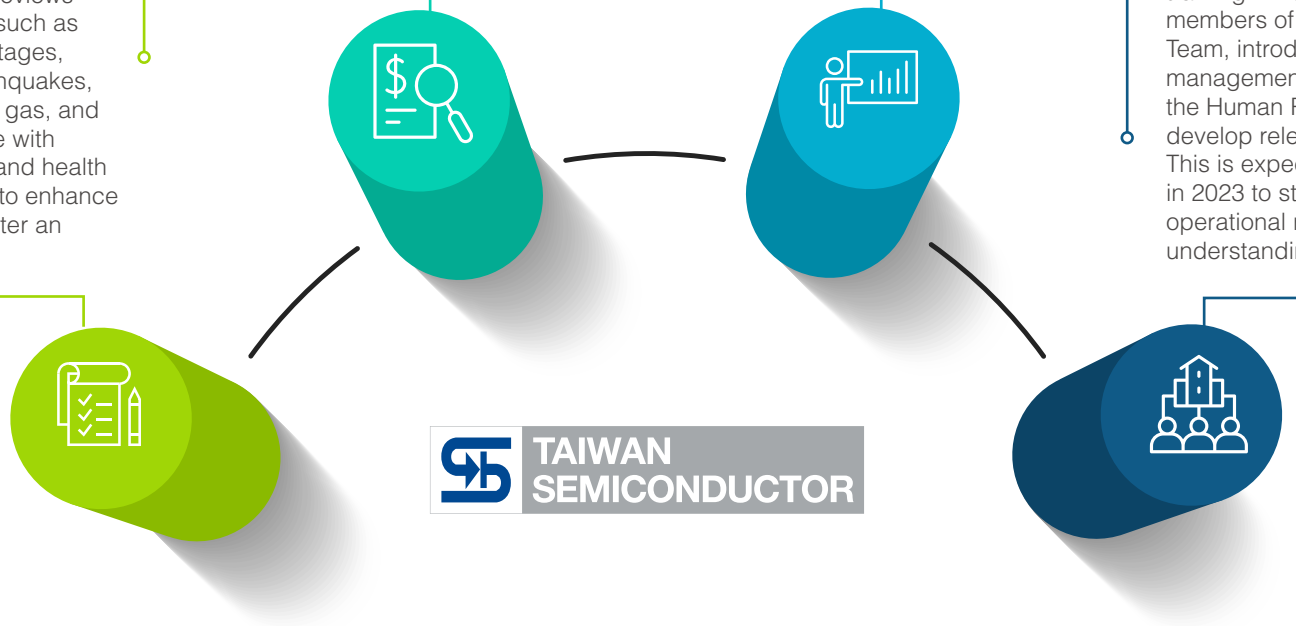
In addition to risk management, we include all employees in the scope of overall risk management. Currently, employees can use the Company's internal network Employee Grievance Mailbox platform to proactively report potential risk items and assist in managing the impact of various internal and external risks. TSC did not receive any employee complaints in 2022.

Emergency Response Mechanisms and Measures

To reduce the risk and harm of emergencies, each site has established emergency response mechanisms and measures. Starting in 2023, we will follow the framework and principles of ISO 22301 for operational continuity management to continuously strengthen relevant management systems and eliminate the risk of operational disruptions. The sites will carry out regular drills and reviews regarding potential risk events such as supply interruptions, labor shortages, critical equipment failures, earthquakes, fires, and interruptions in water, gas, and electricity supply in accordance with relevant environmental, safety, and health regulations, reviewing systems to enhance rapid response and recovery after an event occurs.

Education and Training

The employee education and training in risk is conducted by members of the Corporate Governance Team, introducing the concept of risk management and collaborating with the Human Resources Department to develop relevant courses and activities. This is expected to be implemented in 2023 to strengthen the Company's operational risk culture awareness and understanding.



1.3.2 Information Security Management

To protect the security of company and customer information, TSC is committed to actively constructing a comprehensive level of information security management and policies. In the meantime, through periodic information security project testing, we examine whether there are vulnerabilities in the policies and management level, reducing the frequency and probability of information security incidents. We have also gradually introduced information security protection equipment and organized related education and training to establish a complete information security system.

Information Security Management Structure

ESG Committee

Report at least once a year to the Board of Directors on the operation and effectiveness of the information security management systems, further strengthening the mechanism for managing information security risks.

ESG Office

The risk management measures of the Information Security Management Team are implemented in accordance with the "Information Cycle and Electronic Data Control Procedures" for internal control procedures.

Information Security Management Team

- Plan corresponding security operations and security risk management based on different aspects of information security, such as system applications, service and network security, app development, and database management.
- Ensure that information communication policy and network data security management serve as the highest management bases for information security, certifying the security of information infrastructure and application systems, preventing all potential information security threats, and protecting important assets of the Company.

Responsibilities of the Information Security Management Team

Service and Internet Security
Cross-site dedicated network application and troubleshooting

App Development
Application system program installation
Software and hardware maintenance

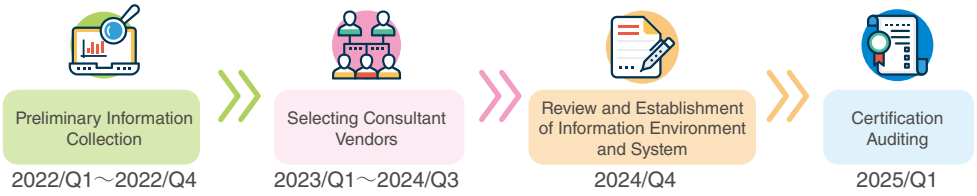
System Application
System security control rights management

Database Management
User rights assignment
Database optimization

Information Security Management Policies

TSC has developed the Information Circulation and Electronic Data Control Procedures in accordance with the Guidelines for Information Security Management of Listed Companies and with reference to the suggestions of Taiwan Computer Emergency Response Team/Coordination Center (TWCERT/CC). The internal control system established by these procedures includes control operations for the eight major operational cycles. In addition, our Information Security Management Team has deployed management, analysis, and defense work for internet information security, and is expected to complete ISO 27001 Information Security Management System (ISMS) certification by 2025. To enhance network security, we have also procured advanced network security protection software and hardware, and implemented an automated endpoint security management platform to strengthen the absolute security of data and systems in response to ever-changing information security challenges.

Plans to Implement ISO 27001 ISMS Certification



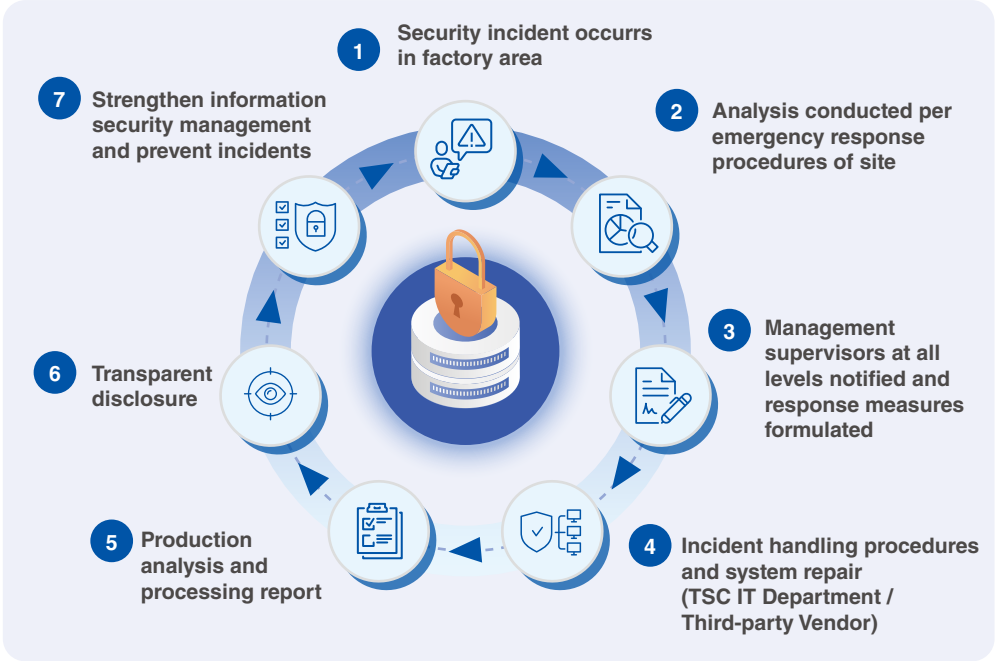
Identification of Information Security Risks

Considering the value and importance of information security to TSC, we conduct a preliminary analysis of potential threats and vulnerabilities, estimate the likelihood and impact of risks, evaluates the level of urgency and scope of impact, ranks risks, plans corresponding management measures, in order to reduce the potential negative impacts on our operations, reputation, financial status, competitiveness, and related aspects when information security incidents occur. In 2022, we identified Product Patents and Research and Development Technology as important key assets. After assessing the impact and likelihood of risks, the Information Security Management Team collaborates with the Research and Development Department to implement a Knowledge Management System to protect the Company's intellectual property, such as patent technology and research and development achievements. For more details, please refer to 2.1.2 Continuous Improvement and Innovation.

Investigation and Recovery Procedures

For the notification and handling of information security incidents, we have specifically established information security notification and handling procedures. When a security incident occurs, the information unit will report to various departments and determine the level of the incident. If it is a major security incident, it will immediately report to supervisors at all levels and the risk management organization, and activate corresponding measures and actions according to the emergency response procedures and items at each site. After the incident is resolved, the information security management team will submit an analysis and handling report to the ESG Committee for evaluation, then provide explanations to our customers and trading partners as well as taking corrective measures to prevent the recurrence of incidents and maintain the trust of stakeholders.

Security Incident Response Process Diagram



Establishing a Protection Plan and Information Security Culture

To encourage employees to promptly absorb up-to-date information security knowledge, we became a member of Taiwan Computer Emergency Response Team/Coordination Center (TWCERT/CC) in 2022. We will regularly forward TWCERT/CC information security news, and we implement periodic information security testing to ensure the Company's information security defense and maintenance through collaboration with TWCERT/CC.

TSC also follows the internal training plan to schedule information security knowledge training in order to enhance employees' information defense capabilities and literacy. Each site also formulates annual emergency response plans and drills various information security situation handling procedures and guidelines to strengthen employees' ability to respond to information security incidents.

Implementation Status of Information Security Plans

Year	Measures	Hours	Number of Participants (people)	Participation Rate	Description
2022	Information Security Incident Drills	1	166	100%	1. Emergency contact and response in the event of a simulated information network outage. 2. Simulate network outage and backup activation. 3. Simulate dedicated network service restoration and notification.
2021	MOTP (Mobile One Time Password)	1	447	100%	Conduct MOTP training for the Li-Je Site and I-lan Site. MOTP is a mobile dynamic password system that allows for quick and secure account login, effectively preventing the risk of account password theft and safeguarding against corporate information theft.
2020	Internet Communication Security Training	1	106	100%	With regard to information security education and training at the TSC headquarters, in the wake of the COVID-19 pandemic, there have been cases of phishing URLs and fraudulent attacks impersonating the CECC and the WHO, exploiting popular news and current events to lure people to malicious websites. Through this training, we shared common methods of business email fraud, techniques for disguising emails, and ways to avoid online phishing during the COVID-19 outbreak.

Note: The participation rate is calculated by dividing the number of participants at a specific site by the total number of people at that site. The headquarters had a total of 106 people in 2020, and the two sites had a combined total of 447 people in 2021. The I-lan Site had a total of 166 people in 2020.

Introduction of ITA External Information Security Audit Mechanism

During the annual financial audit of the accounting firm, professional Information Technology Audit (ITA) personnel were simultaneously hired to conduct IT audits, including testing and evaluation of various aspects of the ITA system. This includes functional testing, security vulnerability testing, and data integrity testing to verify the system's reliability, security, and effectiveness. The goal is to ensure that our ITA system can meet business needs and provide reliable data support.

Information Security Risk Incidents

There were no data leakage incidents in TSC between 2020 and 2022. Nevertheless, a network attack incident occurred in 2022, which was discovered through an autonomous investigation by the endpoint information security platform and the main server of the I-lan Site in January 2022. The IT Department at headquarters identified abnormal connections and traffic from Tianjin site as a network attack incident, and the abnormal emergency handling procedures were immediately initiated.

Response and Improvement Measures

After reporting to the factory chief, Equipment, Manufacturing, Automation Development Department, and the highest management unit, the connection in the area was immediately interrupted, and repairs were carried out with the vendor. Meanwhile, the information unit of the Tianjin site was notified. The incident was confirmed to be a malicious program attack. Due to the real-time system alerts and a strict information security emergency response mechanism, the incident did not have any negative impact on operations, nor did it result in any significant data leakage. After the incident, TSC initiated a back-end investigation and strengthened information security management procedures and related operations. In addition to using the original endpoint information protection platform for defense, a USB information protection system and detection devices, as well as TXOne information security equipment, were also added. These devices can effectively provide appropriate information security protection to reduce the probability and scope of information security incidents.

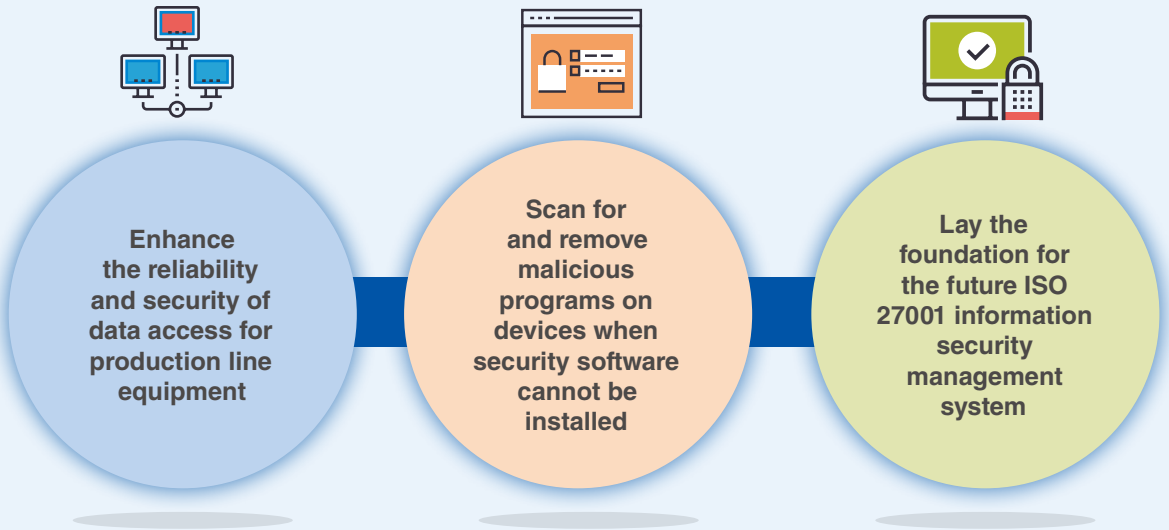
Highlights

Strengthening Industrial Control System Security with Zero Trust Management Mindset

As the degree of our involvement in smart factories increases, we are also enhancing the level of information security protection for factory equipment and machinery. In 2022, we will introduce TXOne Networks information security equipment, whose technology is based on the principle of "zero trust" proactive defense, leaving no possibility for any stage of potential attacks on software and hardware devices. In the past, the biggest challenge in the industry regarding information security was that to check whether the equipment had viruses, antivirus software had to be installed. After scanning and confirming the security, the antivirus software would then be removed. However, there are many devices and machines on the production line that cannot install security software due to default settings and commercial confidentiality factors. TSC actively sought a solution, and in 2022, with the introduction of TXOne, new technology can scan and remove malicious programs without the need to install software on the machines, which is a significant breakthrough in the application of information security.

In the future, during the process of digital transformation, there may be increasingly complex and severe information security challenges. We will continue to seek and integrate top-notch information security technologies to comprehensively enhance the overall security protection network in operating systems, network security, and endpoint protection areas.

The objectives of system implementation:



1.3.3 Climate Risk Management

TSC pays close attention to the risks and business opportunities that may arise from climate change, following the Rules Governing the Preparation and Filing of Sustainability Reports by the Taiwan Stock Exchange Corporation and referencing to the climate-related financial disclosure suggestions of the Task Force on Climate-related Financial Disclosures (TCFD). TSC integrates its climate risk and opportunity management mechanism with its corporate risk management process, continuously promoting low-carbon transformation and strengthening the Company's resilience to climate change through four main directions: governance, strategy, risk management, indicators, and goals.

Governance

ESG Committee is a functional committee at the Board level, chaired by the chairman and the highest-ranking executive. The committee oversees climate-related risks, opportunities, response strategies, goals, preventive measures, and concrete outcomes.

- In 2022, a report was submitted to the ESG Committee on the management mechanisms and actual implementation of climate change-related issues and risks in the office. A total of one meeting was held in 2022.

The ESG Office annually reviews and assesses climate change issues, planning response plans, promoting risk protection, reviewing performance execution, and regularly reporting to the ESG Committee.

- The ESG Office is responsible for formulating climate change-related guidance strategies. After formulating the main action plans, the Environmental and Energy Management Team of the Corporate Social Responsibility Functional Team implements climate-related actions.
- The Environmental and Energy Management Team of the Corporate Social Responsibility Functional Team reports on climate risks and opportunities to the ESG Office at least once every quarter, either in writing or face-to-face meetings. The ESG Office then reports to the ESG Committee at least twice a year, either in writing or through face-to-faces.

Strategy

In accordance with the TCFD framework, develop a methodology for assessing climate change risks and opportunities, identifying short, medium, and long-term climate risks and opportunities.

- Evaluate the climate risks faced by the TSC and the upstream and downstream value chains in terms of potential impact, possibility of occurrence, and potential vulnerability to develop and implement response measures. For more information, please refer to the tables below, Climate-related Risks and Impacts on TSC Value Chain and Climate-Related Risks and Response Measures for TSC.
- Identify climate-related opportunities according to the characteristics of the business and our low-carbon strategy planning. For details, please refer to Climate Risk Impact Assessment and Scenario Analysis.

Analyze the potential operational and financial impacts on TSC brought by the significant climate risks and opportunities based on the TCFD framework.

- Complete the assessment of the impact of major climate risks under different scenarios of increased greenhouse gas emissions costs. For more details, please refer to the section Climate Risk Impact Assessment and Scenario Analysis.

Analyze climate risks in different scenarios, and assess short, medium, and long-term carbon reduction strategies.

- In 2022, per the International Energy Agency's (IEA) Announced Pledges Scenario (APS) and Net Zero Emissions by 2050 Scenario (NZE), we aim to analyze the impact of increased greenhouse gas emission costs and develop climate change strategies and relevant mitigation measures.

Risk Management

Establish a climate change risk identification procedure based on the TCFD framework.

- Identify climate change risks with reference to climate change laws and regulations. For more information on climate change risk identification procedures, please refer to the Climate Risks and Opportunities section.

- Develop corresponding adaptation and mitigation strategies based on the results of climate risk identification and ranking.
- Integrate the climate risk identification procedure into the existing risk management procedure.
- The materiality of office risk identification is driven by the ESG Office. Based on the materiality of climate risk, strategies and measures are formulated by the ESG Office. After confirmation by ESG Committee, these measures are implemented in daily operations and integrated into the risk management process.

Indicators and Goals

Set climate change-related management indicators to facilitate annual performance tracking.

- Establish reducing greenhouse gas emissions, using renewable energy, improving energy efficiency, and reducing product carbon footprint as climate change performance indicators.

Conduct inspections and disclose Scope 1 and 2 greenhouse gas emissions annually to examine the impacts caused by the Company's operations.

- According to the results of various inspections and assessments, continue implementing carbon reduction measures to reduce organizational greenhouse gas emissions. For details, please refer to 5.1.1 Carbon Emission Management.

Review climate management goals achievement annually.

- The ESG Office regularly reviews the project performance of the Environmental and Energy Management Team of the Corporate Social Responsibility Function Group on climate change mitigation to confirm the progress of indicators and goals, compiles and reports to ESG Committee, and regularly monitors the implementation results.

Climate Governance

In 2022, TSC established the ESG Committee to oversee climate-related risks, opportunities, response strategies, goals, preventive measures, and specific outcomes. The ESG Office will hold at least two annual meetings to report on and discuss the implementation performance of climate change-related issues, risk response strategies, greenhouse gas reduction, renewable energy layout, and water resource utilization with the ESG Committee.

The ESG Committee has established the ESG Office. After formulating relevant sustainability policies and guidelines by ESG Office, the Corporate Social Responsibility Functional Team is responsible for executing these policies. The Environment and Energy Management Team is specifically in charge of climate change-related issues, including achieving annual carbon reduction targets, implementing greenhouse gas reduction plans, and promoting renewable energy development. The Corporate Social Responsibility Functional Team holds cross-site meetings once to twice a month to facilitate mutual learning and exchange among factories on sustainability and climate issues, discussing and discovering solutions to address the potential impacts of climate change on TSC. The organizational structure and division of responsibilities for climate risk management in TSC are as follows.

ESG Committee

The highest governance body for climate change, overseeing the overall management of climate change in TSC.

The Chairman serves as the President and person of highest responsibility, and involves senior executive directors in decision-making and performance monitoring. The ESG Committee holds at least two meetings annually to discuss climate change-related issues, explaining the carbon reduction goals set by the Company and the climate commitments and initiatives followed. The topics include transformation and physical risk items, climate risk levels, corresponding strategies, goal setting and improvement measures, and opportunities brought by climate change.

ESG Office

The climate change strategy formulation unit is responsible for developing climate change action plans, budget planning, etc.

The Office Convener is appointed by the Administration Division and the Corporate Governance Officer to jointly develop carbon reduction-related guidance strategies and major action plans with the supervisors of each site and executive secretaries. They are responsible for coordinating the division of labor, budget planning, and performance tracking of various business plans, as well as compiling the sustainable performance and progress reports and climate risk situations submitted by the Corporate Social Responsibility Functional Team at least twice a year, either in writing or through face-to-face meetings, to the ESG Committee.

Evironmental and Enery Management Team

The Corporate Social Responsibility Functional Team promotes the implementation of various greenhouse gas reduction programs.

Composed of the supervisors of the Environmental Engineering, Plant Operations, and Equipment Departments, the Environmental and Energy Management Team is responsible for coordinating annual carbon reduction goals and implementing various greenhouse gas reduction plans. They are required to report to the ESG Office at least once every quarter through written reports or face to face meetings. Their work includes promoting environmental and energy-saving measures for production machinery and factory buildings, encouraging the development of internal energy-saving initiatives within the Company to optimize the efficiency of resource utilization and reduce the impact on the environment. In addition, the Environmental and Energy Management Team actively explores the feasibility of purchasing green energy and continues to invest in the research and development of energy-saving products and process optimization to achieve phased goals of reducing greenhouse gas emissions.

Climate Risks and Opportunities

To improve the climate-related risks and opportunities management mechanism, TSC follows the guidelines of the TCFD and has established a climate-related risk management procedure. This procedure consists of the following steps: (1) establishing a climate risk list, (2) analyzing the scope and duration of risk impacts, (3) prioritizing risks by materiality, (4) confirming and reporting, and (5) implementing strategies and disclosing to the public.

In 2022, TSC summarized 10 climate-related risks and three climate-related opportunities by considering the characteristics of operations and evaluating climate risks and opportunities based on potential impact, possibility of occurrence, and potential vulnerability, and referencing the TCFD recommendations, including risk and opportunity types, evaluation of international sustainability indicators, and climate risks that benchmark companies are concerned about. Transition risks include increased greenhouse gas emission costs, increased sustainability-related demands and regulations, and changes in customer behavior; physical risks include short-term risks such as typhoons and heavy rain, and long-term risks such as rising average temperatures. We plan to identify and assess climate-related risks and opportunities every three years, considering the frequency, characteristics, and timing of these risks. In the remaining years, we will review and confirm the current risks and ensure the adequacy of response measures.

Value Chain Impact Identification Procedure

In order to understand the impact of climate risks on the value chain of TSC, ESG Office reviewed the impact and scope of various risks on upstream suppliers (wafer materials and diffusion materials), its own operations, and downstream clients (information products, communication products, digital appliances, automotive electronics, etc.). The supervisors of each operation use a three-level scoring method to rank the impact of each risk within the three groups: upstream suppliers, internal operations, and downstream clients. The scores were arranged in percentile order, with the top 33.4% considered highly impactful, 33.4% to 66.7% considered moderately impactful, and the remaining 33.3% considered low impact. This process identified the degree of impact of climate risks on Taiwan's semiconductor value chain, serving as a reference for operational strategies.

Climate-related Risks and Impacts on TSC's Value Chain

Note：Low、Medium、High

Risk Type	Risk Aspect	Risk Name	Value Chain Impact		
			Upstream	TSC Itself	Downstream
Transition Risk	Laws and Policies	Increase in greenhouse gas emissions cost	Low	High	High
		Increase in sustainability-related demands and regulations	Low	High	Medium
	Market	Changes in Customer Behavior	Low	Medium	High
		Increase in Raw Materials Cost	High	High	High
	Technology	Cost of low-carbon technology transition	Low	Low	Medium
	Reputation	Increase in negative feedback from stakeholders	Low	Medium	Medium
Physical Risk	Extreme	Increase in Extreme Weather Events - Typhoons	High	Medium	Low
		Increase in Extreme Weather Events - Heavy Rain	Low	Low	Low
		Drought	Low	Low	Low
	Long-term	Rise in Average Temperature	High	Low	Low

Procedure for Identifying Climate Risk Materiality

The ESG Office and supervisors from each site (I-lan, Li-Je, Shandong, Tianjin) reviewed the impact of various risks on TSC, so as to understand the impact of climate risks on TSC. Climate-related risks were evaluated based on three aspects: potential impact level, potential vulnerability, and possibility of occurrence. The materiality of climate risks to our operations was comprehensively assessed through the three aspects, and the impact levels of each risk were ranked in percentile order. The top 20% were considered high-risk, while the next 20 to 30% were considered low-risk. According to these results, the risks were examined and placed in matrix regions. If a risk met both of the following conditions - (1) it fell within the top 20% of risk values and (2) it landed in the high vulnerability and high impact region of the matrix (yellow area) - then it was classified as high-risk. Otherwise, it was classified as low-risk. If only one condition was met, it was classified as a risk at the next level. Using the above methodology, a climate-related risk matrix for TSC was completed, and the results were used as a reference for developing risk response and mitigation plans for TSC, as well as crisis management mechanisms.

1 Complete List of Climate Risks and Opportunities

With reference to the TCFD recommendations, including risk and opportunity types, international sustainability indicator evaluation, and climate risks that benchmark companies are concerned about, ESG Office convened a discussion to establish a list of TSC climate risks and opportunities.

2 Analyze the Scope of Risk Impacts

The ESG Office examines the extent and scope of various risks to our operations by distributing questionnaires to each site and the supervisors thereof. After that, the supervisors of departments evaluate the risks based on three aspects: potential impact level, potential vulnerability, and possibility of occurrence. The impact level of each risk is then ranked in percentile order.

3 Prioritizing Risks by Materiality

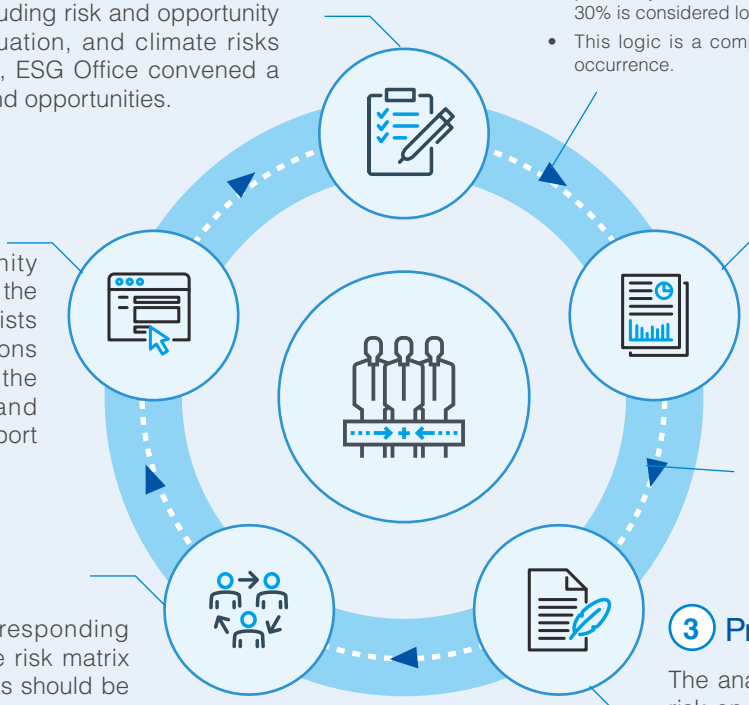
The analysis results are cross referenced with the position of each risk on the matrix chart. If the risk satisfies both conditions - (1) it fell within the top 20% of risk values and (2) it landed in the high vulnerability and high impact region of the matrix (yellow area) - the risk is categorized as high risk; otherwise, it is low risk; if only one condition is met, it is classified as the next level of risk.

4 Confirm and Report

The ESG Officereports climate risks, corresponding opportunities, response strategies, and the risk matrix to the ESG Committee Member. This process should be confirmed with the ESG Committee.

5 Strategy and External Disclosure

The responsibility for climate risk and opportunity management is undertaken by the ESG Office, while the Environmental and Energy Management Team assists in implementing measures and managing operations related to climate risk and opportunity, plannimg the disclosure of the management of climate risk and opportunity to stakeholders annually in the ESG Report and on the Company's website.



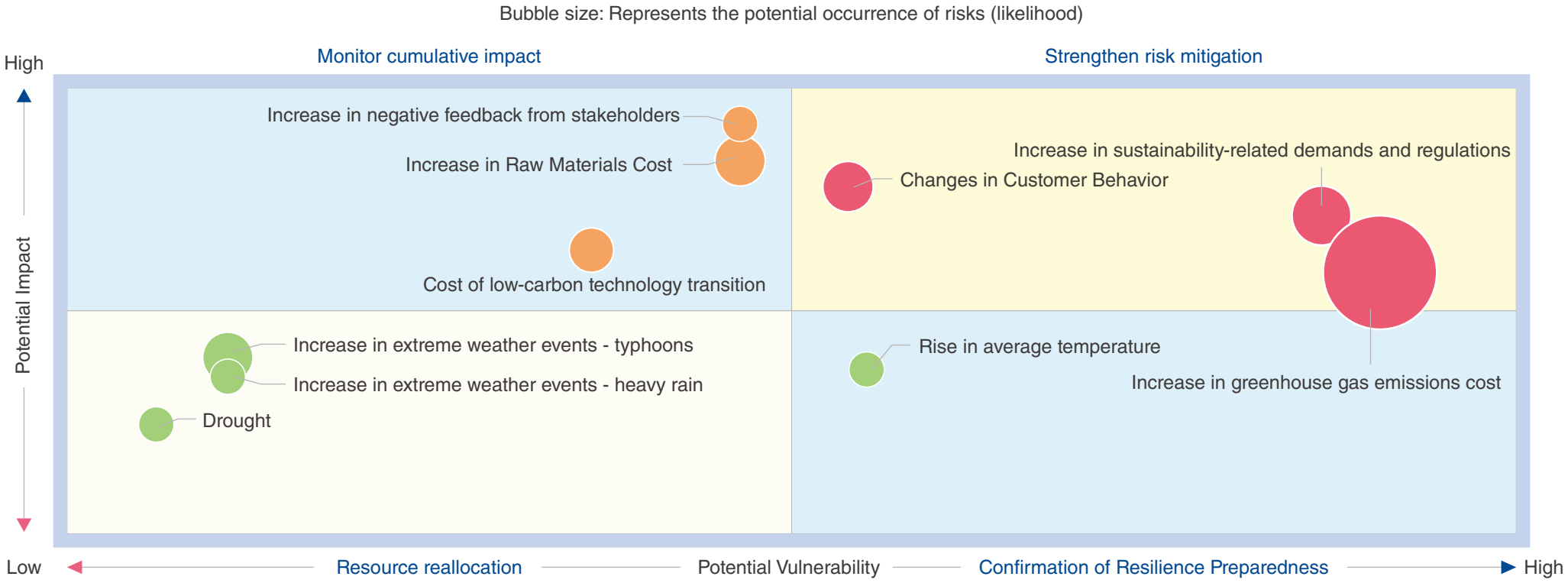
Condition 1: Risk Value

- Ranking is done by multiplying the scores of all risk vulnerabilities, impact levels, and possibility of occurrence. The top 20 to 30% is considered high risk, while the bottom 20 to 30% is considered low risk.
- This logic is a comprehensive consideration of vulnerability, impact, and possibility of occurrence.

Condition 2: Matrix Position

- The yellow area in the matrix is designated as high risk, in need of risk mitigation due to its relatively high fragility and impact level.
- The gray area in the matrix is designated as low risk, in need of resource reallocation due to its relatively low fragility and impact level.

Climate Risk Matrix



Based on the analysis of the materiality of climate risks, an assessment was conducted on the potential impact of the identified 10 risks on operations and financial planning. The corresponding risk response measures are formulated in the Climate-related Risks and Response Measures table.

Based on the impact of climate risks on the operation and value chain of our business, and the materiality of those risks, the ESG Office assesses related solutions and business opportunities so as to formulate operational strategy adjustment directions and response measures and report to the President, who is responsible for risk management.

In consideration of the possible impact of climate-related risks and opportunities on various aspects of our operations, the Company actively develops related low-carbon products, green processes, promotes the rollout of renewable energy, and continues to closely monitor climate-related policies. After confirmation by the ESG Committee, TSC continues to promote the implementation in daily operational and risk management procedures.

Climate-related Risks and TSC's measures

Note：Low、Medium、High

Risk Type	Risk Aspect	Risk Name	Explanation of the Impact on TSC	Potential Financial Impact	Periods of Influence on TSC *	Risk Level	Corresponding Measures and Strategies
Transition Risk	Laws and Policies	Increase in greenhouse gas emissions cost	With the domestic Climate Change Response Act and climate-related policies and regulations in various countries (such as carbon tax/tariffs, emissions trading systems, carbon pricing/fees, etc.), TSC may need to pay carbon fees, carbon taxes, and carbon tariffs on products in the future. Also, the related regulations may become stricter year by year, and the costs and carbon taxes will thus also increase year by year.	Rise in Costs	Short	High	• Adopt Energy-saving Equipment • Develop Innovative Products • Adopt Low-carbon/Renewable Energy Sources • Raise Carbon Reduction Awareness of Employees • Optimize Transportation Routes to Reduce Carbon Emissions of Logistics
Transition Risk	Laws and Policies	Increase in sustainability-related demands and regulations	According to Taiwan's Pathway to Net-Zero Emissions in 2050, energy transition is listed as one of the main strategies, actively promoting the maximization of renewable energy. In addition, the "Renewable Energy Development Act" in Taiwan stipulates that users with an electricity contract capacity of 5000 watts or more must have a 10% renewable energy obligation by 2025, all of which promote TSC's accelerated climate action, such as increasing the proportion of renewable energy, reducing product carbon footprints, and enhancing climate-related management.	Rise in Costs	Short	High	• Improve Product Performance • Adopt Low-carbon/Renewable Energy Sources • Continuously Optimize Energy Management • Improve Employees' Knowledge and Skills in Carbon Management
Transition Risk	Market	Changes in Customer Behavior	Customers choose to use lower carbon and lower environmental impact products or request the Company to provide more transparent environmental information products/services to meet the global net zero emissions trend and reduce environmental impact. If we cannot meet these requirements, there may be a potential risk of losing customers.	Decrease in Revenue	Medium	High	• Develop products/services that reduce environmental impact. • Improve Product Performance • Reduce Packaging or Use Low-carbon Packaging Materials
Transition Risk	Market	Increase in Raw Materials Cost	In recent years, extreme climate changes have occurred frequently, causing instability in raw materials supply and increasing the difficulty of mining and transportation of raw materials. Factors such as natural disasters may block mining roads and high temperatures may reduce productivity, making it difficult to control the supply of raw materials, causing a shortage of raw material supply, increasing transportation and scheduling costs, and increasing operating costs.	Rise in Costs	Medium	Medium	• Continue to Demand Suppliers Undertake Climate Adaptation and Energy Transition, and Construct a Climate Resilient Supply Chain • Conduct Supplier Risk Assessment to Avoid or Reduce Purchasing from High-Risk Production Areas • Increase Local Vendor Storage Capacity in Response to Extreme Weather Disasters

Note：Low、Medium、High

Risk Type	Risk Aspect	Risk Name	Explanation of the Impact on TSC	Potential Financial Impact	Periods of Influence on TSC *	Risk Level	Corresponding Measures and Strategies
Transition Risk	Technology	Cost of low-carbon technology transition	Due to the growing international trend toward carbon reduction, many companies are requiring their supply chains to adopt sustainable and low-carbon actions. TSC is gradually planning its transition and promoting carbon reduction technologies and equipment, which will have an impact on our operating costs.	Rise in Costs	Medium	Medium	• Invest in High-Performance Equipment and Low-Carbon Technology R&D • Actively Cultivate Low-Carbon Transition Talents • Evaluate Investment in Low-Carbon Technology Equipment
Transition Risk	Reputation	Increase in negative feedback from stakeholders	Since the importance of climate change issues continues to increase, stakeholders prefer low-carbon or environmentally friendly companies that contribute positively to humans and the environment. If TSC does not take proactive measures, we will not be able to meet stakeholder expectations and may damage the Company's reputation.	Decrease in Funds	Long	Medium	• Strengthen Climate Change Response and Prevention • Strengthen Appropriate Disclosure of Company Climate Action Information • Strengthen Communication with Stakeholders
Physical Risk	Extreme	Increase in Extreme Weather Events - Typhoons	The frequency and severity of typhoons have increased, which will cause the following impacts: • Typhoons may destroy the power system, causing partial regional power outages, leading to operational or service interruptions. • Typhoons may cause supply chain disruption. • Asset insurance premiums in high-risk areas have increased, increasing operating costs.	Rise in Costs	Medium	Low	• Strengthen Production Site Flood Control and Drainage Equipment and Contingency Measures • Strengthen the Implementation of the Business Continuity Plan (BCP) • Strengthen the Emergency Supply Mechanism
Physical Risk	Extreme	Increase in Extreme Weather Events - Heavy Rain	As the frequency and amount of heavy rain increases, it may cause damage to production sites, production interruptions, and transportation disruptions that prevent employees from going to work.	Decrease in Revenue	Medium	Low	• Strengthen Production Site Flood Control and Drainage Equipment and Contingency Measures • Strengthen the Implementation of the Business Continuity Plan (BCP) • Strengthen the Emergency Supply Mechanism
Physical Risk	Extreme	Drought	Due to droughts, water shortages have led to water supply interruptions, increased water fees, and disruptions in the purchase of external water sources, affecting the water usage in factories. This may also result in interruptions to operational activities.	Rise in Costs	Medium	Low	• Implement Water-saving Measures • Increase the use of recycled water. • Build a large-scale reclaimed water plant in the factory area to extend and stabilize the supply of process water. • Set up reservoirs to enhance water storage capacity and control flexibility.

Note：Low、Medium、High

Risk Type	Risk Aspect	Risk Name	Explanation of the Impact on TSC	Potential Financial Impact	Periods of Influence on TSC *	Risk Level	Corresponding Measures and Strategies
Physical Risk	Long-term	Rise in Average Temperature	Climate change has increased the duration of high temperatures, electricity demands, and rising energy costs globally. Moreover, droughts caused by high temperatures pose a risk of operational disruptions.	Rise in Costs	Long		• Implement Water-saving Measures • Strengthen the Implementation of the Business Continuity Plan (BCP) • Closely monitor electricity usage and adjust as needed in a timely manner.

Note: short-term (within 3 years), medium-term (3 to 5 years), long-term (above 5 years)

Climate-related Opportunities

TSC also depends on its operational strategy and planning, as well as industry-related reports, to evaluate the progress of the semiconductor industry value chain, identify potential business opportunities arising from climate change, and evaluate the financial impact on TSC.

Climate-related Opportunities

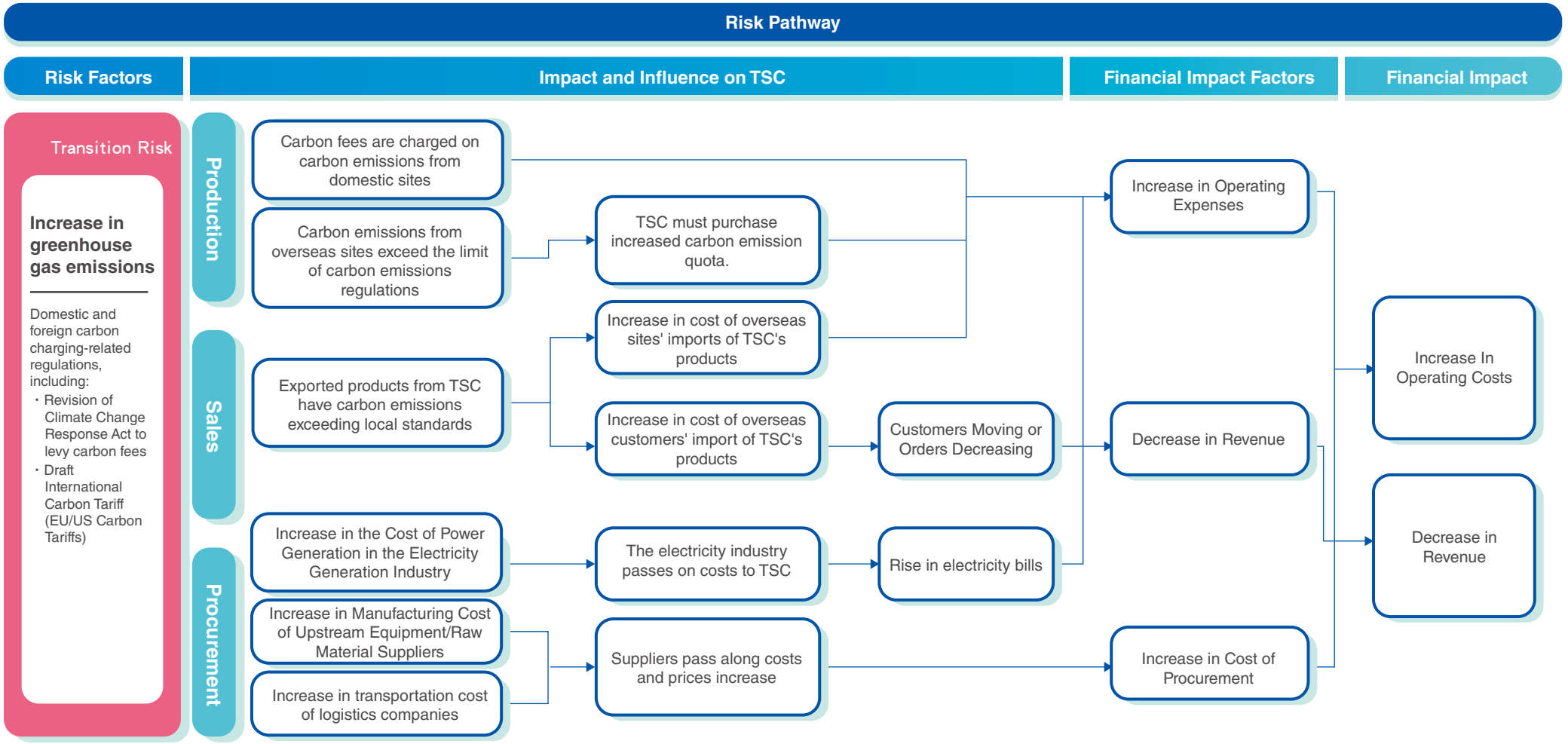
Opportunity Aspect	Opportunity Name	Implications of Opportunities for TSC	Potential Financial Impact	Periods of Influence on TSC
Products and Services	Improve product performance.	We are actively working to improve the energy efficiency of our products, aiming to assist customers and users in reducing energy consumption and greenhouse gas emissions during product use. In light of the rapid growth of the new energy vehicle chip market and the 5G industry, TSC will persist in optimizing product performance, expanding our market presence, and increasing profitability.	Increase in Revenue	Short
Resource Utilization Efficiency	Utilize more efficient production and distribution procedures	By enhancing the energy efficiency of production processes and transportation logistics, as well as bolstering material, energy resources, and waste management, it is feasible to decrease energy resource consumption and carbon emissions, thereby reducing operating costs.	Decrease in Cost	Medium
Resilience	Participate in Renewable Energy Source Project	To promote the utilization of low-carbon energy and establish a diversified power supply to enhance climate resilience, it will be feasible to sustain the transition towards low-carbon energy by constructing and procuring renewable energy sources.	Change in Cost	Medium

Note: short-term (within 3 years), medium-term (3 to 5 years), long-term (above 5 years).

Climate Risk Impact Assessment and Scenario Analysis

In 2022, we prioritized conducting a risk impact assessment analysis on the highly risky project of "Increase in Greenhouse Gas Emissions Cost". The purpose is to identify the impact pathways on TSC and consider the effects of carbon fees and carbon tariffs on our value chain and its operations in different scenarios. Additionally, future financial quantification assessments are expected to be conducted. The evaluation results will be applied to adjust the Company's operational strategy, reevaluate the Company's risk appetite and tolerance, and continuously revise relevant response measures.

Climate Risk Pathway - Increase in Greenhouse Gas Emissions Cost



To assess the potential effects of future climate change on TSC, we rely on the scenarios put forth by the International Energy Agency (IEA), specifically the Net Zero Emissions by 2050 Scenario (NZE) and the Announced Pledges Scenario (APS). As climate change escalates, countries are increasingly advocating for carbon pricing measures. For instance, the European Union is on the verge of implementing the Carbon Border Adjustment Mechanism (CBAM), while Taiwan intends to impose carbon fees, both of which could raise production costs. Furthermore, these policies and regulations not only impact TSC directly, but also have repercussions throughout the value chain. If suppliers become subject to these fees, the costs of relevant raw materials and equipment investments may gradually rise.

At the current stage, TSC evaluates three impacts based on the carbon fee scenarios set in the NZE and APS by the IEA: upstream cost increase, increase in operational costs, and customer orders moving.

1. Increase in upstream cost

In response to China's inclusion of the electricity department in the carbon trading market and the implementation of carbon tariffs by the European Union, electricity providers may increase electricity prices to pass on the cost of greenhouse gas emissions. As a result, there may be a certain proportion of price adjustments by 2030, which will pose operational expenses and cost increases for TSC and its suppliers. Additionally, in terms of procurement costs such as raw materials, machinery and equipment, and logistics, relevant suppliers may pass on carbon taxes, carbon fees, or the implementation of carbon trading markets/systems in their respective countries to TSC, leading to an increase in procurement costs.

In light of the anticipated ongoing rise in upstream costs, TSC is proactively advancing energy transition efforts and collaborating with the supply chain to develop plans for future carbon reduction. This includes building a climate-resilient supply chain and regularly reviewing upstream costs to mitigate associated financial risks.

2. Draft of Carbon Fee-related Policies

Based on regulations implemented in TSC, such as the Taiwan Climate Change Response Act passed in early 2023, the EU CBAM, China's national ETS, and the relevant emission quota schemes of the Interim Regulations on the Management of Carbon Emissions Trading, as well as suggestions from outsourced research reports of the Taiwan Environmental Protection Administration, it is estimated that the carbon fee will reach approximately US$100 by 2030. Additionally, the regulatory impact of carbon will gradually strengthen in the short term. Considering domestic and international carbon fee regulations and the future reduction of greenhouse gas emissions, TSC will conduct a quantitative assessment of the additional carbon fees and related costs that each operation may incur, resulting in increased operating costs.

In addition to closely monitoring the development of domestic and international climate-related regulations, we dedicated to actively developing high-performance products and enhancing procedural efficiency. Furthermore, we intend to participate in renewable energy initiatives to mitigate the financial impact of climate-related policies.

3. Customer Orders Moving

The carbon-related policies of various countries will also have an impact on the downstream value chain. For instance, the EU's CBAM could potentially necessitate customers to bear extra carbon tariff expenses when importing our products. This, in turn, may affect their inclination to purchase TSC's products and prompt them to seek out competitors offering products with lower carbon content. Consequently, this presents a challenge to the sales market and results in a decline in revenue.

We will focus on low-carbon operations and improving product performance as the primary strategy. This will involve offering customers more competitive low-carbon products and services, while also consistently reducing the risk of customer order shifting due to rising greenhouse gas emission costs.

Risk Factors	Climate Scenario	Scenario Hypothetical Conditions	Carbon Fee Parameter (Unit: US$/$CO_2e$)	Scenario Analysis Factor	Major Financial Impact
Transition Risk - Increase in Greenhouse Gas Emissions Cost	IEA - NZE	By 2050, the global energy departments are expected to achieve net-zero carbon emissions in the NZE scenario. Greenhouse gas emissions will decrease annually, and by 2100, the global average temperature rise will be below 1.5° C.	• In 2030, it will be $90. • In 2040, it will be $160. • In 2050, it will be $200	• Electricity expenses, procurement expenses, and carbon expenses at production sites • The amount of carbon tariff paid on exported products	• Upstream costs: The rising electricity costs may result in higher expenses for suppliers of raw materials and logistics providers, thereby further affecting our procurement costs. • Climate-related policy regulations: As a result of the proposed climate-related policy, there will be a requirement to pay additional local carbon fees and carbon taxes. • Customer market challenges: As a result of CBAM and other international policies, importers are obligated to pay carbon taxes. Consequently, customers are opting for products with lower carbon emissions, leading to shifts in customer demand and a subsequent decline in revenue.
	IEA - APS	As per the APS, the global government's declared targets for greenhouse gas reduction and achieving net zero will be met within the specified timeframe. Greenhouse gas emissions are projected to reach their highest point in the mid-2020s, resulting in a global average temperature increase of 1.7° C by the year 2100.	• In 2030, it will be $40. • In 2040, it will be $110. • In 2050, it will be $160.		

Indicators and Goals

In light of the impact and challenges posed by climate change, TSC acknowledges the importance of the Science Based Targets Initiative (SBTi) methodology for establishing reduction targets based on scientific evidence. Additionally, we have implemented ISO 14001, ISO 50001, and ISO 14064-1 management systems to address these challenges. We also committed to utilizing renewable energy and implementing energy-saving measures. To minimize product carbon footprint, we actively explores new markets and introduces low-carbon technology products, while also incorporating automation in production. The current goals and indicators are as follows:

1. Reduce Greenhouse Gas Emissions

We have established a net-zero objective for 2050, using 2022 as the reference year. The aim is to achieve an annual reduction of 4.2% in greenhouse gas emissions for both Scope 1 and Scope 2, relative to the baseline year.

2. Adopt Renewable Energy Source

The implementation of solar power generation facilities and a green energy procurement plan began in the factory area in 2022. In 2023, an assessment plan for solar self-use installation will be initiated at the I-lan Site.

3. Increased Resource Utilization Efficiency

We are actively promoting energy-saving initiatives in public systems and processes, aiming to reduce electricity consumption by 1% compared to the previous year. This effort is focused on enhancing the energy efficiency of its production operations. For more information on the specific energy-saving measures implemented at facilities, please refer to section 5.1.2 Energy Management.

Our production procedure is heavily dependent on water resources, and the drought resulting from climate change presents potential risks to our operations. TSC is actively promoting the recycling and reuse of wastewater, as well as enhancing the efficiency of water resource utilization. For more information on the energy-saving measures implemented at our sites, please refer to section 5.1.3 Water Resource Management.

4. Assist Customers in Reducing Carbon Emissions

In light of the rapid growth of the automotive chip market and the 5G industry in 2023, the upcoming generation of low-power chips will play a crucial role in the transition towards a low-carbon economy. TSC remains committed to enhancing product performance, increasing energy efficiency, and supporting customers in reducing greenhouse gas emissions throughout product usage. For details on our low-carbon product strategies, please see section 1.1.2 Financial Performance and section 2.1.2 Continuous Improvement and Innovation in Quality.

2

Innovative Products and Services

2.1 R&D and Innovation

2.2 Customer Relationship Management

2.1 R&D and Innovation

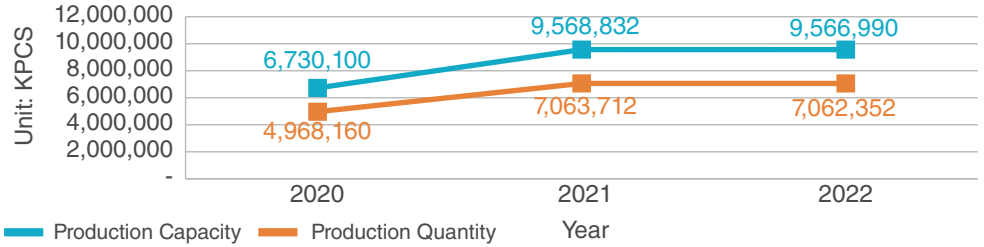
TSC aims to implement sustainable development, and hopes to reduce the environmental impact caused by manufacturing processes, in line with the spirit of "Taking from Society, Giving Back to Society". The Company has established product environmental protection specifications to control the hazardous substances in its products. As well as complying with the requirements of the EU RoHS directive and REACH regulation, TSC upholds the principles of environmental protection and HSF (Hazardous Substance Free) in the design and production stages, continuously incorporating the concept of green products. Measures such as using non-hazardous raw materials and adopting low-pollution and energy-saving production processes have gained favor from automotive customers, allowing TSC to contribute substantial benefits in greenhouse gas reduction through its core R&D capabilities.

2.1.1 Products and Services

TSC is mainly engaged in the manufacturing of Rectifiers, Transistors and LED Drivers, Assembly, Testing, and After-sales Service. Our products include Power Management ICs, Rectifiers, ESD Protection Devices, Bridge Rectifiers, MOSFETs, IGBTs, Trigger Diodes, and Silicon Controlled Rectifiers, which mostly are the automotive market (including gasoline and electric vehicles), industrial market (charging piles, power tools, pneumatic device equipment), and telecom market (5G, IoT).

Being an Integrated Device Manufacturer (IDM) is one of our competitive advantages. We provide end-to-end services, from R&D, production, to assembly, testing, and sales. This integrated approach optimizes the manufacturing process and enhance communication mechanism.

Total output of main products



*Note: Due to the wide variety of TSC's products and the significant differences in production units, considering the reasonableness and accuracy of the information, only the total production of the main product - Rectifiers is disclosed.

The production self-manufactured rate (percentage from sites) in 2022 is about 70%, with the remaining 30% being outsourced or purchasing. The sales revenue of our products has continued to grow over the past three years. Due to recent industry trends, the majority of customers in the automotive application market, which is the main focus of development, are from Europe and America. Therefore, the sales share in Europe and America has expanded in the past three years.

Main regional market sales status and proportion (NT$ thousand)

	2020		2021		2022	
Asia	2,057,790	57%	2,569,777	53%	2,905,882	51%
America	515,946	14%	755,533	16%	910,777	16%
Europe	1,031,126	28%	1,347,227	28%	1,776,181	31%
Others	37,599	1%	130,940	3%	106,315	2%
Total Sales Revenue	3,642,461	100%	4,803,477	100%	5,699,155	100%

Product Strategy and Development Policy

The types and application fields of products in TSC are relatively diverse. With a view to provide customers with more comprehensive product solutions, TSC has continuously improved technological innovation and R&D capabilities in recent years. We have also formulated short, medium, and long-term product development strategies to meet customer needs and market trends. In addition to establishing a sound product development strategy, we also promote a comprehensive quality management system. These two schemes are complementary to each other, forming the foundation of our competitiveness.

Short-term Strategy	Mid-term Strategy	Long-term Strategy
Product Development		
• Gain a deep understanding of market demands and rapidly introduce products to the market; such as continuously developing more efficient automotive semiconductor components like advanced MOSFETs, Wide Bandgap Semiconductors, and High-Efficiency Rectifiers. • Develop new product variants using existing technology and product platforms to meet customer needs. • According to customer needs and market trends, conduct a comprehensive product portfolio optimization. • Discover new application scenarios and apply existing products to new markets and fields.	• Strengthen R&D on safety and reliability, and improve product quality and market trust. • Strengthen customer cooperation, provide custom products and services, and increase market share. • Develop a new product ecosystem. • Promote sustainable development and green manufacturing. • Continue developing new markets and application fields and increasing product application scenarios and market size.	• Strengthen research and practice on product life-cycle management to achieve long-term sustainable development. • Promote green design and green manufacturing of products to achieve environmental protection and sustainable development goals. • Develop cloud-based products and services to achieve the sharing and collaboration of smart and digital products. • Promote product circular economy and resource utilization, achieve product recycling and waste reduction, and achieve sustainable development goals.
Technological Advancement		
• Introduce new talents and technologies to enhance R&D and manufacturing capabilities. • Accelerate product smartification and digitization to enhance product added value and market competitiveness. • Strengthen the R&D and manufacturing procedures of products to improve efficiency and product quality. • Strengthen cooperation with suppliers to improve supply chain efficiency and reliability.	• Introduce new materials and technologies to improve product performance and power consumption ratio. • Promote product design and testing automation to improve product development efficiency and quality. • Promote smart manufacturing and industrial internet to enhance production efficiency and product quality. • Strengthen corporate innovation culture and R&D capabilities, enhance innovation vitality and competitiveness of the business. • Promote green manufacturing and strengthen green technology R&D.	• Promote the application of cutting-edge technologies such as artificial intelligence and machine learning to enhance product intelligence and autonomy level. • Continue to advance technology R&D to maintain a technological competitive advantage. • Promote comprehensive corporate digital transition to enhance corporate intelligence and digitization level. • Promote deep collaboration and innovation with industry chain partners, jointly advancing industrial development.

Product Quality Management

TSC follows the product development plan to carry out quality management and sets corresponding quality objectives to ensure that the quality standards of the products meet expectations. The Company implements measures such as control, improvement, and monitoring of product quality, and adopts a Zero Defect Strategy, especially in the automotive supply chain, with a rigorous mindset and strategy, focusing on continuous quality improvement. Since 2004, TSC has passed IATF 16949 and ISO 9001. Through a rigorous quality management system, TSC achieves the goal of continuous product improvement and defect prevention, providing high-quality products to customers in the global automotive industry.

Zero Defect Management Policy

- Comprehensive Zero Defect Goal
- Visibility of the Zero Defect Concept
- Horizontally and Vertically Integrated Communication

Risk-based Quality Management

- Project Quality Management
- Risk-oriented Audit Strategy for Change Control and Management
- Risk-oriented Audit Strategy

Continuous Improvement

- Professional Knowledge Management
- Passing on Experience
- Career Development

Stability of Products and Processes

- Defect Detection and Control
- System Integration and Automation
- Design for Manufacturability, Reliability, and Testability

Comprehensive Quality Management Capability Building

To effectively implement the quality management policy, TSC has undertaken relevant capability building in organizational culture, personnel skills, equipment, and system automation. This includes promoting horizontal and vertical communication to ensure the spirit of "zero defects" is company consensus. We have also introduced more talented individuals with extensive experience, strengthened the professional knowledge of internal engineers and supervisors, expanded training in specific automotive technologies, and laid the foundation for product quality management. Additionally, TSC is gradually introducing automated equipment and systems to enhance the efficiency of quality management.

Since 2000, the Company has been strengthening management and ensuring product quality to meet customer requirements through VDA6.3 process audits and IATF 16949. In response to the continuous improvement of the international automotive industry, we have fully implemented the latest version of AIAG-VDA FMEA (Failure Mode and Effect Analysis) in 2020 to optimize costs for products and manufacturing procedures.

Our main automotive customers attach great importance to the international standard VDA 6.3 process audits. In recent years, We have been committed to integrating the VDA 6.3 process audits with the existing quality management system to diagnose and optimize internal processes, control process risks, and achieve zero defects goals. This can further enhance our competitiveness in the automotive industry chain.

Establishment of Organizational Culture

- Implementation of Zero Defect Concept
- Employee Communication
- Cross-Departmental Communication

Staff Upskilling

- Employing More People with Professional Experience
- Continuing Education Training

System and Equipment Automation

- MES Factory Operations Control System
- Customer Relationship Management System
- QIMS Quality Integrated Management System
- SPC Statistical Process Control System

Health and Safety Impact Assessment of Products

In recent years, TSC has been developing the automotive market. Major European and American automotive manufacturers pay great attention to the high quality and precision of their products because of automobiles' importance in personal and traffic safety. If there are any malfunctions, it may result in unforeseen risks and impacts. Defects in automotive electronics not only pose potential risks to personal safety but also lead to negative impacts on corporate reputation through subsequent product recalls. Therefore, customers have extremely high requirements for the products provided by TSC. Only by offering high-quality products, implementing a Zero-Defect Policy, and continuously monitoring the development trends of harmful substance regulations at home and abroad can we maintain a competitive advantage.

Through assessment, the products and services provided by TSC in 2022 have no significant impact on health and safety, and there have been no incidents that violate relevant health and safety regulations for products and services. We will continue to strive to manage the health and safety impacts of its products, and make the sustainable development blueprint more complete.

Product Chemical Substances Control and Disclosure

Many chemical substances are used in the production process of TSC products, and there is a risk of harm to human beings and the environment. As such, the control of chemical substances is crucial. In recent years, environmental substance regulations have been updated frequently, and the number of regulated items has increased year by year, reflecting the increasing international attention to chemical management. Meanwhile, customers also attach great importance to the composition, showing their attention to the subsequent R&D, design, manufacturing and quality maintenance of purchased parts. To allow customers to quickly understand the chemical substances contained in products for accelerating demand matching, we launched a product chemical substance disclosure project and set up an intranet Material Composition Declaration system in 2022.

IT Department has designed the MCD Environmental System to control and manage the chemical composition of products and establish a list of hazardous substances. The information on the substances contained in the products is continuously compiled and disclosed on the official website. Currently, all products have MCD data sheets, and customers, suppliers, and other stakeholders can quickly search for specific products that meet their needs through the self-service feature on the official website, accelerating the overall communication process and saving time on back-and-forth communication.

In 2022, TSC preliminary disclosed full substance information for 9,131 products, with a disclosure rate of 95% by product weight percentage. It is expected that through continuous communication with suppliers, factory education and training, and system optimization, a disclosure rate of 97% by product weight percentage will be achieved by 2023. In the future, we will continue to promote the declaration of full substance disclosure for product components, consolidate them into a transparent and complete material information database, identify high-risk material analysis, and ensure that TSC manufactures environmentally and human-friendly products.

Hazardous Substances Management

The management of hazardous substances is a crucial part of sustainable management, which is also important for customers. The Company strictly complies with international regulations, such as the EU RoHS directive, REACH chemical regulations, etc., and has established a database - TSC Environmental Compliance - to manage hazardous substances. We provide manufacturing services that are more environmentally friendly and disclose hazardous substances in response to customer needs, supporting customers in expanding the green product market. For a complete list of environmental laws and regulations followed by TSC, please refer to the official website's "Compliance with Environmental Laws and Regulations".

In 2022, all product and packaging design and manufacturing of our products have complied with regulations and 100% meet customer requirements for hazardous substance management. There were no violations of regulations on product information labeling or voluntary agreements, nor were there any incidents leading to fines or warnings.

We strictly complies with the product import regulations or instructions of various countries. After internal verification by the Company, the product pass rate in 2022 is 100%. Regarding the EU RoHS directive, TSC has obtained third-party testing reports.

Laws or Directives	Compliance Rate of TSC Products
RoHS[*1]	100%
REACH	100%
Safe Drinking Water and Toxic Enforcement Act	100%
End-of-Life Vehicle (ELV)	100%
Persistent Organic Pollutants (POPs)	100%
US Environmental Protection Agency - Toxic Substances Control Act (TSCA)	100%
JEDEC J-STD-609	100%

Note: 1. This refers to the instruction for restricting the use of certain hazardous substances in electronic and electrical equipment (Restriction of Hazardous Substances).

2.1.2 Innovation and R&D

TSC continues to invest in product R&D and technological innovation, gradually introducing more professional talents and technologies. As the scale continues to grow, TSC expanded R&D team in 2022, including new technical professionals in ESD, Wide Bandgap semiconductors, and other product lines. The workforce of the R&D team is expected to increase by 60% in 2023. Additionally, We incorporated the R&D performance of new products into the performance bonus evaluation criteria for researchers to encourage the team to actively pursue innovation. Since 2020, the annual investment in innovative R&D has increased year by year, and its percentage of net revenue has also increased with revenue growth.

R&D Expenses and Percentage of Revenue

(Unit: NT$ thousand)

	2020	2021	2022
R&D Expenses	42,296	56,976	81,604
Net Revenue	3,642,461	4,803,477	5,699,155
Percentage of Net Revenue	1.16%	1.19%	1.43%

New Product Development Plan

In 2022, TSC launched a number of new product development projects, including MOSFETs, voltage stabilizer ICs, ESD and other products, aiming to complete verification and mass production from 2023 to 2025. The products involve different semiconductor technology applications, such as automotive electronics, Advanced Driver Assistance Systems (ADAS), Internet of Things, 5G, etc., laying the foundation for the company's long-term development.

TSC has established an effective project management system to track and manage tasks and progress across departments to respond to the technical challenges, market uncertainties, product design, and quality control issues associated with developing new products. Additionally, the Company conducts training and exchange activities to enhance employees' skills and knowledge in product development, and to promote cross-department collaboration and communication.

Expected Benefits of Product Development

Practicing Intelligent Factory

To improve factory efficiency, enhance process quality, and meet customer delivery requirements, TSC established the Automation Development and Integration Department in 2018. It introduced Manufacturing Execution System (MES) and Equipment Automation Program (EAP) to optimize processes and product traceability, thereby improving efficiency and achieving intelligent production. We plan to invest over NT$200 million in new equipment to expand MOSFET production capacity from 2022 to 2025. Additionally, it plans to invest approximately NT$7 million in unlimited quantity EAP software licenses to meet the needs of the new equipment. As of 2022, the overall equipment automation coverage rate of the two factories has reached 68.8%, and it is expected to reach 70% equipment automation by the end of 2024.

- Digital System Management (MES/EAP):Equipment can remotely and automatically perform parameter setting, and automatically retrieve production programs. When products are put into production, the system can immediately designate the process flow*. Additionally, production information can be digitized and visualized.

  Note: Automotive products can be produced with designated equipment, and operators must pass verification before operating, using materials, and automatically downloading programs.
- Automatic equipment:Intelligent sensing technology allows the robotic arm to load and unload materials automatically. The equipment can complete the entire process automatically, enhancing operational efficiency.
- Product traceability:Through data management for statistical analysis, it provides preventive and troubleshooting functions. For example, it can query the product batch code to track all quality issues during the production process, and perform traceability analysis on the entire history of that batch of products, achieving effective production and continuous improvement purposes.

Li-Je Site

Li-Je Site has been investing in the planning of factory automation since 2017 in order to enhance its efficiency, improve process quality, and meet customer delivery requirements. The digital transition of the factory is being driven by three main aspects: digital management, smart manufacturing processes, and intelligent inspection, with the aim of winning customer trust through advanced information technology.

Digital Management

- Material management: Managed through digital systems, it can automatically schedule the order of material issuance and verify its accuracy. Meanwhile, the system isolates expired and abnormal items to reduce the impact of human error.

Smart Manufacturing Process

- Diffusion process: Using intelligent sensing technology, the equipment can automatically load/unload throughout the process, control temperature, and automatically perform air intake.
- Photolithography process: Using intelligent sensing technology, the equipment is equipped with an automatic alignment control system to reduce the risk of manual alignment and improve the appearance yield.
- Etching process: Using intelligent sensing technology, the equipment can automatically acidify/soak/swing/change the tank according to the formula, while monitoring whether the water resistance value reaches the standard, improving electrical yield.
- Thin film process: Using intelligent sensing technology, the equipment can load/unload the whole process and automatically switch the coating material.
- Probing and testing process: Using intelligent sensing technology and digital management, the equipment can automatically switch production between different wafers and upload information, as well as monitor wafer yield and provide alerts and analysis for low-yield wafers.

Intelligent Detection

- Visual inspection: Using intelligent sensing technology and digital management, it is possible to conduct automatic visual inspection and mark defective products, and simultaneously uploading photos of defects data facilitates analysis and continuous improvement.

I-lan Site

Regarding the assembly testing equipment at the I-lan Site, TSC has been gradually purchasing new types of networked and automated machines since 2017 and conducting assembly testing processes. We have also invested in EAP software licenses to achieve process parameter control and automation access. The applicable products include diodes and MOSFETs. Due to the increasing number of newly purchased equipment each year, more software automation engineers are needed to assist in the implementation and development of EAP. As of February 2023, through hardware, software, and manpower recruitment, the I-lan Site has used machines with EAP automation capabilities to produce over 95% of its products. Future new products and machines will also be equipped with EAP functionality to maintain the intelligent operation of the factory.

- Material management: Utilize digital systems to achieve visualized warehouse management, thereby improving inventory turnover efficiency, reducing stagnant materials, enhancing product quality traceability, and increasing production efficiency.
- Assembly and Test process: Using digital management, it is possible to achieve automatic parameter setting, health index warning and disposal, and visualization of all production information.

Highlights

Establishment of Knowledge Management System

In pursuance of continue practicing product innovation, TSC not only improves the manufacturing process, but also considers the long-term development of technology and the accumulation of experience. Therefore, TSC began to establish a Knowledge Management System (KMS) starting in 2022 to systematically store technical data and documents, enhance the convenience of technical data transfer and reuse, and accelerate the development timeline of R&D projects. In the past, without establishing a project technology and research data knowledge base, once the project took a long time or the R&D personnel resigned, the experience of the R&D project would be challenging to pass on, hindering the accumulation of product technology and knowledge. Thus, starting in 2022, we have successively completed the KMS hardware equipment construction and plans to introduce R&D projects in 2023, transforming existing technical documents from paper to digital format, and establishing an SOP document library related to electrical measurement and instrument equipment.

KMS will provide functions such as document management, advanced search, and knowledge mapping. We will classify and manage technical documents based on the Advanced Product Quality Planning (APQP) framework, and establish a knowledge map that includes relevant resources such as technical development documents, databases, and expert opinions. The main purpose of this system is to establish a database for project R&D technology, greatly improving team efficiency and increasing the reference value or re-usability of technical documents.

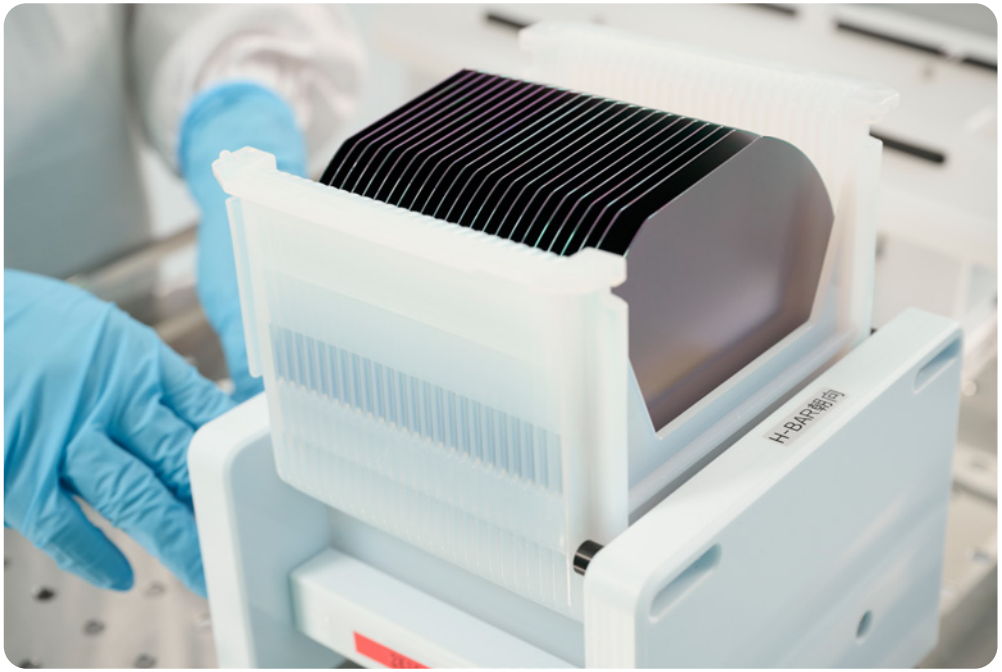
- Establish a systematic and scalable R&D project technical database.
- Analyze the usage and development needs of the R&D Department and introduce a suitable and mature commercial knowledge management platform.
- Optimize project document management comprehensively to enhance team productivity.
- Expand the project and technical knowledge map to improve the reference value and re-usability of technical documents.
- The R&D engineer publishes a R&D memorandum on technical progress to help the company accumulate core competitiveness.

Intellectual Property Protection

Intellectual property represents the intellectual results and achievements of the company's investment in technology development, especially for the long-term development of the company; it is a significant intangible asset. TSC has formulated the Intellectual Property Management Measures as the basis for managing and maintaining group intellectual property rights. Meanwhile, to enhance the importance and economic value of our company's R&D technology and cultivate patents, our company regularly commissions external firms to provide intellectual property and patent-related training courses for internal R&D and technical personnel.

In the face of the changing structure and rapidly advancing technology in the semiconductor industry, TSC has redefined its goals and strategies for managing and maintaining intellectual property rights. We aim to optimize existing technologies and focus on researching core technologies, conducting an inventory and review of all patents within the group, and retaining patents with economic value. Additionally, we place greater emphasis on applying for new invention patents with higher levels of "originality" and "novelty". As of now, TSC has been granted and holds 38 valid patents, including 33 invention patents, 4 utility model patents, and 1 design patent.

In addition, the Company's R&D and technical personnel continue to submit new case applications (all of which are invention patent applications) to collaborate with a technology company in the United States for joint development of new technologies. This demonstrates our company's goal and strategy for intellectual property management and maintenance, which is not quantity-oriented but quality-oriented.



Aiming to strengthen the determination of our intellectual property deployment, the Legal Department, together with the senior management of the Company, not only plans regular intellectual property training or industry-related courses for R&D and technical personnel, but has also started planning and formulating new internal management measures and systems (including the introduction and promotion of trade secret systems) to enhance the content of technology and patents, and protect the core technology and patents of the Company.

Patent Application Incentive Measures

To encourage employees to actively engage in research, invention, and innovation, and to improve product quality and functionality, thereby enhancing competitiveness, there are numerous incentive measures, including proposal rewards, approval rewards, patent infringement reporting rewards, patent rejection rewards, licensing rewards, and annual rewards, which encourage employees to protect intellectual property rights through diverse criteria collectively. In 2022, the R&D Department received rewards and was granted patents for two projects, "Multi-protected Ring Schottky Diode" and "Multi-trench Schottky diode", in the United States and Taiwan.

2022 Patent Highlights

Patent Obtained in the United States – Schottky Diode with Multiple Guard Rings Structures

For 150V and 200V high junction temperature Schottky Diode products, the multi-protection ring terminal area design can evenly distribute the electric field in the terminal area and make it gradually increase, effectively improving the stability of the collapse voltage, and making the product remain in a stable state at high voltage.

Patent Obtained in Taiwan - Multi-trench Schottky Diode

TSC began to develop the second-generation multi-trench terminal design in 2020. In addition to the original uniform distribution and progressive electric field design, it is expected to save one layer of photomasking, reducing costs and shortening the process time. It also saves resources and avoids environmental pollution.

2.1.3 Developing Sustainable Products

Except for continuing to roll out smart factories, improve production efficiency, and achieve process energy saving, we also pay attention to the proportion of renewable materials and recycled materials used. TSC uses recyclable packaging materials and expects to reduce energy consumption and indirectly reduce carbon emissions through the overall performance improvement of products, allowing end customers to reduce energy usage. We actively involved in product innovation design, developing high-efficiency products to gradually replace energy-consuming products in the past, such as replacing traditional diodes with low loss diodes (LLD), and continuing to use sustainable packaging materials in response to the energy-saving and carbon reduction trend.

Development of Third-generation Semiconductor Materials Products

With the advent of the era of 5G and electric vehicles, the demand for products resistant to high temperatures and high pressure, high power, and low power consumption has increased. Considering the excellent performance and good heat dissipation of SiC semiconductors in high voltage and high power applications, as well as their wide use in electric vehicles, charging piles, and 5G, TSC launched a new generation R&D project of power devices in 2022. The project applied third-generation semiconductor materials, SiC and GaN, to existing products with the view to introduce power MOSFET products with lower power consumption and higher efficiency.

Since 2022, we have collaborated with the integrated industry's professional wafer fabs and power semiconductor assembly factories to jointly develop SiC Schottky Rectifiers. The samples fully meet the design specifications and are undergoing reliability and trustworthiness testing. The first generation of SiC Schottky Rectifiers is expected to be launched by the end of 2023. In the future, we will continue to make efforts to apply silicon carbide materials to products of different specifications, such as 650V-1200V Schottky products or higher power 1200V MOSFET products. This will not only maintain robust growth in operations but also contribute to energy savings, in line with sustainable operation.

Utilization of Recycled Materials

In the past three years, due to the expansion of business scale, the total amount of raw materials used by TSC has increased. Nevertheless, TSC is committed to reducing the environmental impact of its operations and actively increasing the use of renewable materials. From 2020 to 2022, the proportion of renewable materials used in our main products exceeds 50%, with a total renewable material usage of over 1,291 tons in 2022.

Total Quantity and Percentage of Materials Used in the Production of Main Products and Services.

Unit: Kg

	2020		2021		2022	
	Weight	Percentage	Weight	Percentage	Weight	Percentage
Total Amount of Renewable Material	912,962	60.31%	1,190,213	57.35%	1,291,661	52.73%
Total Amount of Non-Renewable Material	600,891	39.69%	885,051	42.7%	1,157,710	47.27%
Total Amount of Material Consumption	1,513,853	100%	2,075,264	100%	2,449,371	100%

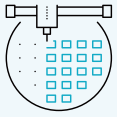
Progress of the New Generation MOSFET Development Project

Utilization of Green Packaging Materials

TSC supports the concept of using green packaging materials and strives to select materials that are recyclable and reusable. Management is carried out by measuring the monthly recycling of product categories and their packaging methods.

I-lan and Li-Je Sites entirely use recyclable packaging materials and reusable cartons, plastic packaging materials, buffer materials, and other packaging for products to be shipped to customers. We also continue to pay attention to customers' instructions and requirements for packaging materials, and integrates with upstream packaging suppliers in real time to ensure recycling labels are clearly marked on the packaging according to international standards. The total consumption of non-renewable materials in TSC in the past three years has shown a continuous downward trend. In response to growing pushes for energy conservation and environmental protection, and to make packaging as sustainable as possible, renewable materials accounted for 35% of the percentage of packaging materials in 2022, a significant increase of 25% compared with 2021.

Main Recyclable Packaging Materials Used in Each Site



Li-Je Site
(Front-end wafer manufacturing)

- Cardboard Box
- PP Buffer Material
- PS Wafer Packaging Box
- PP Wafer Packaging Box
- Dust-free Wrapping Paper
- Round Foam Pads
- Anti-Static Flat Pockets
- 4"Tubes
- 6"Tubes

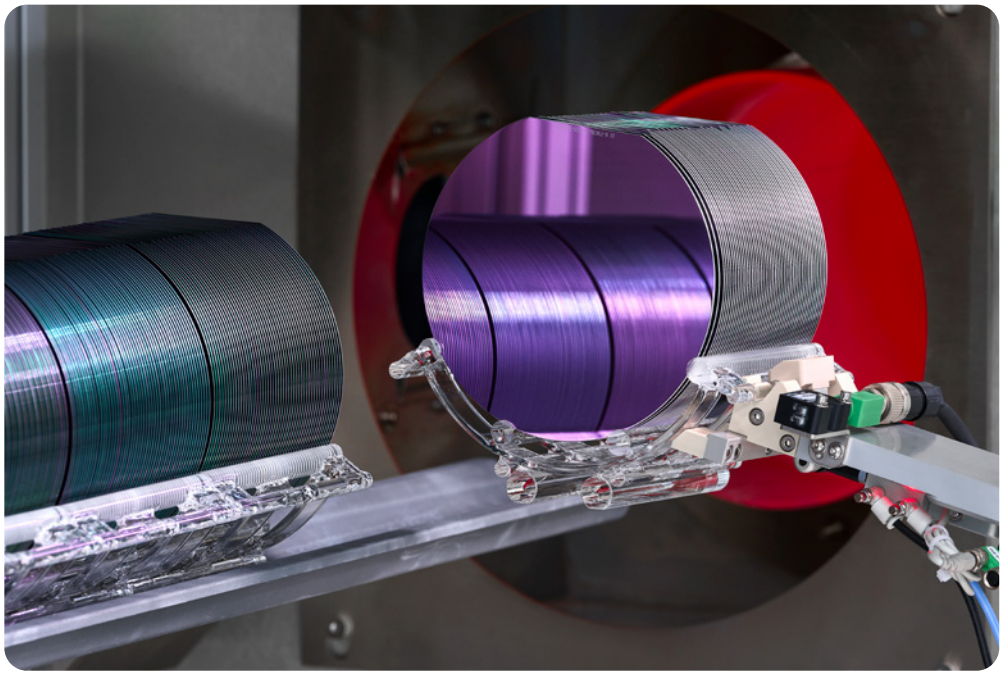
I-lan Site
(Back-end assembly and testing)

- Cardboard Boxes, Inner Boxes
- Carrier Tape
- Cover Tape
- Anti-Static Reels
- Electronic Component Packaging Tubes

Total Quantity and Percentage of Materials Used in Main Products and Services

Unit: kg

	2020		2021		2022	
	Weight	Percentage	Weight	Percentage	Weight	Percentage
Total Amount of Renewable Material	12,696	5.95%	14,024	10.13%	16,942	35%
Total Amount of Non-Renewable Material	200,552	94.05%	124,366	89.97%	31,458	65%
Total Amount of Material Consumption	213,247	100%	138,391	100%	48,400	100%



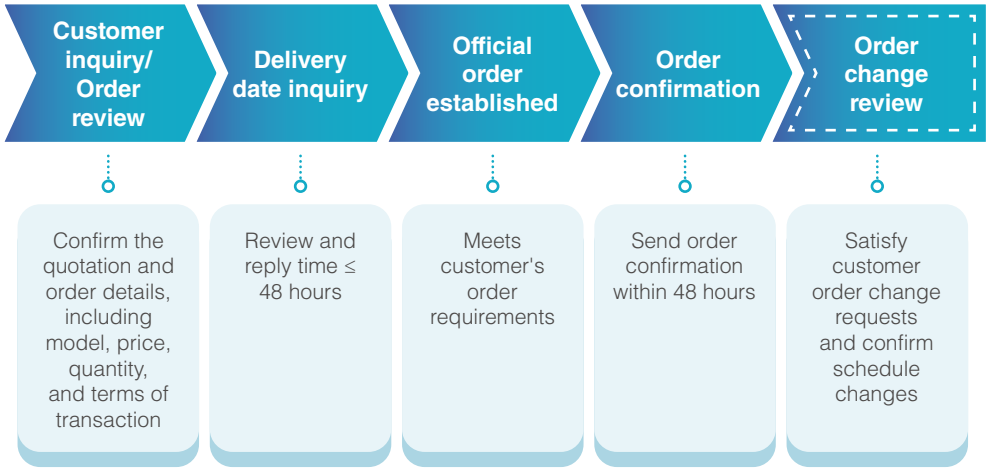
2.2 Customer Relationship Management

2.2.1 Customer Satisfaction Improvement

TSC is committed to maintaining customer trust and service quality, and as such takes responsibility for customer satisfaction. In order to establish a smooth communication with our customers, Sales and Field Application Engineers cooperate with agents to hold product application briefings from time to time, so that customers can obtain the latest and most complete product information.

The Company maintains close communication with customers through comprehensive customer service, including proactively contacting and visiting customers, conducting satisfaction surveys, and providing a smooth channel for communication of grievances. Based on customer needs and feedback on products and services, TSC continuously optimizes customer experience and reduces product defect and recall rates, thereby improving customer retention and Company performance.

Regarding customer inquiries, orders, and other demands, our goal and commitment is to reply to customers' inquiries within 48 hours. The process is as follows:

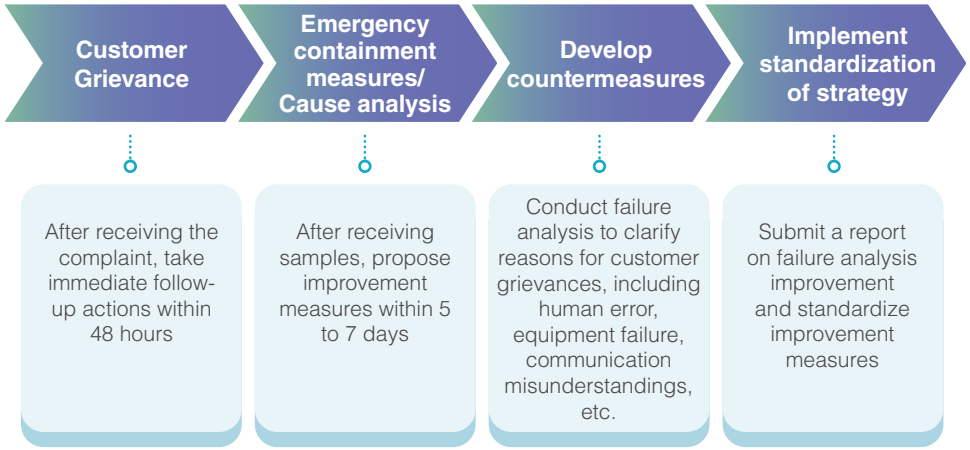


Product Information Inquiry Platform

To provide customers with more comprehensive product information, TSC is planning to revamp the official website in 2023. The website will provide complete information on product items, types, and fields of application, allowing customers to compare and query in real-time online, and filter based on specifications and their needs, thereby improving customer satisfaction in accessing product-related information. In addition, when conducting business and contacting customers, specific product URLs can be provided as references to enhance matching demands and communication efficiency. In the future, website interface and information updates will also be continuously optimized.

Customer Grievance Channel

To protect customer rights, we provide customers with diverse channels for filing grievances. For example, customers can provide feedback or file grievances through various regional Sales Departments in a timely manner. When the Sales Department receives a grievance, the department will proactively contact the customer within 48 hours to understand the situation of the abnormal product, including quality, delivery, and service, and promptly handle the grievance case according to the operating regulations per the Company's Procedures of the Customer Service Management. Then, the FAE/AE and the Quality Assurance Department would understand the grievance situation and clarify the cause to formulate a solution and minimize losses for both parties. In 2022, TSC did not receive any customer grievances.



Customer Satisfaction Survey

In addition to a smooth grievance channel, customer satisfaction surveys are crucial for maintaining strong customer relationships. TSC conducts annual surveys to understand customer needs and improve our products, converting those needs into actions to boost our long-term competitiveness. We select survey list based on the previous year's revenue and send out surveys covering product, delivery, and service. After collecting these and analyzing the feedback, we proactively seek further input from customers who gave lower scores and implement specific improvements. We then follow up six months later with another survey to confirm the effectiveness of these measures. Our consistent customer satisfaction scores of 4.5 or above over the past three years demonstrate our commitment to providing high-quality service.

Customer Satisfaction Survey Rate

Year	2020	2021	2022
Key Customer Satisfaction Survey Index (Max Score: 5/5)	4.6	4.7	4.6

Customer Audit

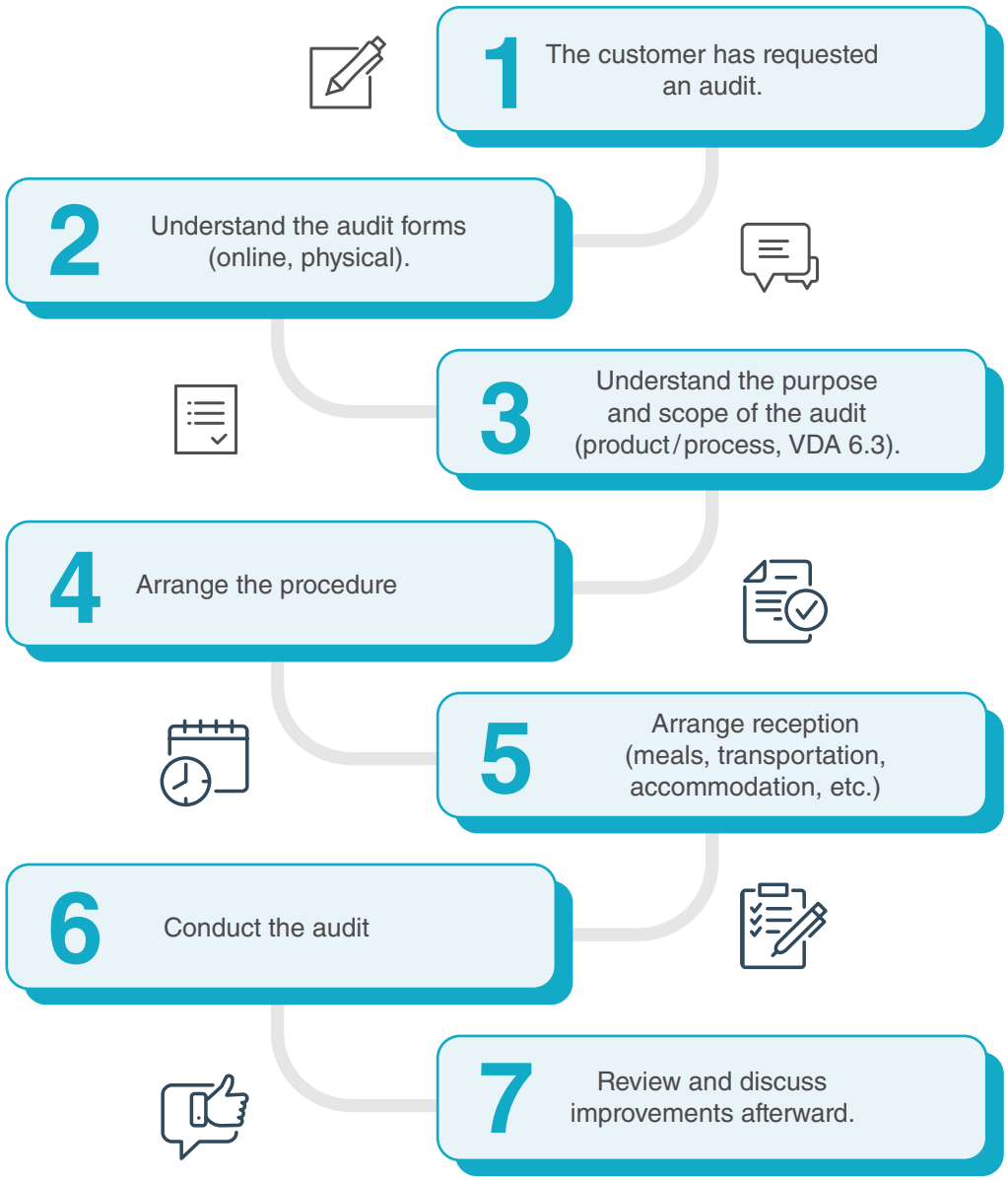
To feedback promptly and comprehensively, the Company seeks to understand customer opinions through various means. In addition to the above satisfaction surveys and customer grievance channels, TSC periodically cooperates with customers to conduct audit operations, allowing customers to have a better understanding of our Company's products and operational processes, and enhancing trust in TSC. In 2022, a total of 3 VDA 6.3 process audits were conducted with 3 customers, all of which received positive feedback from the customers.

With complex challenges such as advancements in production technology and increasing customer demands, TSC must ensure the implementation of quality management in the supply chain. When customers request VDA 6.3 process audits, the Company immediately initiates relevant preparations and arranges customer visitation processes to actively respond to customer demands. Ultimately, through quantified scoring results, we strengthen product process quality management to ensure that the quality of the supplied products meets customer requirements and increases our competitiveness.

Note*:

1. When evaluating whether a vendor can become a qualified supplier in its automotive supply chain or assessing items such as its process technology and products, customers will use the VDA 6.3 process audit standard for scoring. The items include product development and process, supplier management, mass production, as well as customer care, satisfaction, and service.
2. Due to the impact of the pandemic, audits include both online and physical audits.

Customer Audit Arrangement Procedure



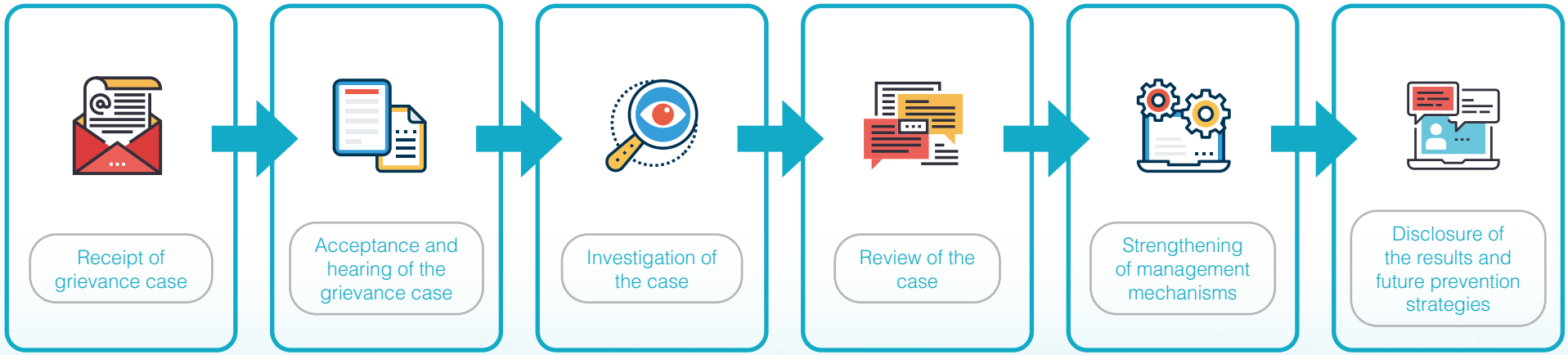
2.2.2 Customer Privacy Protection

With the increasing reliance on the Internet for most modern information, the risk of information security is rising, and our emphasis on customer privacy protection has also increased accordingly. In order to more rigorously protect customer information, and maintain customer trust and Company reputation, we will continue to review and optimize its privacy management mechanisms.

In view of the globalization of our business and services, TSC is committed to implementing protection mechanisms for personal privacy and personal information to prevent leakage, abuse, and theft, thereby safeguarding the rights and interests of personal privacy. In the event of customer data leakage, we will respond in accordance with the guidelines set out by the information security policy. The Company plans to gradually introduce the ISO 27001 Information Security Management System as a management mechanism starting in 2023, reducing the potential impact and risks of customer data breaches by following international standards.

In addition to international standards, information security-related messages and advocacy will be increased through various channels and meetings in the future to enhance employees' awareness and understanding of information security, explicitly specifying the legal use scenarios, storage measures, responsible departments, and handling procedures for personal data incidents, continuously strengthening customer privacy protection. In 2022, there were no incidents of violating customer privacy or losing customer confidential information, and no complaints were received regarding the violation of customer privacy or loss of customer data.

We expect to have in place a complete privacy infringement handling procedure in 2024



3

Responsible Procurement

3.1 Supply Chain Management

3.1 Supply Chain Management

3.1.1 Supply Chain Overview

In order to respond to the increasing complexity of supply management, meet the needs of customers in the automotive and consumer electronics industries, and actively expand its presence in local procurement, TSC established the Supply Chain Management Department in 2022. This department works with relevant units such as the Procurement Department of each site to manage raw materials procurement and wafer fab operations. Additionally, TSC is committed to strengthening its sustainable supply chain and aims to make a positive impact on green operations while consolidating its core business. The Company follows the Responsible Business Alliance (RBA) guidelines to promote sustainable supply chain assessments and avoid suppliers with significant environmental and social impacts, as well as minerals from conflict areas, to fulfill their consolidated green supply chain goal.

Local Procurement

TSC recognizes the importance of sustainable operation and considers its impact in every aspect of its business, including procurement targets and amounts. Although most of its production equipment and raw materials are sourced overseas, TSC is committed to collaborating with local suppliers to build a lean, robust, healthy, and sustainable supply chain. In 2022, our local procurement accounted for 72.7% of its total procurement amount. Moreover, our collaboration with suppliers resulted in the addition of 23 new suppliers, 16 of which were local. We will continue to build stable partnerships, strengthen mutual trust, and increase the percentage of local procurement to promote the social and economic development.

Local Supplier Procurement Status

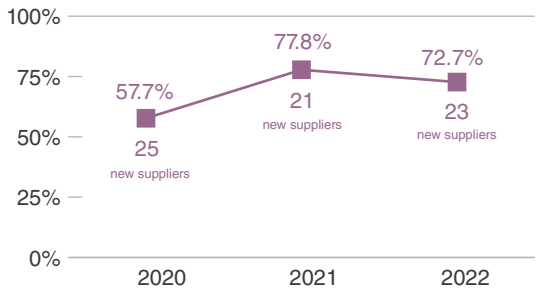
Unit: NT$ thousand

	2020	2021	2022
Procurement amount from local suppliers	618,567,980	1,081,380,774	797,304,214
Total procurement amount	1,072,548,908	1,390,834,664	1,096,024,758

※ Note:

1. All references to "local" herein are to the "Taiwan area" in the boundary of this report.

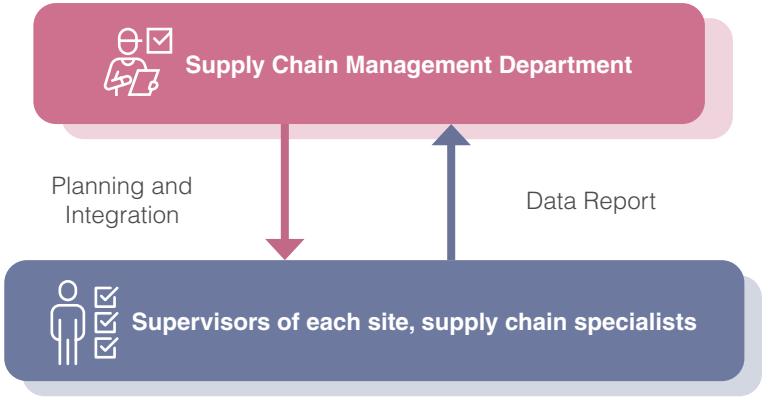
Percentage of procurement amount from local suppliers(%)



3.1.2 Sustainable Supply Chain Management

Supply Chain Management Measures and Strategies

TSC established a Supply Chain Management Department in 2022. The department integrates procurement resources from each site and optimizes the overall supply chain. The management covers aspects such as resources, demand, manufacturing, and supply. It constantly reviews and integrates planning processes, leading cross-functional teams in a collaborative mode to support the Company's operational development goals. To ensure that supply chain scheduling considers inventory risks and meets customer demands, the Supply Chain Management Department follows the principle of "supply continuity" to ensure uninterrupted supply in unforeseen or force majeure situations. The areas of each site manage supply chain issues and collaborate with the headquarters to constantly assess potential risks and continuously optimize the resilience and strength of the supply chain.



While integrating organizational resources and strategies, we collaborate with customers to lower supply chain costs and improve data transparency using technological collaboration tools. This involves conducting Quarterly Business Reviews (QBR) and maintaining close relationships with key and strategic suppliers. TSC also plans the training of supply management talents, strengthening information synchronization across departments, and reducing procurement costs by implementing automation and standardized management.

With regard to supplier management, we established the Supplier Management Operation Procedure. Before collaborating with suppliers, the Company assesses them based on relevant assessment methods, including the supplier's record of environmental and social impacts. We encourage suppliers to obtain certifications such as ISO 9001, ISO/TS 16949, ISO 14001, and ISO 14064 to jointly enhance corporate social responsibility. In addition, TSC follows the guidelines of the Responsible Business Alliance (RBA) to establish measures related to supply chain management, such as the RBA Vendor Code of Conduct, RBA Policy and Target Management Measures, Environmental and Social Responsibility Exception Handling Measures, Professional Ethics Risk Assessment Management Measures, and Social Responsibility Risk Assessment Management Measures. All relevant policies are disclosed on TSC's official website.

Three Core Elements of Supplier Management

Stable Growth

- Establishment of strategic sourcing to plan and execute supply chain strategy, improving the scope, flexibility, and resilience of the supply chain
- By using a centralized control method, the flexibility of the supply chain to respond to changes can be enhanced, as well as the cost-effectiveness of centralized procurement and the efficiency of program integration

Laying the Foundation

- Integration of production and sales plans, implementation of PDCA management cycle
- Improving of order service response efficiency and capability
- Integration with product development process to promote automation

Sustainable Operation

- Implementation and maximization of the value of information flow in business management

Sustainable Impact Assessment for Suppliers

The resilience of the supply chain is a matter of great concern for TSC. In addition to the basic selection criteria for suppliers, including technology, delivery, quality, cost, and other basic criteria, we conduct comprehensive assessments of economic, environmental, and social aspects to realize the concept of sustainable operation. In order to ensure that suppliers collaborate towards sustainability goals, all suppliers are required to sign the RBA Vendor Code of Conduct, providing the foundation of a solid partnership. The RBA Vendor Code of Conduct covers labor rights, anti-discrimination and anti-harassment, occupational safety, the environment, and business integrity. We hope that all suppliers and contractors will work together to ensure the implementation of the RBA Code of Conduct and promote the welfare of our stakeholders.

In addition, we refer to standards such as ISO 14001 Environmental Management System and ISO 45001 Occupational Health and Safety Management System, extending assessment to include environmental protection, safety and health, and management systems, as well as whether suppliers have adopted policies and conducted due diligence on the sources and supply chain of tantalum, tin, tungsten, and gold (3TG) in their products. For details, please refer to section 3.1.3 Conflict Minerals Management.

Since 2017, we have conducted annual environmental and social impact assessments on new suppliers. Out of the 21 new suppliers added in 2021, one did not meet the standards of the assessment. This supplier has been identified as having significant actual or potential negative impacts on the environment and society. We have designated it as a focus of observation[*2] for the following year. In 2022, we collaborated with 81 raw material suppliers[*1], all of whom underwent environmental and social impact assessments. There were no suppliers with potential environmental or social impacts, and the sustainability impact assessments for the 23 new suppliers added were 100% passed.

Sustainable Impact Assessment Sheet for Suppliers

Environmental and Social Impact Assessment	2020	2021	2022
Percentage of new suppliers assessed for environmental standard(%)	100%	100%	100%
Number of suppliers assessed for environmental standards during reporting period	25	21	23
(A) Number of suppliers identified as having significant actual or potential negative impacts on the environment	0	1	0
Number of suppliers in (A) that have improved	0	0	0
Number of suppliers in (A) with whom collaborative relationship was terminated	0	0	0
Percentage of new suppliers assessed for social standard(%)	100%	100%	100%
Number of suppliers assessed for social impact by social standard during the reporting period	25	21	23
Number of suppliers identified as having significant actual or potential negative impacts on the society (B)	0	1	0
Number of suppliers in (B) that have improved	0	1	0
Number of suppliers in (B) with whom collaborative relationship was terminated	0	0	0

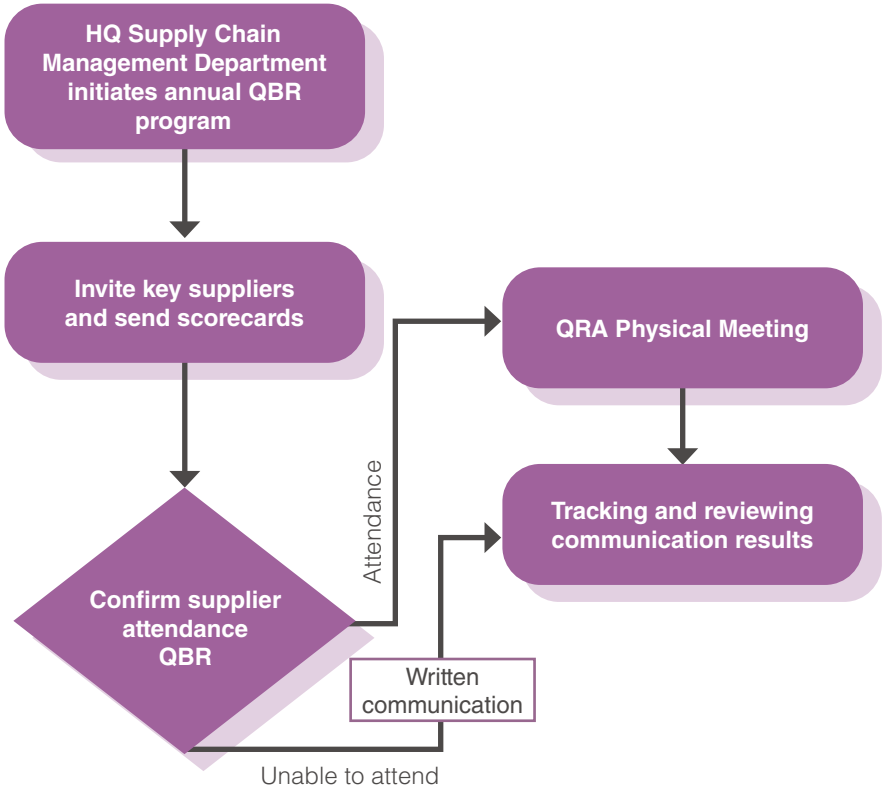
※ Note:

1. In 2021, one company was identified as having potential negative environmental and social impacts because it did not sign the RBA Vendor Code of Conduct. TSC is actively communicating with the company and continuously improving its own supply chain's environmental and social impacts.
2. Suppliers only include suppliers of raw materials and excluded suppliers of equipment and facility procurement.

Enhancing Communication with Suppliers

In 2022, TSC established a Supply Chain Management Department. This is expected to promote more transparent and effective communication channels starting in 2023, such as Quarterly Business Review (QBR) meetings, communicating with suppliers regarding QDCST (Quality, Delivery, Cost, Service, Technique) and other projects. In addition, we plan to implement a scorecard assessment mechanism to examine the practices and performance of suppliers in various aspects, with the expectation of driving continuous improvement in the supply chain through brand influence.

Supplier QBR Program Implementation Procedure



3.1.3 Conflict Mineral Management

Based on corporate social responsibility and the protection of international human rights, TSC has established the Conflict Minerals Management Regulation and pledged not to use minerals from conflict areas in our products. Meanwhile, we communicate the conflict minerals management requirements to our suppliers through the Responsible Minerals Assurance Process (RMAP) and conduct due diligence for the entire supply chain. In procurement, we encourage suppliers to opt for smelters or refineries that have been certified by third parties as prohibiting the use of conflict minerals from the Democratic Republic of Congo or neighboring countries. We require suppliers to sign a "Declaration of Non-Use of Minerals from Conflict Areas" during the supplier assessment process. We aim to collaborate with suppliers to reduce social and environmental impacts. In addition, the Company also discloses information about smelters and mineral sources in the supply chain based on the results of mineral reports filled on the official website, as released by the Responsible Minerals Initiative (RMI).

Conflict Minerals Management Process

Conflict Minerals Management Regulation

- Compliance with TSC's Conflict Minerals Policy

Mineral Sourcing Investigation

- Conflict Minerals Reporting Template (CMRT)
- Extended Minerals Reporting Template (EMRT)
- Conflict Minerals Commitment Letter

Public Disclosure

- Disclosure of conflict minerals report on official website

Conflict Minerals Management Policy and Measures

TSC complies with the results of mineral reports issued by the Responsible Minerals Initiative (RMI) to avoid using metals from conflict areas. TSC explicitly requires suppliers to abstain from using raw materials, such as 3TG and cobalt, that are mined under illegal and abusive working conditions like forced labor and abuse of child labor. Additionally, we encourage suppliers to establish their own minerals management policies and pass them on to the next level of suppliers. In addition, we also encourage suppliers to purchase minerals from non-conflict smelters certified by the Responsible Minerals Assurance Process (RMAP) or other independent third-party auditors. This ensures that TSC does not use minerals from conflict areas in its products.

TSC reassesses the list of smelters used in its products in accordance with the Conformant Smelters List published on the official RBA website, and surveys suppliers of conflict minerals through questionnaire audits. In order to understand suppliers' sources of minerals, we utilize the RMI Conflict Minerals Reporting Template (CMRT) for the survey, requiring all suppliers to disclose the sources of their minerals and sign a Declaration of Non-Use of Minerals from Conflict Areas, guaranteeing that the procurement sources are not from conflict areas and comply with requirements of both customers and laws & regulations. Starting in 2021, the Company has proactively investigated into the sources of cobalt and mica smelters with suppliers, ahead of the updated EMRT 1.1 (Extended Minerals Reporting Template) by the Organization for Economic Co-operation and Development (OECD) by the end of 2022, demonstrating our active attention to this issue. We update the CMRT and EMRT annually and discloses the survey reports on TSC's official website.

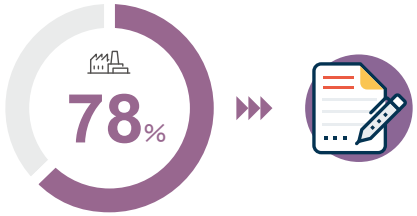
Declaration of Non-Use of Minerals from Conflict Areas

Through the supplier assessment process, we require suppliers to sign a "Declaration of Non-Use of Minerals from Conflict Areas". The signing rate reached 78% in 2022, with a total of 63 suppliers completing the signing. TSC aims to fulfill its corporate responsibility by jointly monitoring with suppliers to eliminate violations of humanitarian-related events and create sustainable corporate value. In the future, we expect to increase the signing rate through continuous promotion.

Signing Status of the Declaration of Non-Use of Minerals from Conflict Areas in Each Site

Site	Number of suppliers confirmed to have signed	Total number of suppliers	Signing rate
Li-Je Site	28	32	88%
I-lan Site	35	49	71%
Total	63	81	78%

Status of Declaration of Non-Use of Minerals from Conflict Areas



63 Suppliers Signed the Declaration of Non-Use of Minerals from Conflict Areas

4

Equal Workplace

4.1 Talent Attraction and Retention

4.2 Healthy Work Environment

4.1 Talent Attraction and Retention

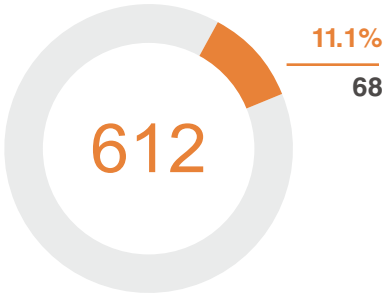
4.1.1 Diversity and Inclusion

Employee Manpower Structure

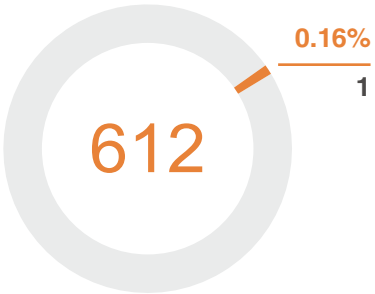
Talent is an important asset of TSC. The Company's goal is to establish a diverse, equal, and inclusive friendly workplace, respecting the uniqueness and differences of all employees. In order to achieve this goal, we recruit and employ talents domestically and internationally, and ensure that relevant processes are strictly in accordance with laws and regulations. Across our global deployment, TSC provides various employment opportunities through online and offline recruitment channels with a diversified and inclusive recruitment policy, regardless of gender, age, race, nationality, religion, political affiliation, or sexual orientation. As such, the Company's employees across both headquarters and sites come from all over the world, including Asia (Taiwan, Japan, the Philippines, Malaysia, India, Vietnam).

All 612 Taiwan-region employees are full-time regular employees (including cleaning staff), with nearly 20% in management positions. The percentage of female managers is 35%. Due to the nature of the industry, the percentage of male employees is currently slightly higher than that of female employees, but efforts will be made to continuously increase the percentage of female managers.

Employee Distribution and Percentage of Total Employees (by Nationality and Work Location)



Total Employees 612, 68 foreigners



Employee Distribution in Taiwan 611, 1 overseas worker

2022 Employee Distribution in Taiwan (by Various Indicators)

Classification		Male		Female		Group Subtotals and Percentages	
		Number of People	Percentage of the Classification	Number of People	Percentage of the Classification	Number of People	Percentage of the Total Number of Employees
Age	Under 30 years old (inclusive)	71	60.2%	47	39.8%	118	19.2%
	31 to 49 years old	244	56.4%	189	43.6%	433	70.8%
	50 years old and above (inclusive)	35	57.4%	26	42.6%	61	10.0%
Position Level	Management Position	78	65.0%	42	35.0%	120	19.6%
	General Personnel	272	55.3%	220	44.7%	492	80.4%
Employee Category	Permanent Employee	350	57.2%	262	42.8%	612	100.0%
	Temporary Employee	0	0.0%	0	0.0%	0	0.0%
	Non-guaranteed Hours Employee	0	0.0%	0	0.0%	0	0.0%
	Full-time Employee	350	57.2%	262	42.8%	612	100.0%
	Part-time Employee	0	0.0%	0	0.0%	0	0.0%
Total		350	57.2%	262	42.8%	612	100.0%

※ Note:

1. Management positions include entry-level, mid-level, and senior-level supervisors, with grade ranging from 2 to 6, 7 to 8, and 9 and above.
2. Employee category is determined per the GRI guidelines.

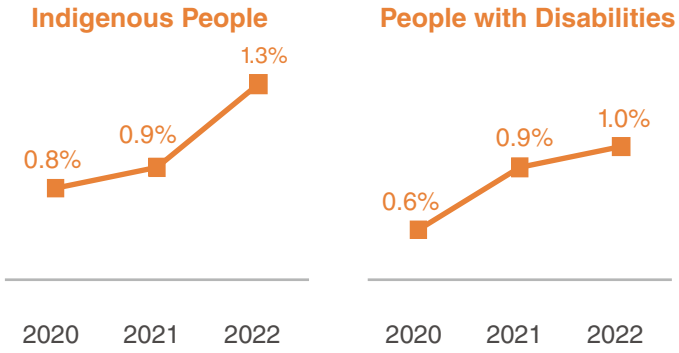
Distribution of Management and Non-Management Levels in 2022 (by Age and Gender)

Category		Management Level		Non-Management Level	
		Male	Female	Male	Female
Age	Under 30 years old (inclusive)	0	1	71	46
	31 to 49 years old	56	34	188	155
	50 years old and above (inclusive)	22	7	13	19
	Subtotal	78	42	272	220
Total		120		492	

※ Note: The values in the table above refer to the number of people.

Employee Distribution (Based on Diversity Indicators)

Total
2020 7 People 1.5%
2021 10 People 1.9%
2022 14 People 2.3%



※ Note: The percentage represents the ratio of the number of employees in this category to the total number of employees.

Diverse Recruitment Channels and Talent Management

In order to continuously enhance the diversity of the work environment, TSC uses online channels to recruit talent, including establishing company pages and posting job openings on platforms such as LinkedIn and 104 Job Bank, This not only helps to expand TSC's exposure but also promote our job openings to highly matched talents. In 2022, in response to the Company's long-term development plan and organizational adjustments, various professional departments and the expansion of existing departments were added, including Public Relations Department and Supply Chain Management Department. Thus, the number of employees in 2022 increased by more than 10% compared with 2021.

Based on TSC's assessment, there are several possible reasons for talent loss, including employees' remuneration considerations, promotion opportunities, opportunities for future development, and employee benefits. From the perspective of sustainable operations, talent is one of the Company's most significant assets. To reduce talent loss and strengthen overall human resource management, we will improve the response rate of current employee surveys in the future, conduct more comprehensive investigations and analysis of reasons for departure, and continue to enable each employee to fully unleash their potential.

Distribution of New Employees (by Age and Gender)

Distribution of new employees			2020		2021		2022	
			Male	Female	Male	Female	Male	Female
Age	Under 30 years old (inclusive)	Number of People	17	11	21	18	52	29
		Percentage	22%	13%	17%	15%	28%	16%
	31 to49 years old	Number of People	32	17	52	28	51	39
		Percentage	40%	22%	42%	22%	28%	21%
	50 years old and above (inclusive)	Number of People	2	0	2	2	11	2
		Percentage	3%	0%	2%	2%	6%	1%
	Subtotal		51	28	75	48	114	70
Total			79		123		184	

※ Note: The ratio is calculated on the basis of the number of people / new employee hires for that year.

Distribution of Employee Turnover (by Age and Gender)

			2020		2021		2022	
			Male	Female	Male	Female	Male	Female
Age	Under 30 years old (inclusive)	Number of People	26	22	14	12	20	13
		Percentage	18%	15%	13%	11%	18%	12%
	31 to 49 years old	Number of People	54	33	44	29	38	30
		Percentage	38%	23%	40%	27%	35%	27%
	50 years old and above (inclusive)	Number of People	7	2	8	2	4	4
		Percentage	5%	1%	7%	2%	4%	4%
	Subtotal		87	57	66	43	62	47
Total			144		109		109	

※ Note:

1. The ratio is calculated on the basis of the number of people / employee departures for that year.
2. All employees are full-time and permanent.

Remuneration Policy

The salary and benefits of employees in TSC are determined in accordance with the Labor Standards Act (Taiwan) and relevant laws and regulations. They are implemented in accordance with the company's Articles of Incorporation and relevant management measures to ensure that the overall remuneration of employees complies with government regulations and market trends. In addition, a clear employee performance evaluation system is established to review and optimize the system annually to motivate outstanding talents. Regarding the distribution of employee rewards, the individual dividend amount to be distributed to each employee is determined based on their job performance, scope of responsibilities, and special contributions, in accordance with the Employee Bonus and Stock Ownership Method.

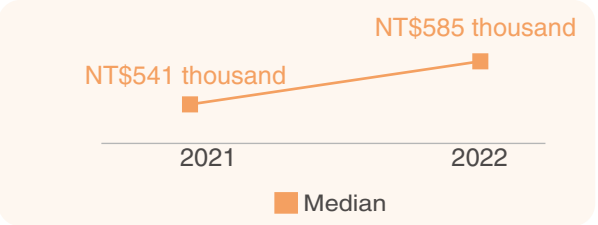
Gender Remuneration Ratio

All	2020	2021	2022
Basic Salary with Remuneration	Female: Male	Female: Male	Female: Male
Assistant Vice President Level	0.37:1	0.42:1	NA*
Manager and Assistant Manager Level	0.18:1	0.30:1	0.37:1
Section Manager Level	1.09:1	0.78:1	0.69:1
General Employees	0.82:1	0.75:1	0.72:1

※ Note:

1. The gender remuneration ratio may vary slightly due to factors such as individual performance and seniority. Remuneration standards at TSC are the same for both male and female and do not differ by gender. Nevertheless, due to the characteristics of the semiconductor technology industry in Taiwan, the supply of women in the relevant labor market is significantly lower than that of men, resulting in a higher pay ratio for men than for women.
2. There were no female assistant vice presidents in fiscal 2022.

Median Salary of Full-time Employees in Non-supervisory Positions



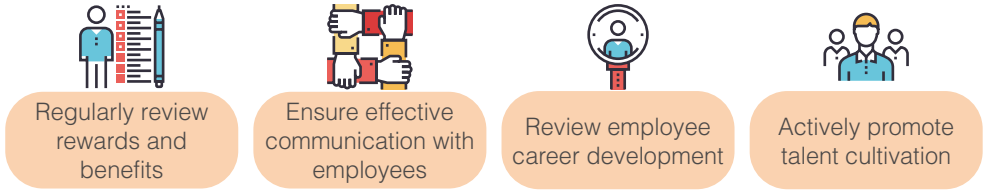
The median salary of full-time employees in non-supervisory positions in 2022 increased by NT$44 thousand compared to 2021, with a growth rate of 8.13%.

4.1.2 Human Resource Development

Talent Retention

To retain talented employees, we offer equal salaries and diverse benefits, fostering employee cohesion and supporting sustainable development. The Company regularly reviews market compensation levels, reward structures, and benefit policies, ensuring effective communication with employees. This forms the basis for comprehensive salary and benefit packages, including base salary, allowances, and performance bonuses, to retain elite talent and support continuous growth.

We maintain a stable promotion system by prioritizing qualified employees and regularly assessing performance and career development. Adjustments are made based on job functions and potential. To adapt to industry changes, TSC provides professional skills training and internal rotation opportunities. Talent development is actively promoted through internal training, overseas programs, and succession plans. For employees seeking career transitions, we collaborate with the Employment Services office to provide relevant job information.



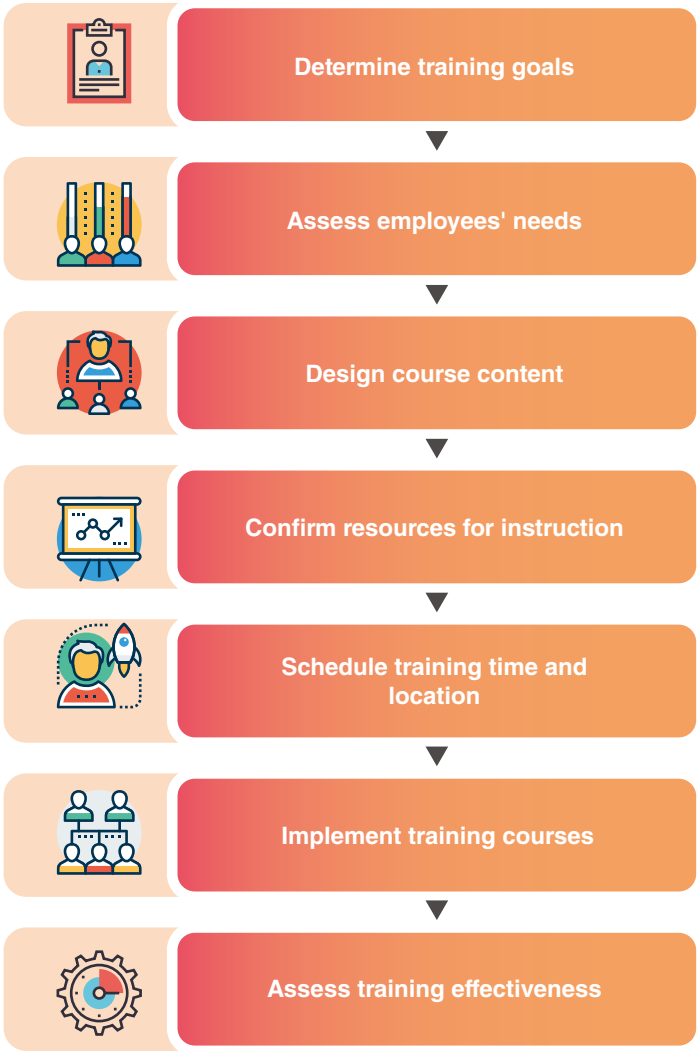
Talent Development and Cultivation

TSC attaches great importance to cultivating and developing talents of supervisors and colleagues at all levels. To meet the needs of the company's development, we conduct an annual company-wide training needs survey to understand the technical skills, professional knowledge, and leadership and management needs of supervisors and employees. Based on these needs, corresponding courses are planned and designed in the training curriculum framework.

The arrangement of training resources is based on the type of training courses, and both internal and external resources are utilized for planning. Internal trainers with expertise in the field may be selected from within the company, or external experts who possess the required knowledge may be employed as trainers. For example, we plan to invite external trainers in 2023 to conduct competency module workshops for middle and senior-level supervisors as well as talents with potential. The workshops will use a combination of the focus workshop approach and the habit theory method to delve into colleagues' perspectives, viewpoints, and expectations of successful job functions within the company.

Course Planning Process

In order to enable employees to leverage their professional expertise and knowledge skills, TSC places significant emphasis on the planning and implementation of professional training. This is done to showcase the training effectiveness and relevant applications of employees' learning outcomes. The main planning process is as follows:



Comprehensive and Diverse Training

TSC offers various training courses to employees of different position level and genders based on their functional requirements, with the aim of improving their professional expertise and abilities, enhancing their performance, and supporting their own advancement and career growth. In 2022, the average number of training hours per employee was 57.42 hours.

New employee training

Pre-employment training can effectively aid new employees in rapidly comprehending the Company's overview, organizational structure, company regulations, business philosophy, emphasis on quality, and management policies. In addition to understanding the company's policies and systems on the first day of employment, new employees will undergo training courses on common language (core values, accountability) one to two months after joining the company. This enables them to better understand and assimilate into the corporate culture. All departments will continuously update the training blueprint for new employees in their respective departments.

Management skills training

To improve the management skills of supervisors, promote effective communication at work, and provide employees with a sound workplace, training is not only targeted at newly promoted supervisors but also provides specialized training according to organizational needs to assist mid-level managers in enhancing their leadership abilities. TSC will continue to conduct training on the management capabilities of supervisors at all levels in accordance with the Company's mission and operational goals.

Individual effectiveness training

Each department organizes external training courses based on job-specific skills, such as project management, research and development expertise, supply chain management, and ESG studying. In addition, employees can also regularly participate in on-the-job training for environmental protection, quality assurance, occupational safety and health, and various professional competencies based on their skill levels, training assessments, or laws and regulations to lay the foundation for their own job needs and future development.

Average Training Hours for Each Position Level

Position Level	2020		2021		2022	
	Management Level	Non-management level	Management Level	Non-management level	Management Level	Non-management level
Training Hours	5,130.00	14,095.50	5,347.00	17,804.50	7,398.00	27,744.50
Number of People	101	373	109	431	120	492
Average Training Hours	50.79	37.79	49.06	41.31	61.65	56.39

Average Training Hours by Gender

	2020		2021		2022	
	Male	Female	Male	Female	Male	Female
Training Hours	11,646.26	7,579.24	14,234.14	8,917.36	22,305.50	12,837.00
Number of People	259	215	299	241	350	262
Average Training Hours	44.97	35.25	47.61	37.00	63.73	49.00

Developing Employee Skills, Building Succession Plans

The succession plan aims to secure the sustainable operation of the company. Through professional training, knowledge transfer, and talent development, outstanding and potential employees are selected from within the company for cultivation and development. The plan establishes succession plans at various levels and regularly assesses the development and implementation of the plan, providing potential talents with opportunities to take over future positions.

During the successor selection stage, TSC's management-level successors must possess fundamental skills such as management, decision-making, analysis, and crisis handling to effectively apply executive power in professional fields. To this end, TSC will select all-round talents through performance, project execution, and personality traits.

To effectively enhance successors' capabilities, the Company plans to provide training in areas such as strategic planning, international operations, global marketing, innovation management, and new economy. The detailed plan is as follows:

Practical Training	By executing various project tasks, successors can develop skills in the three major areas of management knowledge, management skills, and management leadership, so as to identify insufficiencies during the process and further deepen both professional and functional development.
Training Program	The Human Resources Department holds key management professional courses to cultivate and train middle and senior supervisors, as well as deliver succession planning. The courses cover various aspects such as management competencies (including strategic thinking, problem identifying and solving, coordination and planning, project execution, communication skills, talent leadership and development, and team coordination), professional skills (including operational market judgment, accounting, financial analysis, business management, crisis handling, industry knowledge, and international market perspectives), and personal development.
Job Rotation and Proxy System	Combining job rotation training and the proxy system allows for the development of versatile and comprehensive leadership management and decision-making execution capabilities for key management levels, and ensures excellent organizational development and company operations.

Continuous Improvement of Employee Performance Management Mechanism

Reshaping Performance Management Mechanism

To effectively measure the correlation between employee performance and company goals, TSC held a performance goal-setting workshop in 2022. The aim was to integrate the principles of performance goal-setting into the performance management system. Through active collaborative learning and the establishment of stringent selection criteria, potential internal certified trainers were selected. Before the year-end performance evaluation, these internal trainers taught the principles of goal setting. In the fourth quarter, employees applied the principles to set their key performance indicators for 2023. Supervisors then discussed work goals that align with these principles with their team members.

SMART Workshop for Performance Management

The SMART workshop was held in the third quarter of 2022, inviting professional speakers to conduct multiple courses. The overall participation rate was 98.3%. The speakers presented clear and easily understandable concepts regarding performance goal-setting principles, using lively and engaging activities. This helped employees grasp the process and principles of setting performance goals and connecting the Company's vision and operational plans, departmental goals, and individual employee work goals, gradually establishing key performance indicators.

SMART Internal Trainer Certification

TSC also had all indirect personnel in Taipei and I-lan undergo training, facilitated by the HR team and rigorously assessed by the lecturer group, from which excellent employees with potential were selected as internal certified lecturers. Through this program, colleagues shared valuable feedback, furthered their personal development, and met the certification standards while achieving individual goals. In addition to absorbing the aforementioned knowledge, the internal training lecturers also embody the spirit of course teaching and continuous improvement. Several certified lecturers will subsequently hold multi-level courses to guide all grassroots personnel and new colleagues. In 2022, we accumulated knowledge and training energy regarding performance goal-setting principles, and a number of certified instructors were selected from various units. In addition, in order to demonstrate appreciation and encouragement the ongoing dedication of lecturers to the Company's training and improvement of internal teaching quality, with the support and participation of senior supervisors, an accreditation recognition event for the certified lecturer group was conducted during the All-Hands Meeting in the first half of 2023.

Establishing a New Performance Management Mechanism

In 2022, when establishing the assessment criteria for the upcoming fiscal year, we adopted a new performance management system incorporating the principles of performance goal-setting. This system enabled supervisors and employees to effectively communicate attainable goals using definite and measurable indicators, facilitating positive interactions and improving past practices.

Based on the principles of performance goal setting, TSC has implemented a new performance appraisal system. Different percentages of key performance indicators have been set for different job levels. In addition to the regular annual performance appraisal, supervisors can communicate implementation progress through the principles of performance goal-setting and interact with employees during the mid-year to guide expectations for tasks and provide care for employees. This enhances transparency in performance evaluation, with a focus on improving individual and organizational performance.

TSC provides all employees with reliable support tools and standards to set future annual performance goals by reshaping the principles of performance goal-setting and conducting regular employee career development review, furthering the direction of the business plan and helping staff gradually grow alongside the Company.

Percentage of Employees Undergoing Performance and Career Development Review

	2020			
	Male	Female	Total	Review Percentage
Management Level	66	35	101	100%
Non-management level	193	180	373	100%
	2021			
Management Level	71	38	109	100%
Non-management level	228	203	431	100%
	2022			
Management Level	78	42	120	100%
Non-management level	272	220	492	100%

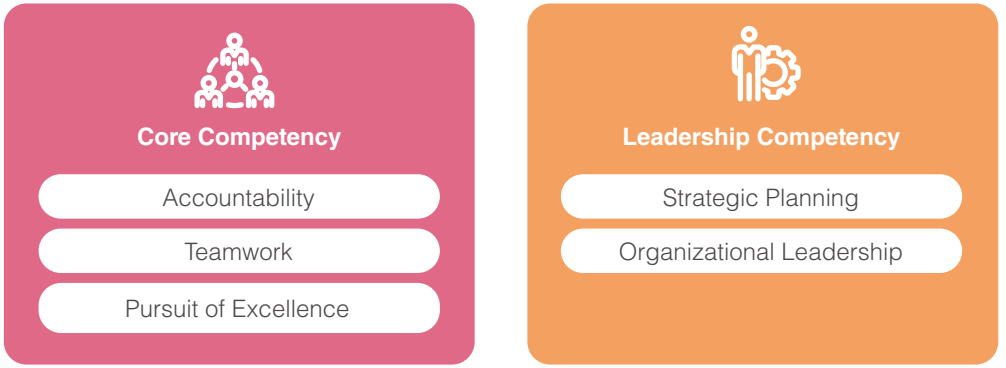
Constructing Competency Module

To promote operational goals and establish clear and measurable competency standards for employees, TSC has invited professional instructors to hold workshops focused on competency construction. The Company aims to construct a unique competency module by leveraging competency inertia, fostering consensus among employees and aligning them with future operational goals. We also hope to establish a standardized reference that can guide future performance appraisal, promotion selections, training and development, and recruitment as we implement our plan.

To align with our mission, vision, business philosophy, values, and operational growth goals and strategies, we invite consultants to design interview frameworks and questions, and then invites middle and senior-level supervisors, as well as talents with potential, to participate in focus workshops facilitated by the consultants and integrating the habit theory approach. The purpose of these is to collect employees' insights, opinions, and anticipations regarding competencies for corporate success. The qualitative findings from these explorations are documented and used as a draft record.

We also organized a survey to explore the successful competency topics across the organization, with the goal of surveying key talent. Subsequently, qualitative research and quantitative statistical results will be integrated to extract the concepts and framework of functions. From this, we will establish the behavioral levels of corporate functions. Finally, it will be further focused on by senior supervisors to confirm that the content of the competency framework and behavioral levels align with the Company's development direction and expectations.

The competency module is mainly divided into two major: Core Competency and Leadership Competency. Each competency includes various items and levels of behavior to establish definitive behavioral indicators. Based on our development strategy, culture, and management needs, we have used scientific analysis tools and rational thinking to bring together the Company's mission, vision, business philosophy, values, and goal strategies.



Management Outlook and Future Plans

Talent is the driving force of sustainability, and in the aspect of talent cultivation, TSC's prospects and plans are as follows:

We plan to enhance the professional capabilities of our employees. In 2022, we introduced a dedicated HR team to reviewed our existing training strategy. The HR team established a customized learning and development program for our employees to align with the company's strategic development. The education and training system will be planned around core functions, management functions, professional abilities, and general education training.

We plan to promote a comprehensive competency framework and invite professional consultants to conduct workshops. These workshops will cover defining "competency" and communicating the overall competency framework and content of TSC. Our emphasis is on the core functions serving as the main motivating factor, targeting middle and senior supervisors and indirect personnel located in Taipei and I-lan. In addition, the plan integrates the concept of competency into performance appraisal, promotion selection, training and development, recruitment and talent selection, and internal activities, allowing employees to internalize it diversely and coherently.

To consider the promotion of efficient workers to team leaders, we hope to build an understanding of the role of supervisors, strengthen the communication skills of current and new supervisors, clearly convey instructions, and build team consensus in order to effectively communicate and collaborate within the team. Therefore, a training program on communication and collaboration for junior and middle-level supervisors will be held.

To improve work efficiency in TSC, we aim to optimize the onboarding process. This will reduce the time and effort costs for both new employees and management, enabling quicker task assignment for new hires, making new employees feel valued and part of the Company's culture and team, and ensuring that all details of the onboarding process are handled properly. The optimized process can be carried out digitally to reduce risks and costs.

▲ Through the training of external instructors, the course aims to gradually establish key performance indicators in order to reshape performance goal-setting principles.

▲ Employees actively engage in class activities, demonstrating the high level of participation and engagement.

4.2 Healthy Work Environment

4.2.1 Employee Health and Benefits

Employees' well-being and overall health are crucial aspects of the company's sustainable operation. By offering comprehensive benefit plans, flexible childcare policies, and a range of health promotion initiatives, TSC is able to attract and retain exceptional talent. This not only increases employee satisfaction and work efficiency, but also ensures the company's stable growth and long-term competitiveness.

Employee Care

Employee Group Insurance	• Employee labor insurance and National Health Insurance • Include term life insurance, accident medical insurance, hospitalization medical insurance etc. (employees' dependents are eligible to participate in the insurance coverage)
Employee Stock Ownership Trust	• In accordance with the Shareholders' Meetings By-laws and Shareholders' Agreement, employees are entitled to a company incentive subsidy of 30%, which is designed to encourage all colleagues to play active roles in business operations and strive for outstanding performance.
Childcare Policy	• Allow employees to take unpaid parental leave, maternity leave, prenatal check-up leave, and paternity leave in accordance with the Act of Gender Equality and Regulations for Implementing Unpaid Parental Leave for Child-rearing. • Enable employees to apply for parental leave or adjust their working hours to balance work and family responsibilities. • Offer various employee benefits, including childcare subsidies and education incentives. • Provide a birth subsidy for each newborn as a congratulatory gesture.
Unpaid Parental Leave	• In 2022, five colleagues in Taiwan applied for unpaid leave. The reemployment rate in 2022 has increased to 100%, compared to the 60% rate in 2021. We also monitor the employment status of colleagues who have returned to work. In 2021 and 2022, 100% of colleagues who took unpaid parental leave and returned to work served for more than one year, regardless of gender.

Employee Unpaid Parental Leave

	2020			2021			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Number of Employees Eligible to Apply for Parental Leave in the Year (A)	26	17	43	28	14	42	23	13	36
Actual Number of Employees who Applied for Parental Leave in the Year (B)	1	4	5	2	1	3	1	4	5
Application Rate (B/A)	**4%**	**24%**	**12%**	**7%**	**7%**	**7%**	**4%**	**31%**	**14%**
Number of Employees who have Taken Parental Leave and are Eligible for Reinstatement in the Year (C)	1	2	3	2	3	5	0	2	2
Actual Number of Employees who Applied for Reinstatement in the Year (D)	1	2	3	2	1	3	0	2	2
Reinstatement Rate (D/C)	**100%**	**100%**	**100%**	**100%**	**33%**	**60%**	**0%**	**100%**	**100%**
Number of Employees Reinstated in the Previous Year (E)	0	6	6	1	2	3	2	1	3
Number of Employees Remaining One Year After Reinstatement in the Previous Year (F)	0	4	4	1	2	3	2	1	3
Retention Rate (F/E)	**0%**	**67%**	**67%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Incentive System and Employee Benefits

To foster a positive learning corporate culture, TSC publicly acknowledges senior employees and exemplary staff, commending their contributions, service, and exceptional performance, thereby setting a positive example for their colleagues. In terms of benefits, TSC not only grants holiday bonuses to all employees, but the Employee Benefit Committee also plans a range of benefits each year. These include cash gifts for childbirth, scholarships for employees' children's education, cash gifts for marriages, birthday cash gifts, condolence funds for illness or death, as well as other subsidies and gifts. These initiatives aim to promote a healthy work-life balance for employees. Additionally, the Employee Welfare Committee organizes various activities, such as festive events and year-end parties, to express gratitude for the efforts of all employees.

Retirement Plan

TSC has implemented a retirement pension system to ensure the well-being of employees after they retire. This system is designed in accordance with the law, including the retirement procedures outlined in the Labor Standards Act and the defined contribution plan specified by the Labor Pension Act. Additionally, the Labor Retirement Reserve Supervisory Committee has been established. Since July 1, 2005, TSC has been allocating 6% of the retirement pension to employees' Individual Labor Pension Accounts monthly, as regulations require. If employees choose to make voluntary contributions to their retirement pension, the contribution will be deducted from their monthly salary and transferred to their Individual Labor Pension Accounts at the Bureau of Labor Insurance, based on the voluntary contribution rate. Employees can select either the relevant pension provisions of the previous or new retirement system, while maintaining their work seniority before implementing these regulations. For the fiscal year 2022, TSC has fully allocated retirement pension expenses of NT$17,841 thousand to the Bureau of Labor Insurance, in accordance with the retirement pension allocation method.

Our benefit plan is in accordance with the Labor Standards Act. The retirement pension for employees is determined by their years of service and the average salary in the six months before retirement. Qualified actuaries annually calculate and allocate funds to the Workers' Retirement Reserve Funds Account at the Bank of Taiwan to ensure employee retirement benefits. As of the end of 2022, the Workers' Retirement Reserve Funds Account balance at the Bank of Taiwan is NT$41,587 thousand. The retirement fund, as stipulated by the Labor Standards Act, is managed by the Bureau of Labor Funds, Ministry of Labor, and its utilization is governed by the Regulations for Revenues, Expenditures, Safeguard, and Utilization of the Labor Retirement Fund. The minimum annual return on the settlement and distribution of the fund must not be lower than the return based on the interest rate of a two-year fixed deposit in a local bank.

2022 Incentive System and Benefit Expenditure

Item		Frequency	Highlights
Festivals	Mid-Autumn Festival	Once a year	The company distributes annual holiday bonuses to express blessings and gratitude, motivate employees to work actively, and enhance overall performance.
	Dragon Boat Festival		
	Labor Day		
	Subsidies for Marriage, Funerals, and Festivals - Cash Gifts for Childbirths	Number of Applicants Approved	The company has an Employee Welfare Committee that organizes a range of benefits and activities annually. In 2022, the committee primarily allocated its benefit funds towards cash gifts for occasions such as childbirth, marriage, birthdays, as well as providing condolence money for instances of illness, injury, and bereavement.
	Subsidies for Marriage, Funerals, and Festivals - Cash Gifts for Marriages		
	Subsidies for Marriage, Funerals, and Festivals - Condolence Money for Bereavements		
	Subsidies for Marriage, Funerals, and Festivals - Condolence Money for Injury or Illness		
	Other (Birthdays)	Once a year	
Employee-related	Childbirth Subsidy - Parental Subsidy	Number of Applicants Approved	TSC has implemented a range of benefits and subsidies for employee childbirth. These initiatives aim to support employees in achieving a balance between their professional growth and family responsibilities. In 2022, We provided childcare subsidies to 78 employees and educational incentives to 110 employees.
	Childbirth Subsidy - Educational Benefits		
	Meetups	Planned by the Benefits Committee, multiple times per year	In 2022, due to the COVID-19 pandemic, numerous routine welfare activities organized by the Welfare Committee have been canceled in adherence to the government's epidemic prevention policy. Nevertheless, as a gesture of gratitude towards our colleagues, we have distributed gift vouchers instead, encouraging them to plan their own holiday itineraries.
	Senior Employees	Based on annual planning, multiple times per year	At the TSC online year-end party in 2022, eligible senior employees were presented with certificates and gold coins. Each unit recommended exemplary employees, who were then selected by senior executives to receive a cash prize and a certificate. The company's intranet also published the list of exemplary employees, promoting a culture of positive role modeling among the staff.
	Exemplary Employee		
	Physical Examinations	Once a year	TSC partners with a team of medical professionals to ensure the well-being of its employees. The Company goes beyond legal requirements by offering regular physical examinations to its staff. In 2022, a total of 490 physical examinations were conducted, surpassing 80% of the workforce.
	Work from Home	Number of Applicants Approved	During the pandemic, employees could apply for remote work.
	Christmas Cookie Delivery	Form and frequency of activities determined according to festivals.	In 2022, senior executives from each district dressed up as Santa Claus to show appreciation for their colleagues' efforts. They distributed small, warm gifts, creating delightful memories for the employees.
	Online Year-End Party	Form of year-end banquet determined according to annual planning.	In 2022, TSC hosted its year-end banquet online and distributed year-end cookies as part of our pandemic prevention policies. We are pleased to report that the participation rate for 2022 was 100%.

Promotion of Physical and Mental Health and Work-life Balance

Health Promotion Resources and Activities

We partner with professional medical teams to conduct regular physical examinations for employees at our headquarters and various sites. Our health management program goes beyond legal requirements in terms of examination duration and available resources, showcasing our unwavering dedication to employee well-being.

Health Service

- In 2022, a total of 490 individuals underwent health consultations and interviews as part of our regular on-site medical services. The examination rate reached 80%.
- Post health education posters (hand-washing; healthy eating; smoking, betel nut, and alcohol cessation; sexual harassment prevention).
- Annual health lecture is held regularly.

Health Protection Plan

- Work Overload Prevention: Arrange appropriate medical services, manage working hours, conduct interviews, and provide care. All subjects requiring health monitoring are scheduled for face-to-face interviews during regular on-site medical services, ensuring a tracking rate of 100%.
- Prevention of Ergonomic Hazards: Gain an understanding of the condition and causes of muscle injuries, and make necessary adjustments to work.
- Maternal Health Protection: Assisting pregnant women in conducting physical and mental assessments, evaluating their work environment, and making necessary adjustments to their work if needed.
- By distributing health questionnaires to survey the physical and mental conditions of employees within the company, achieving a 100% response rate, and conducting annual regular follow-up management by on-site medical personnel in each region, we have ensured comprehensive monitoring of employee health.

Physical Examinations

- General Physical Examinations: Arrange for employees from all sites to participate in physical examinations, surpassing regulatory requirements.
- Health Tracking Management: Professional evaluation of health tracking proficiency by on-site medical staff in every district. For those in need of further health tracking, all of them have had -face-to-face interviews arranged during regular on-site medical services, achieving a tracking rate of 100%.

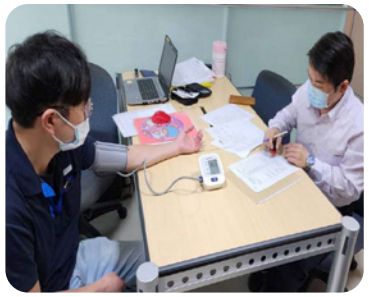
Health Promotion Activities

- Organize a sports competition (basketball shooting contest) to encourage employees to participate in sports, connecting and sharing joy with each other.

Active Prevention of Pandemic

During the pandemic, we have implemented measures to prioritize the health and well-being of our employees. This includes allowing flexible working hours and the option to work remotely. Additionally, we have been actively communicating pandemic prevention and control information to keep our employees informed and ensure a safe work and living environment.

In 2022, as a result of the COVID-19 pandemic, certain activities have been modified to distribute gift vouchers as a token of appreciation to employees for their cooperation with the epidemic prevention measures, in line with the government's proactive policy. Additionally, employees are encouraged to take advantage of these benefits to plan their own holiday trips, thereby promoting their overall health and well-being.



▲ On-site physician, caring for employee health

▲ Physical examinations, implementing occupational disease prevention

▲ Warm Christmas Gift Giving

Highlight Story

2022 Healthy Weight Loss Competition

To enhance the physical and mental well-being of our employees, we have initiated the "2022 Healthy Weight Loss Competition." This competition serves as a catalyst for fostering a consistent exercise routine among our staff. Spanning three months, the weight loss competition signifies a new chapter in sports at TSC. Its primary objective is to decrease body fat percentage, and both individuals and teams are encouraged to partake. Cash prizes and commendations were awarded to the winners in both the individual and team categories. Furthermore, each participant was presented with a custom-designed sports towel, promoting camaraderie in exercising together or capturing moments while on the move.

"Feel free to eat, be happy and slim; Easily lose weight, and never regain."

We will organize health and diet lectures, inviting professional nutritionists to share theories and experiences of healthy weight loss with all colleagues in the company. The lectures will cover topics such as correct dietary habits, increasing basal metabolism, lowering blood sugar, and avoiding dietary imbalances. We will also customize the content for office workers, providing information on obtaining healthy meals and exercise options that fit their lifestyles. This will help them cultivate good dietary habits and establish exercise plans.

Participants establish individual and team weight loss objectives, measurement criteria, timelines, and implementation strategies, including:

1. Controlling calorie intake; choosing low-fat, low-sugar foods; and increasing consumption of vegetables, fruits, and high-quality proteins.
2. Developing a weekly exercise plan that includes a variety of activities, such as running, swimming, cycling, yoga, and more, selecting the exercise method and schedule that best fits your needs.
3. Regularly measuring indicators such as weight, body fat, muscle mass, etc., analyzing progress, and tracking goal achievement.
4. Selecting a sport or challenge, such as daily step goals or weekly long-distance runs, and progressively elevating the exercise intensity while incorporating additional challenges.
5. Encouraging and sharing accomplishments with colleagues to foster a collaborative environment and strengthen team unity.

Despite the pandemic's impact in 2022, colleagues have made efforts to minimize visits to enclosed spaces like gyms. However, this has not impeded the Company's dedication to promoting a healthy lifestyle. TSC has capitalized on this situation to encourage employees to exercise in more suitable environments, such as running in expansive parks or playgrounds, and conducting bodyweight strength training at home. This demonstrates the flexibility and diversity of a healthy lifestyle.

Brilliant Results Across the Board

The weight loss competition serves multiple purposes for employees. It encourages them to focus on their own physical well-being, improve their fitness levels, and adopt healthy eating and exercise routines. Additionally, it boosts their self-confidence, expands their social network, and strengthens their relationships, while providing psychological relief from stress and garnering enthusiastic responses from employees. Following numerous invitations, a total of 174 colleagues formed 58 groups to participate in this event.

After three months of perseverance and determination, we successfully reduced body fat by a total of 274.5%. This weight loss not only improved overall health, but also promoted a healthier lifestyle.

Measurement Stage	Cumulative Fat Loss Percentage
1st Month	-138.30%
2nd Month	-223.30%
3rd Month	**-274.50%**

Follow-up: Healthy Living as Part of Sustainability

The Company's plan involves promoting healthy lifestyles and dietary habits among employees, while also providing them with relevant knowledge and information. Additionally, we will reintroduce the public group weight loss goal. Employees can share their successful experiences, problems, and suggestions through various social media platforms, discussion forums, and online chats. We aim to foster long-term effects and interactive communication, even after the competition concludes, to make health an integral part of life.

▲ TSC Sports Towel encourages employees to travel and exercise together.

▲ 2022 Healthy Weight Loss Competition - Most Popular Award

▲ 2022 Healthy Weight Loss Competition - Participation by Independently Organized Teams

4.2.2 Labor Relations and Human Rights Management

Management and Promotion of Human Rights Policy

TSC places great importance on labor and human rights, adhering to the principles of anti-discrimination and anti-harassment. To ensure this, we have implemented the "Prevention of Sexual Harassment"and "Prevention of Workplace Unlawful Infringement"policies. Additionally, we have established a clear complaint channel and a system of rewards and punishments. TSC aligns with international human rights standards, including the Responsible Business Alliance (RBA) Code of Conduct, the Universal Declaration of Human Rights, and domestic laws and regulations. Moving forward, we will continue to provide relevant education and training on human rights protection for our employees and publicly disclose information in prominent areas within the workplace.

Human Rights Management Measures

Goal	Actions Taken	Performance
Effectively Eliminate Child Labor	• RBA policy explicitly forbids child labor, the exploitation of children, physical punishment, the abuse of women, forced labor, and other forms of mistreatment. • The employment of individuals under the age of 15 is prohibited, as outlined in the Rules of Work. • Age verification (identification) is conducted during the recruitment process to prevent the employment of individuals who may be under 18 years old, in order to ensure compliance with child labor regulations. • In accordance with RBA regulations, we have established the Regulations on the Protection and Management of Child and Adolescent Workers to prevent and safeguard underage workers (aged 16-18) who willingly choose to be employed.	In the past three years, there were no incidents of using child labor or young workers in TSC.*1
Eliminate All Forms of Forced or Compulsory Labor	• The Company does not require employees to submit their personal identification documents for safekeeping. • In accordance with the RBA guidelines, we have implemented Rules of Work as well as clear resignation and suspension of salary and resignation policies to ensure freedom of choice in employment and working hours. Our employees have the freedom to resign and have the flexibility to arrange their non-working hours, thereby eliminating any instances of forced labor or debt labor.	In the past three years, there were no incidents of forced or compulsory labor in TSC.
Prevent the Occurrence of Discrimination	• TSC requires new employees to sign a Code of Ethical Conduct document. • Establish and promote internal training for TSC Ethical Corporate Management Best Practice Principles and the TSC Code of Ethical Conduct. • Ensure equal rights for employees of different races, genders, religions, nationalities, or other identities, and safeguard them from any form of infringement.	In the past three years, there were no incidents of discrimination or anti-discrimination incidents in TSC.
Prevent Infringement of the Rights of Indigenous People	• In accordance with the work regulations, a one-day holiday is granted for the seasonal festivals of the fourteen indigenous tribes.	In the past three years, there have been no incidents involving infringement of indigenous rights in TSC.
The Eradication of Slavery and Human Trafficking	• TSC has filled out the Slavery & Trafficking Risk Template (STRT) and published it on the official website.	In the past three years, there were no incidents of the use of slavery and human trafficking in TSC.

Note*1: The scope includes all operations and suppliers in TSC.

Communication and Grievance Channels

We place significant emphasis on employee relations and haveestablished a variety of effective and open channels of communication with employees. It actively encourages employees to report any illegal behavior or file complaints if their rights and interests are compromised. To ensure smooth communication, the company has implemented work rules and complaint procedures, and regularly shares information on the company's intranet. This facilitates the efficient transmission and response to colleagues' feedback. From 2020 to 2022, no grievances were received from colleagues.

Real-time Announcement	Two-way Communication
• Intranet - The latest Company news is released from time to time. • Email Notification - Announcement of company regulations and delivery of messages from senior executives to employees. • Bulletin Board - Providing information on labor-related policies, health and safety, and event updates.	• Employee Improvement Proposal E-mailbox/Care Mailbox - Collecting employees' suggestions to provide responses. • Employee Grievance Email box - Dedicated grievance mailbox Tsgrumble@ts.com.tw • Service/Grievance Hotline - Dedicated grievance filing telephone line (Human Resources Department telephone for each site) • Labor-Management Meetings - Quarterly communication with employee representatives.

2022 Labor-Management Meeting Communication Topics and Frequency

TSC holds quarterly labor-management meetings to discuss employee benefits and attendance issues. In 2022, a total of four issues were discussed, including the flexible reduction of employee stock trust amounts, flexible working hours, changes to the minimum unit for paid leave application, and annual maintenance. After the labor-management meeting, it was unanimously agreed to schedule the annual maintenance by using paid leave, make-up leave, or shift changes.

Highlight Story

2022 All-Hands Meeting

In 2022, TSC conducted an inaugural all-hands meeting, which saw a turnout of 612 employees. The purpose of the meeting was to present a comprehensive overview of the shared objectives to be accomplished over the next three years, as well as the long-term projects outlined in the company's plan.

At the meeting, we delivered the company's goals and related projects, providing employees with real-time insight into the company's dynamics. This also facilitated the communication of long-term plans and progress to employees, as well as discussions on directions for further improvement. In 2023, TSC intends to initiate the annual Employee Opinion Survey to gain a comprehensive understanding of colleagues' work experience, thoughts, and concerns. In addition, since 2022, TSC has been conducting bi-monthly cross-departmental supervisors meetings to facilitate interdepartmental communication.

Through the participation of all employees in an all-hands meeting, we have gained a better understanding of the company's long-term project. This has fostered a shared goal and mission, strengthening our sense of identification and cohesion with Taiwan Semiconductor.

▲ Annual all-hands meeting held by TSC.

▲ The employees actively participated in the all-hands meeting and engaged with the speaker.

4.2.3 Workplace Safety Management

We acknowledge the importance of establishing a safe and healthy workplace environment for sustainable operations. To effectively improve the management of the workplace environment, we have implemented various measures. These include the Safety and Health Work Rules, Emergency Incident Handling Procedures, Emergency Response Procedures, as well as operating procedures for air pollution, wastewater, waste, noise, radiation, greenhouse gas, and other related operations. The objective of these measures is to minimize potential harm to employees and the environment during emergency situations.

We offer comprehensive occupational safety and health education and training programs for both new and current employees. This includes on-the-job training in occupational safety and health, fire evacuation drills, safety lectures, earthquake drills, respiratory protection education and training, safety protection training, AED+CPR basic first aid training, health education lectures, and emergency response measures. These diverse courses aim to establish a secure working environment. Furthermore, the company arranges for professional medical institutions to conduct annual individual health examinations for employees. Simultaneously, health promotion handbooks are provided to enhance employee health awareness.

Establishing a Complete Occupational Safety Management System

The safety management framework at the I-lan Site and the Li-Je Site adheres to the ISO 45001 Occupational Health and Safety Management System. Both sites have achieved a 100% coverage rate, which has been verified. The internal environmental safety personnel are responsible for operating the system, following the "Plan-Do-Check-Action"framework. In addition to implementing automatic inspection plans, the Occupational Health and Safety Management Committee oversees and continuously improves the system on a quarterly basis. Furthermore, all employees, outsourced personnel, contractors, and visitors to the factory must comply with the company's relevant regulations and requirements to ensure the effectiveness and consistency of the system and to achieve the company's occupational health and safety policies and objectives.

Risk Identification and Management Objectives

Ensuring zero accidents is our highest priority. To address occupational safety and health concerns, we conduct risk assessments and implement management policies tailored to each site's characteristics. The I-lan Site, which focuses on assembly and testing, regularly identifies both positive opportunities and negative impacts on occupational safety and health on an annual basis. Whenever there are changes in the situation, we promptly identify and implement control measures. To mitigate environmental safety risks and reduce unnecessary wastewater treatment processes and personnel risks, the I-lan Site has been carrying out a wastewater treatment simplification project since 2022. As part of this project, we plan to convert the wastewater storage tank to an above-ground barrel tank. For more detailed information on wastewater management, please refer to section 5.2.2.

The Li-Je Site specializes in wafer manufacturing and is committed to identifying and addressing occupational safety and health risks through its Occupational Safety and Health Management System. In 2022, several safety and health impacts were identified in the manufacturing process, including the use of organic solvents, acidic and alkaline chemicals, as well as risks associated with pipeline transportation, forklift handling, and the installation of high-pressure gas tanks. To address these concerns, the Li-Je Site has implemented safety operating standards, conducts regular hazard identification and risk assessments, ensures compliance with regulations, and stays updated on regulatory changes. Any identified unacceptable risks or non-compliance with regulations prompt the formulation of improvement measures or projects, which are then implemented and evaluated for effectiveness to ensure risks are reduced to an acceptable level or meet standards.

Li-Je Site prioritizes safety and health management by implementing a range of measures aimed at achieving zero occupational accidents and zero occupational diseases, going beyond regulatory requirements. To oversee these efforts, Li-Je Site has established the Occupational Safety Department, a dedicated first-level unit responsible for formulating, planning, supervising, and promoting safety and health management initiatives. The effectiveness of the management system is ensured through annual internal cross-unit audits, external audits, and verification processes.

Risk Assessment and Management Procedures

We believe that the probability of risk occurrence can be reduced through preventive measures and effective management. To achieve this, we conduct regular hazard identification and updates risk assessments. Corresponding operating procedures and methods are formulated for different aspects, and graded control is implemented for safety and health projects. Additionally, measures are taken to improve unacceptable risks. We also establish procedures for contract management, procurement management, change management, and inspection management to conduct non-routine hazard risk assessments and identification.

Contract Management

To enhance contractor safety management, ensure the quality of their work, and maintain safety and hygiene during construction, TSC has implemented the Contractor Management Measures. These measures encompass various actions, such as establishing agreements, issuing hazard notifications prior to construction, inspecting machinery and equipment, verifying personnel qualifications for site access, assigning dedicated supervisors, conducting on-site safety inspections, and implementing control measures for high-risk operations like hot work, lifting, scaffolding, and confined spaces. Application forms for these operations are utilized and reviewed to uphold construction safety standards.

Procurement Management

TSC conducts risk and quality assessments during the procurement stage for new chemicals, raw materials, protective equipment, or construction priojects. Safety confirmation is then implemented prior to adoption.

Change Management

TSC has implemented change management procedures to address personnel, machinery and equipment, raw materials, construction methods, and operating environments. For instance, modifications to the engineering design or configuration of machines can potentially pose safety and health risks. To mitigate these risks, TSC conducts thorough risk assessments, provides necessary training, updates relevant information, and performs safety confirmations prior to implementing any changes.

Inspection Management

Regular inspections are conducted in the TSC factory area. These inspections help us identify abnormalities and potential hazards by detecting operational safety observations. This allows us to effectively reduce and control risks.

Occupational Injuries and Occupational Safety Incidents

Both sites conduct hazard identification and risk assessment according to the production procedure. They mitigate risk by implementing hazard controls and establishing management projects. The management system encompasses all factory workers, including employees, outsourced personnel, contractors, and visitors. They adhere to the procedures and operating methods outlined in the ISO 45001 Occupational Health and Safety Management System to create various procedural documents.

The Company has established and follows a procedure for handling injuries and illnesses. In the event of a safety and health incident that causes harm to personnel, prompt contingency measures are taken in accordance with company regulations and legal requirements. These measures include providing medical assistance to affected personnel, internally reporting to the safety and health department and senior supervisors, and externally reporting to the relevant authorities. A thorough investigation is initiated for each safety and health incident, and a review is conducted on various aspects such as elimination and substitution, engineering improvements, education and training, personal protective equipment, administrative management, and supervision and control. The aim of this review is to reduce the impact of accidents and prevent the recurrence of incidents. From 2020 to 2022, the I-lan Site had no occupational injuries and did not incur significant financial losses due to major violations of employee health and safety. However, the Li-Je Site experienced a minor injury incident in August 2021, which did not qualify as a major occupational accident in terms of safety and health. The financial loss resulting from administrative penalties amounted to NT$60,000.

Comprehensive Analysis of Occupational Hazards:

- Chemical Exposure: Long-term exposure to organic solvents and acidic or alkaline chemicals can potentially harm employees' respiratory system, nervous system, and skin. TSC thoroughly evaluates the risks, quantities used, and measures taken to control exposure for each chemical.
- High-Pressure Gases and Corrosive Gases: Leaking high-pressure gases can present a potential health risk to our employees. As a result, TSC conducts risk assessments to evaluate the use and storage of gases. This includes the implementation of leak detection and emission control systems.
- Transportation and Handling of Dangerous Goods: Operations such as pipeline transportation and forklift handling pose significant hazards. TSC conducts evaluations of transportation procedures and warehouse equipment to ensure compliance with safety standards.
- Emergency Incidents and Disasters: Emergency incidents, such as fires or chemical leaks, may occur in the factory. TSC analyzes the implementation and effectiveness of emergency response plans, alarm systems, evacuation routes, and employee training.
- High and Low Temperatures: The manufacturing procedure may expose employees to extreme temperatures, which can result in burns, heatstroke, or cold damage. TSC evaluates temperature control measures, protective equipment, and employee training.
- Psychological Stress: The intense competition and fast-paced nature of the work environment can potentially have a detrimental effect on the mental well-being of employees. To address this concern, TSC has implemented work stress assessments and implemented measures to provide support for mental health.

Occupational Injury Ratio

Site	Occupational Injury Type	2020	2021	2022
I-lan Site	Work Accident	1	0	0
	Traffic Accident	0	0	0
	Injury Rate (IR)	0.67	0	0
	Occupational Disease Rate (ODR)	0	0	0
	Absenteeism Rate (AR)	0	0	0
	Lost Days	4	0	0
	Lost Days Rate (LDR)	2.68	0	0
	Number of Deaths	0	0	0
Li-Je Site	Work Accident	0	1	0
	Traffic Accident	0	0	6
	Injury Rate (IR)	0	0.39	0
	Occupational Disease Rate (ODR)	0	0	0
	Absenteeism Rate (AR)	0	2%	0
	Lost Days	0	5	0
	Lost Days Rate (LDR)	0	1.95	0
	Number of Deaths	0	0	0
Total	Work Accident	1	1	0
	Traffic Accident	0	0	6
	Lost Days	4	5	0
	Number of Deaths	0	0	0

Work Accident Description:

- In 2020, a work accident occurred at the I-lan Site due to prolonged rainfall and water leakage. This resulted in a slippery floor, causing personnel to slip and experience strain in their backs and discomfort in their pelvis. Despite the incident, the personnel promptly resumed their duties after a brief rest. However, three days later, they sought medical treatment independently and reported the incident, which was subsequently determined to be a work-related injury. As a result, the personnel were granted a week off and received six rehabilitation sessions at a work injury outpatient clinic. To prevent similar incidents from recurring, the following improvement measures were implemented: fixing leaks, utilizing plastic mats, displaying slip prevention signs, issuing fall prevention announcements, and removing moss from the factory's internal roads.
- In August 2021, there was one case of occupational injury at the Li-Je Site. The injury occurred due to chemical splashing, as the personnel failed to wear the required protective clothing during chemical pipeline motor replacement operations. As a result, they accidentally came into contact with chemical liquid on their back, resulting in superficial skin burns. Upon discovering the incident, the company promptly utilized its emergency decontamination agents, Diphoterine and Hexafluorine, to rinse the affected area. The injured person was immediately sent for medical treatment. Fortunately, the employee made a full recovery and returned to work within a week. Simultaneously, an investigation into the incident was conducted, and both internal and external reports were filed regarding the occupational injury. To prevent similar incidents from occurring in the future, several improvement and preventive measures were implemented. These included pipeline inspection and repair, lighting enhancements, education and training initiatives, installation of signage, and dedicated personnel supervision during operations. Unfortunately, as a consequence of this minor injury incident, the company received a fine of NT$60,000.

Procedure for Handling Safety and Health Accidents

- The Occupational Safety and Health Committee meets quarterly to report and review work injuries and accidents. We analyze the causes, processes, and improvement measures of these cases to emphasize the value of employees and supervisors.

In terms of the personnel safety evacuation procedure, TSC places great importance on occupational safety education and training. It is advised that in the event of immediate danger while working, individuals should cease their operations, evacuate to a secure location, and then inform their immediate supervisor. TSC also incorporates Article 18 of the Occupational Safety and Health Act, which pertains to evacuation, as instructional material for training purposes. Employees possess the right to distance themselves from hazardous situations, and the company is prohibited from penalizing or imposing any form of disadvantage on personnel who evacuate when faced with danger.

Procedure for Investigating Occupational Accidents

1. The Disaster Accident / Close Call Accident Investigation Report Form is issued by the Occupational Safety Department.
2. A team is formed to investigate and gather evidence regarding the accident. The team includes a supervisor, a safety officer, and a labor representative from the department where the accident took place.
3. The supervisor conducts a comprehensive assessment of the incident and completes corrective measures for improvement planning.
4. After the investigation team has conducted an initial review and reached a consensus on the corrective actions for the incident, it is then submitted to the site supervisor for further examination.
5. The implementation of corrective measures is tracked by the Occupational Safety Department.
6. Occupational Safety Department reviews and confirms the closure of the case.

Occupational Safety Training

TSC is dedicated to preventing workplace accidents and enhancing employees' safety awareness and conduct. Alongside our comprehensive yearly occupational safety education plan, we offer extensive safety and health education and training for new staff members. Furthermore, we have implemented a certification management system to guarantee the credibility of safety and health certifications held by our colleagues. We conduct regular reviews and facilitate the acquisition and renewal of certifications in accordance with regulations.

TSC conducts annual emergency response drills for its employees during regular working hours. These drills consist of two fire self-defense and evacuation drills, as well as at least one hour of occupational safety training for the entire company. It is mandatory for all employees to participate in this training, and those unable to attend will be offered make-up sessions to ensure the effective implementation and communication of safety concepts. Additionally, we organize various small-scale drills, such as chemical leaks, supply interruptions, labor shortages, critical equipment failures, water, power, and gas outages, outbreaks of infectious diseases, strikes, sewage leaks, transportation accidents, major quality incidents, work injuries, communication disruptions, typhoons, earthquakes, and information system network attacks. These drills may be replaced by educational training or tabletop exercises each year. If any actual incidents occur during the year, we will review its implementation records and assess the need for routine drills. Furthermore, we provide training and lectures on high-risk operations, such as lifting and confined spaces. Health seminars conducted by professional physicians and fire safety lectures by professional disaster relief instructors are also offered to continuously enhance personnel safety and health awareness.

Occupational Disease Management

Two sites comply with legal requirements by conducting identification of special hazardous operations. They also collaborate with operation environment monitoring, special hazardous operation health checks, and health management conducted by factory physicians and nurses. In addition, they establish various procedural documents and operating procedures in accordance with the ISO 45001 occupational safety management system. It is worth noting that there were no recorded cases of occupational diseases in 2022.

Types of Occupational Diseases in TSC:

1. If the chemicals used in the manufacturing process are not adequately controlled or protected against, and this leads to workers falling ill or suffering organ damage, and a physician confirms that the injury or illness is work-related, it is classified as an occupational disease.
2. Psychological stress, poor posture, improper exertion, lack of pregnancy protection, and diseases resulting from workplace violence are all potential causes of occupational diseases.

Explanation of specific occupational health examination items for hazardous operations at the I-lan Site:

- Bromopropane: The operation of automated machinery is accompanied by the use of local exhaust facilities. It is ensured that each employee spends no more than 30 minutes per day in the designated operation area.
- Radiation: There are two X-ray machines on the premises. Employees must wear radiation armbands when operating the machines. The machines are enclosed for safety during operation, and the radiation levels in the vicinity of the machines are equivalent to the background levels.

Occupational Disease Prevention Measures

Both sites convene Occupational Safety and Health Committees quarterly to assess health management, occupational disease prevention, and health promotion matters. They also establish targeted operating procedures to address potential causes of physical and mental illnesses in the workplace. Additionally, they coordinate with healthcare professionals to provide active healthcare services for employees. By regularly monitoring the work environment, they ensure effective control of occupational disease factors. Health examinations and questionnaires are administered to assess employees' individual health conditions. Likewise, healthcare professionals arrange health interviews and on-site visits to gain a comprehensive understanding of employees' well-being.

Over the past three years, there have been no reported cases of occupational diseases among employees at the I-Lan and Li-Je Sites. In 2022, a total of 28 and 26 special health examinations were conducted at the I-Lan and Li-Je Sites, respectively, with a perfect attendance rate of 100%. Our commitment to preserving the physical and mental well-being of our employees remains unwavering.

Occupational Health Services

The company remains committed to achieving zero occupational accidents by implementing various health management measures and actively supporting employees through healthcare personnel. This includes promoting a friendly and healthy work environment. In terms of occupational health services, a total of 106 consultations or interviews were conducted at the I-Lan Site and 51 at the Li-Je Site in 2022.

1. Annual Physical Examinations and Special Health Hazard Check-ups
2. Comprehensive operation environment monitoring and chemical classification management are conducted every six months throughout the entire site.
3. Annually, health questionnaires are distributed to proactively assess the physical and mental well-being of our employees.
4. Promote the implementation of measures to prevent overwork, excessive stress, human factor hazards, and workplace misconduct.
5. Protection for maternal health, employees with disabilities, and middle-aged and elderly health.
6. Contracted occupational health service physicians conduct quarterly visits, interviews, follow-ups, and care. If employees with hypertension are scheduled for medical treatment, their medication status will be monitored until blood pressure control improves, thereby reducing the risk of stress-related diseases.
7. Establishing Employee Personal Health Records and Regularly Tracking Status
8. Regularly conduct lectures on health-related topics.
9. Conduct health promotion activities on a regular basis.

Effective communication channels for occupational safety and health.

In addition to the labor-management meeting, each site convenes quarterly meetings of the Occupational Safety and Health Committee. These meetings are chaired by the Vice President and the Site Supervisor, respectively. The discussions cover a range of topics, including policies, management plans, education and training, environmental monitoring, health management, proposal improvement, inspection and audit, hazard prevention, occupational accident investigation, management performance, and contract management. Following the meetings, systematic and continuous improvement and optimization are implemented based on the meeting's conclusions. The topics for 2022 focused on pandemic prevention measures, key points of spring safety inspections, and audit deficiencies.

To enhance bilateral communication and solicit input from colleagues regarding safety and health matters, 50% of the 22 committee members are labor representatives, elected by the labor-management conference, surpassing the regulatory requirement. Supervisors, labor representatives, safety and health personnel, and committee members from all departments of the entire site actively participate, collectively assessing diverse safety and health management concerns. This enables members to stay informed about the advancements in safety and health initiatives and put forth suggestions and proposals, allowing managers to genuinely listen to employees' perspectives and consistently provide a safe working environment.

To facilitate effective communication among employees, we offer various channels for feedback, including employee suggestion forms, communication records, complaint channels, health questionnaires, and employee suggestion boxes. We promptly make adjustments and optimizations based on stakeholder feedback. For further information, please consult section 4.2.2 on labor-management communication channels.

5

Green Manufacturing and Operation

5.1 Resources Management

5.2 Waste Management

5.1 Resources Management

The climate change issue should brook no delay. In order to mitigate the impact on the natural environment, and achieve energy and carbon reduction, TSC is committed to maintaining the spirit of sustainable development and minimizing the environmental impact of operating activities. TSC conducts carbon emissions management according to greenhouse gas inventory results. We also introduced the ISO14001 environmental management system for energy, water resources, waste, wastewater, and air pollution prevention. We continuously implement various environmental management actions.

5.1.1 Carbon Emission Management

TSC plays a vital role in the semiconductor manufacturing chain and also endorses the concept of "Extended Producer Responsibility". The Company is committed to producing and designing environmentally friendly products, reducing product packaging, and researching environmentally friendly materials that are easily biodegradable. To implement various environmentally friendly projects more efficiently, ESG Office has set up an "Environmental and Energy Management Team" functional group to be responsible for annual carbon reduction goals and Implement various greenhouse gas reduction plans, promote renewable energy layout, etc., from the system to reduce greenhouse gas emissions.

Greenhouse Gas Inventory

TSC has implemented a greenhouse gas inventory mechanism in accordance with ISO 14064-1. The Li-Je Site has been conducting inventories for scope 1 and 2 (categories 1 and 2) since 2014, and expanded to include scope 3 (categories 3 to 6) in 2022. The I-lan Site began conducting inventories for categories 1 and 2 in 2022. We plan to further expand its inventory scope in 2024 to include TSC headquarters and overseas business locations, demonstrating its ongoing commitment to Climate Action. In 2022, TSC saw a slight increase in categories 1 and 2 compared to 2021, attributed to increased production capacity. However, the intensity of carbon emissions per unit has been reduced for three consecutive years. We will continue to implement energy-saving and carbon reduction initiatives through various programs in the future.

In 2022, the primary carbon emissions at two sites are attributed to outsourced electricity in category 2. The direct greenhouse gas emissions (category 1) at I-lan Site amount to 0.9059 tCO_2e, while the emissions from outsourced electricity (category 2) total 3,997.2177 tCO_2e, accounting for 99.98% of the site's total emissions. Similarly, at the Li-Je Site, the main source of greenhouse gas emissions is outsourced electricity in category 2, which amounts to 10,341.862 tCO_2e. This is followed by other indirect emissions (categories 3 to 6) totaling 4,672.2161 tCO_2e, and finally, direct greenhouse gas emissions (category 1) of 34.247 t-CO_2e.

Greenhouse Gas Emissions at the I-lan and Li-Je Sites in 2022

Site	Category	Emission Source	GHG Type	Emissions (tCO_2e)	Total (tCO_2e)
I-lan Site	Category 1	Stationary Combustion	CO_2, CH_4 and N_2O	0	0.9059
		Mobile Combustion	CO_2, CH_4 and N_2O	0.2729	
		Process Emission	VOCs	0	
		Fugitive Emission	CH_4	0.6330	
	Category 2	Outsourced Electricity	CO_2	3,997.2177	3,997.2177
Li-Je Site	Category 1	Stationary Combustion	CO_2, CH_4 and N_2O	0.4429	34.2474
		Mobile Combustion	CO_2, CH_4 and N_2O	8.1974	
		Process Emission	VOCs	0	
		Fugitive Emission	CH_4	25.6071	
	Category 2	Outsourced Electricity	CO_2	10,341.862	10,341.862
	Categories 3 to 6	Transport Emission (category 3), Emission from Products Used by Organization (category 4)	CO_2	4,672.2161	4,672.2161

Greenhouse Gas Emissions at Li-Je Site & I-lan Site Each Year

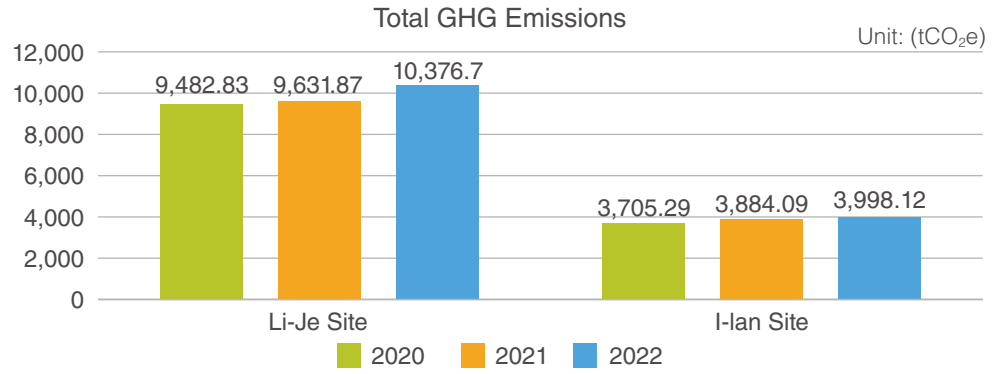
Unit: (tCO_2e)

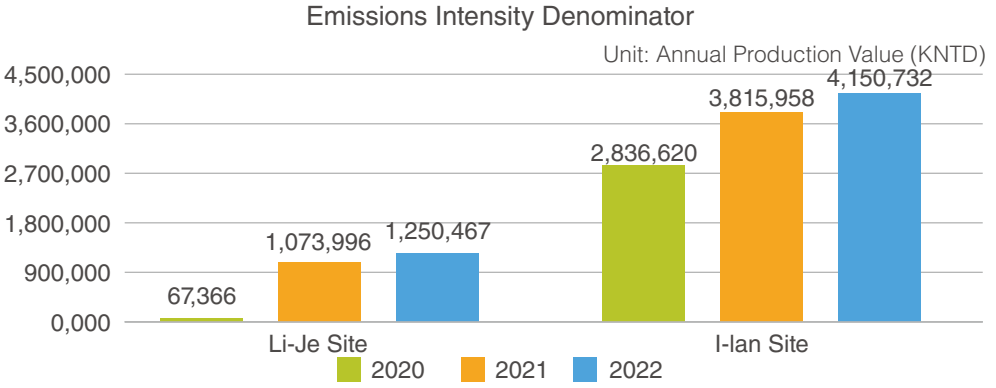
	2020		2021		2022	
	Li-Je Site	I-lan Site	Li-Je Site	I-lan Site	Li-Je Site	I-lan Site
Direct GHG Emissions (Category 1)	46.3758	0.8451	27.8046	0.8214	34.247	0.9059
CO_2 Emissions	1.7285	0.3026	5.498	0.2489	8.5607	0.2809
CH_4 Emissions	18.5175	0.5425	22.2175	0.5725	25.5675	0.6330
N_2O Emissions	0.0298	0	0.0894	0	0.1192	0
PFCs Emissions	0	0	0	0	0	0
HFCs Emissions	26.1	0	0	0	0	0
CO Emissions from the Use of Biofuels	0	0	0	0	0	0
Indirect GHG Emissions (Category 2)	9,436.4528	3,704.8074	9,604.0632	3,883.6527	10,341.862	3,997.2177
CO_2 Emissions	9,436.4528	3,704.8074	9,604.0632	3,883.6527	10,341.862	3,997.2177
CH_4 Emissions	0	0	0	0	0	0
N_2O Emissions	0	0	0	0	0	0
PFCs Emissions	0	0	0	0	0	0
HFCs Emissions	0	0	0	0	0	0

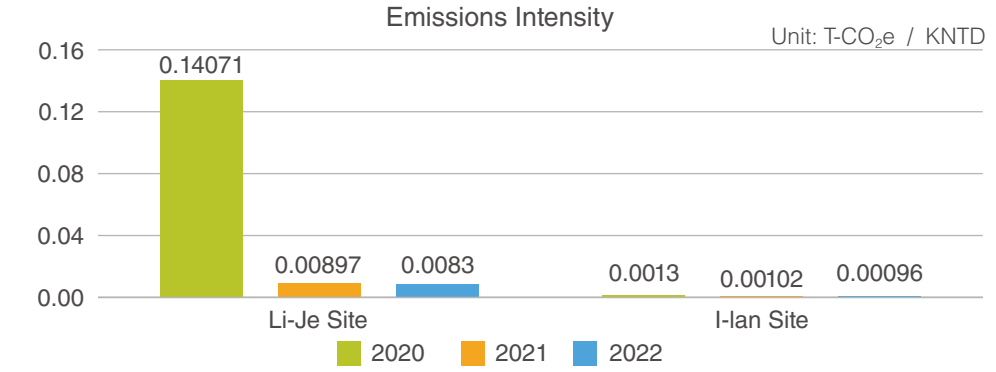
※ Note:

1. The base year for Li-Je Site inventory is 2022 (Li-Je Site added category 3 to 6 GHG inventory, so the base year is updated).
2. The base year for inventory of I-lan Site is 2022.
3. I-lan Site introduced ISO 14064-1 for Category 1 and Category 2 inventory in 2022 and conducted internal verification of the above data in the same year. I-lan Site plans to conduct external verification in 2024.

Greenhouse Gas Emissions Intensity







※ Note: Category 1 and 2 from the greenhouse gas emission table.

Other Indirect GHG Emissions (Categories 3 to 6)

Since 2022, Li-Je Site has conducted an inventory of other indirect GHG emissions. In 2022, the Li-Je Site's Category 3 and Category 4 were the largest suppliers of raw material intake - AUEEC and Taiwan Maxwave materials transportation emissions, as well as for upstream fuel-energy related activities and operational waste treatment, the results were 4,672.2161tCO_2e.

Site	Category	Emission Source	GHG Type	Emissions (tCO_2e)	Total (tCO_2e)
Li-Je Site	Category 3	Transport Emissions	CO_2	2,675.7714	4,672.2161
	Category 4	Product Emissions from Organization Use	CO_2	1,996.4447	

Future Carbon Reduction Program

The carbon reduction programs for both short and medium-term are divided into five categories: equipment replacement, energy-saving projects, clean energy utilization, building management systems, and digital management systems. TSC optimizes energy efficiency through a "source-first" reduction strategy, along with optimizing process conditions and replacing inefficient processing equipment. This helps to reduce both direct and indirect greenhouse gas emissions in our operations and processes.

Five Carbon Reduction Strategies

Strategic Policy	2023	2024-2025
Replace the Old with the New	1. I-lan Site has implemented an improvement plan for the ice water pump and cooling water pump. As part of this plan, frequency converters have been installed for the existing equipment. It is estimated that this installation will result in an annual reduction of electricity consumption by 4.9% by the end of the year. 2. Li-Je Site's performance improvement plan involves incorporating a high-performance magnetic suspension chiller, while retaining the old machines as backups. This strategy results in a 45% reduction in power consumption compared to conventional chillers.	Since 2023, each site has proposed an improvement plan for the following year, including lighting improvement, energy-saving air conditioning, and other initiatives.
Energy Saving Project	1. Apply carbon reduction to energy consumption equipment of each site, employ energy-saving chiller 2. Replace old equipment with new to improve energy efficiency	Conduct regular examinations of facilities to continuously improve carbon reduction
Using Clean Energy	Plans for using renewable energy sources in sites are based on the principles of energy conservation, creation, and storage. 1. I-lan Site has formulated a solar panel assessment plan to achieve the goal of self-sustainability. 2. Solar and energy storage programs assessed by each site. 3. Outsourced green electricity programs assessed by each site.	1. Roof solar panel installation program 2. Using Green Electricity
Establishment of Management System	1. Implement or update ISO 50001 Energy Management System at each site 2. ISO 14064-1:2018 GHG Inventory (categories 1 and 2 with partial categories 3 to 6)	ISO management system of each site is continuously updated and passed third-party certification. 1. Conduct internal inventory and audit annually, and obtain accreditation from a third-party certification authority regularly. 2. Assess and introduce ISO 14067 product carbon footprint, and apply it to the main product line first.
Introducing Digital Management System	Assess smart carbon management programs	Intelligent monitoring and management of energy resources
	Assess data integration at each site and replace manual input with digital technology	Collect real-time data to perform analysis and prediction

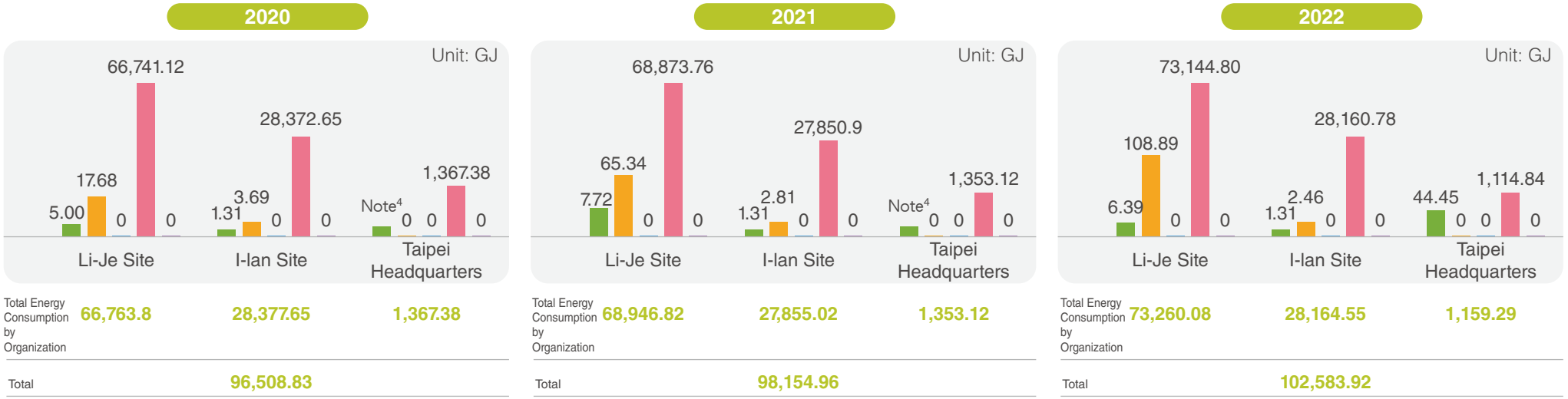
5.1.2 Energy Management

TSC is committed to improving energy efficiency and ensuring that electricity consumption and other energy consumption are reduced by at least 1% annually. Currently, both the Li-Je and I-lan Sites have implemented environmental protection plans that are based on their energy consumption. They conduct inspections on equipment that consumes a significant amount of energy and continuously upgrade to new energy-saving equipment as replacements.

Energy Structure

TSC primarily relies on outsourced electricity as its main energy source. In 2022, electricity accounted for 99.84% of the company's energy consumption. Non-renewable fuel consumption, such as gasoline and diesel, made up less than 1% of the total energy consumption. In terms of energy distribution, the Li-Je site accounted for 71.41% of the company's total energy consumption, followed by the I-lan Site at 27.46%, and the headquarters at approximately 1.13%. Over the past three years, TSC's energy consumption has increased by 50% due to the expansion of production capacity. However, the energy consumption per unit of production value has decreased year by year at both the Li-Je Site and I-lan Site, indicating significant improvements in energy efficiency.

Energy Consumption Over the Years



※ Note:

1. Gasoline is not distinguished by octane number.
2. The conversion coefficients are based on the heating value conversion method by the "Heat Content of Energy Products" published by the "Bureau of Energy, Ministry of Economic Affairs". Gasoline 7,800kcal/L (1 liter of gasoline = 0.0327GJ), diesel 8,400kcal/L (1 liter of diesel = 0.0352GJ), electricity 860kcal/kWh (one degree = 1 degree of electricity = 0.0036GJ).
3. Above numbers are rounded to the second decimal place.
4. The source documents for gasoline in 2020 and 2021 are incomplete at the Taipei headquarters; thus, figures are disclosed from 2022.

Annual Energy Intensity

Item	Year	2020		2021		2022	
	Unit/Site	Li-Je Site	I-lan Site	Li-Je Site	I-lan Site	Li-Je Site	I-lan Site
Total Internal Energy Consumption	GJ	66,763.8	28,507.34	68,946.82	27,855.02	73,260.08	28,164.55
Denominator of Energy Intensity	Annual Production Value (KNTD)	633,766	2,836,620	1,073,996	3,815,958	1,250,467	4,150,732
Energy Intensity	GJ/KNTD	0.105	0.010	0.064	0.007	0.059	0.007

※ Note:

1. The base year for both I-lan Site and Li-Je Site is 2022.
2. The conversion coefficients are based on the heating value conversion method by the "Heat Content of Energy Products" published by the "Bureau of Energy, Ministry of Economic Affairs". Gasoline 7,800kcal/L (1 liter of gasoline = 0.0327GJ), diesel 8,400kcal/L (1 liter of diesel = 0.0352GJ), electricity 860kcal/kWh (one degree = 1 degree of electricity = 0.0036GJ).
3. Above numbers are rounded to the second decimal place.

Continuous Improvement on Energy-saving

Since electricity is the main source of energy consumption at TSC, the energy-saving projects implemented over the past three years have focused on reducing electricity usage at our sites. These initiatives have included enhancing the heat dissipation of cooling towers, optimizing the power of chillers, and updating lighting equipment, among other measures, all aimed at achieving energy savings and reducing carbon emissions. As a result of these efforts, TSC has successfully reduced energy consumption by 5,107.79 GJ from 2020 to 2022.

Li-Je Site's Energy Saving and Carbon Reduction Program and Effectiveness

Year	2020	2021	2022
Site	Li-Je Site		
Energy Saving Item	• Adjust cooling water flow rate to improve cooling tower's dissipation	• Boost chiller's power • Reduce equipment's ventilation • Improve the lighting in the repair area	• Air conditioning system power saving
Energy-saving Quantity (GJ)	526.29	1,195.76	1,291.11
Energy-saving Quantity as a Percentage of Total Electricity Consumption in the Year	0.79%	1.74%	1.76%

I-lan Site's Energy Saving and Carbon Reduction Program and Effectiveness

Year	2020	2021	2022
Site	I-lan Site		
Energy Saving Item	• Improvement measures for process cooling water (PCW) • Replacement of clean room light source	• Improvement measures for outside air handling unit and chiller	• Light source replacement plan for the front TMTT station and molding press station • Replace mercury lamps in the utility apparatus room with LEDs • Exhaust pipeline merger project for site
Energy-saving Quantity (GJ)	323.24	1,329.89	441.50
Energy-saving Quantity as a Percentage of Total Electricity Consumption in the Year	1.14%	4.77%	1.57%

Future Prospects

Li-Je Site will begin implementing the ISO 50001 Energy Management System in 2023. Our objective is to enhance the energy efficiency of the LI-Je Site and elevate its energy performance to the highest level by utilizing PDCA (Plan-Do-Check-Action) mechanisms and relevant management strategies. Through the implementation of greenhouse gas reduction, the Company can attain its goals of sustainable operation and environmental friendliness.

Considering that the air-conditioning system at I-lan Site operates at full capacity throughout the year, there is a risk of wasting energy resources during non-summer seasons. To address this issue, we propose implementing an improvement plan for the ice water and cooling pumps. Specifically, we plan to retrofit 3 cooling water pumps (25HP) and 3 ice water pumps (15HP) with frequency inverters in 2023. These inverters will regulate the frequency based on the equipment temperature requirements, reducing the motor running frequency when the temperature is sufficient and increasing it when insufficient. Based on current on-site data measurements, we have calculated the electricity consumption of the existing ice water pump and cooling water pump equipment for the year 2022. This system accounts for 12.7% of the total plant electricity consumption. After implementing the improvement plan, we anticipate a 4.9% reduction in site electricity consumption. By achieving both energy-saving and cost-saving objectives, this improvement plan will contribute to the company's overall efficiency.

5.1.3 Water Stewardship

In recent years, Taiwan has experienced droughts due to climate change. TSC operates two factories in I-lan, an area without reservoirs. However, the region benefits from abundant rainfall throughout the year and natural groundwater areas in the Lanyang Plain, which prevent water shortage crises in I-lan. As a member of the semiconductor industry, we recognize the significant impact of climate change and water resources on operations. To ensure environmental sustainability and economic efficiency, TSC effectively manages water resources. This includes monitoring and recording water withdrawal and discharge, as well as implementing a grinder and cooling cycle water recycling mechanism to efficiently recycle water.

Water Resource Structure

I-lan Site and Li-Je Site are situated in I-lan County, which is located in the northeastern part of Taiwan. According to the Weather Bureau, I-lan County experiences a monsoon climate, with an average annual precipitation of over 2700mm. In 2022, groundwater constituted approximately 92.6% of the process water used at the I-lan Site, while tap water accounted for 7.4%. Due to the extended rainy seasons in I-lan and the site's proximity to the mountainside, coupled with a daily withdrawal of less than 100 tons of groundwater, there has been no depletion of groundwater, and no water limitation measures have been necessary. On the other hand, the Li-Je Site relies on surface water as its water source. It utilizes the Wulangkeng River as its primary source of pure water, accounting for approximately 87.6%, with tap water making up the remaining 12.4%. As the Wulangkeng River has consistently maintained its water flow over the years, the Li-Je Site currently does not require any water limitation measures.

Types of Water Source and Water Withdrawal at Each Site

Unit: Megaliters

Water Withdrawal by Source	2020			2021			2022		
	I-lan Site	Li-Je Site	Taipei Headquarters	I-lan Site	Li-Je Site	Taipei Headquarters	I-lan Site	Li-Je Site	Taipei Headquarters
Surface Water Withdrawal	0	202.37	0	0	227.97	0	0	249.29	0
Groundwater Withdrawal	32.11	0	0	49.80	0	0	34.82	0	0
Third-party Water Withdrawal [*1]	2.40	26.70	Note[5]	2.50	37.94	Note[5]	2.80	35.22	2.11
Total Water Withdrawal of Each Site	34.51	229.07	0	52.30	265.91	0	37.62	284.51	2.11
Total Water Withdrawal	263.58			318.21			324.24		

※ Note:

1. The third-party water withdrawal is tap water.
2. According to the WRI Aqueduct Tool, the formula for calculating water stress is as follows: annual total water withdrawal divided by annual total available recycled water supply. Areas with water stress ranging from 40% to 80% are classified as high water stress areas, while those exceeding 80% are categorized as extremely high water stress areas. TSC exclusively relies on freshwater sources with a total dissolved solid content of ≤1,000 mg/L. Additionally, all areas under TSC's purview have a water stress index below 40%, and none are designated as water stress areas.
3. The data of seawater and produced water withdrawal, or other water sources for I-lan Site and Li-Je Site is 0.
4. Third party water and surface water withdrawal data are obtained from the water bill, and the groundwater withdrawal data is collected from the water meter reading records of the sites.
5. Due to incomplete information in 2020 and 2021, the Taipei headquarters commenced disclosing using 2022 as the base year.
6. The water withdrawal at the Taipei headquarters is calculated by dividing the office building's water bill among its floors.

Water Risk Stewardship

The semiconductor industry is a significant consumer of water during wafer production, and any water shortage could have an immediate impact. Furthermore, the more advanced the process, the greater the water consumption. In Taiwan, the reliance on seasonal rainfall to fill reservoirs, coupled with climate change-induced rainfall instability, has raised concerns about water supply. Although two sites in I-lan are not situated in high water stress areas and do not face strict restrictions on water resource usage, the Company is actively promoting water conservation by implementing a water recycling mechanism at the reproduction site to achieve sustainable development.

Water Withdrawal and Discharge of Each Site

Unit: Megaliters

Item	2020		2021		2022	
	I-lan Site	Li-Je Site	I-lan Site	Li-Je Site	I-lan Site	Li-Je Site
Total Water Withdrawal	34.51	229.07	52.3	265.91	37.62	284.51
Total Water Discharge	11.61	270.71	12.32	270.71	10.84	297.99

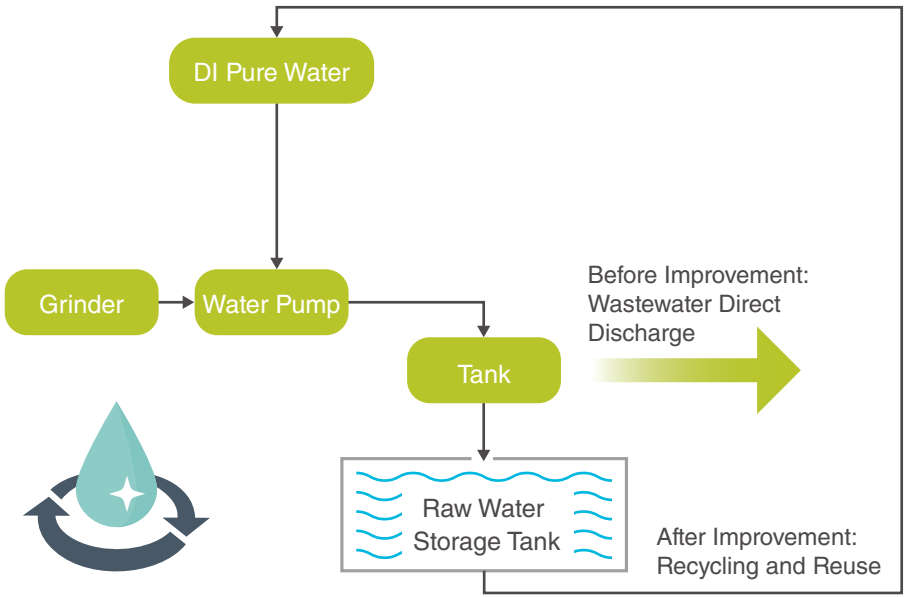
Highlight Story

Recycling and Reuse of Cooling Water from Grinder

Due to the impact of global climate change, the efficient utilization and recycling of water resources have become crucial issues. The Company remains committed to promoting water conservation measures in order to preserve water resources. Since 2015, the I-lan Site has implemented a project to recycle cooling water used in cutting machines, resulting in an annual reduction of over 2,520 tons in water consumption.

In 2022, the Li-Je Site developed a cooling water recycle plan for the grinders, effectively reusing water resources. The annual recycling rate is expected to be approximately 2%, resulting in an efficient recycling of $540,000 and a reduction in wastewater treatment. The Li-Je Site recycles cooling water, collects it through piping to the reservoir, and then transfers it to the raw water tank using a power pump as a source of pure water. Currently, the Li-Je Site drains the recycled water into the raw water tank for use in the plant. After implementation, the actual recycling efficiency in 2022 is 15 tons of water per day. Moving forward, TSC aims to continue maximizing the use of water resources. The implementation of a cooling water recycling system at the Li-Je Site is expected in 2023 to recycle unpolluted and low-pollution water resources, thereby conserving water.

Cooling Water Recycling Mechanism of Grinder



5.2 Waste Management

5.2.1 Waste Management

Waste Management Policy and Goals

TSC is dedicated to reducing environmental impacts, specifically waste pollution, while cutting operating costs by refining waste management and improving resource utilization efficiency. Consequently, both sites have been certified by ISO 14001 environmental management system and conduct regular internal audits based on the system. To implement waste reduction, declaration, and cleaning (removal, treatment and reuse), TSC collects the resource-type waste generated from the site and classifies it based on its nature, and entrusts it to the external clearance. Moreover, for special waste generated during the process, such as chemical solvents, are temporarily stored in specific areas after classification, and are handled by qualified clearance companies approved by the government authorities. On the part of grasping the final flow of waste, we also formulated an audit plan for waste clearance companies, including tracers, GPS tracking, etc., and established a complete contractor management mechanism to actively implement waste management.

Our Commitment to Waste Management:

Waste Output

In 2022, TSC produced a total of 1,219.324 tons of waste, consisting of 285.514 tons of hazardous industrial waste and 933.810 tons of non-hazardous industrial waste, including the largest category of 889.090 tons of calcium fluoride sludge. Thus, TSC established the sludge reduction in 2023. As for the waste liquid, which is the second highest output, is produced during the wafer process in Li-Je Site. The four-inch fab waste liquid is recovered and recycled in collaboration with recycling manufacturers.

Waste Output in 2022

Unit: tons

Category	2022	Category	2022
Hazardous		Non-hazardous	
Waste Liquid	269.530	Sludge	889.090
Empty Bottles of Chemicals	12.627	Spent Mixed Plastics	25.205
Waste Mixed Hardware	3.357	Other	19.515
Subtotal	285.514	Subtotal	933.810
Total	1,219.324		

※ Note:

1. The statistics provided are sourced from Li-Je Site and I-lan Site.
2. Part of the non-hazardous waste produced by TSC, which is not required to be reported, has not been included in the above table due to incomplete information gathering. It is anticipated that it will be disclosed starting in 2023.
3. "Waste electronic components" (included in the category of waste mixed hardware) are classified as non-hazardous waste when stored and handed over to external clearance companies. However, due to the disposal stage is classified as hazardous waste by Ministry of Environment, this table categorizes it under hazardous waste.
4. Waste mixed hardware includes waste solder paste, IC waste, copper waste, waste electronic components, waste products and defective products, etc.
5. Sludge refers to calcium fluoride sludge.
6. Waste mixed plastics include waste rubber strips, general resins, and noble metal ions exchange resins.
7. Others include waste glass, scrap activated carbon, and sandblasting waste.

Waste Clearance and Management

Due to the distinct nature of processes at the I-lan Site and Li-Je Site, the types of waste generated differ to some extent. Consequently, both sites have developed their own "waste clearance process" to enhance waste management. This includes staying updated on Taiwan's laws and regulations, periodically assessing the implementation status, organizing meetings, and conducting regular reviews and corrections to ensure effective waste management.

Waste Clearance Methods

The waste generated by Li-Je Site and I-lan Site is categorized into non-hazardous industrial waste and hazardous industrial waste. TSC outsources the clearance of all waste from both sites. The outsourced process is carried out in accordance with the procedure of the external clearance company and is meticulously documented as follows.

Non-hazardous Industrial Waste

On-site	Contact contract vendor for quotation ➡ Arrange clearance ➡ Issue clearance document ➡ Proceed clearance
Off-site	Follow contract processor by vehicle for weighing and photo-taking

Hazardous Industrial Waste

On-site	Contact contract clearance company to arrange clearance ➡ Issue clearance document ➡ Proceed clearance ➡ Issue clearance triplicate document
Off-site	Modify the actual weight and confirm the document ➡ Download and archive clearance vehicle GPS track map ➡ Archive the triplicate document and other processed documents

Waste Recycling Methods

The clearance company adopts two methods of recycling and reuse, or direct treatment according to the nature of the waste. TSC's recycling percentage of total waste was 87.29%, which was categorized into recycling and reuse for original purpose.

Waste Recycling and Reuse Status

Recycling and Reuse Amount in 2022

Unit: tons

Recycling and Reuse Methods	2022	Recycling and Reuse Methods	2022
Hazardous		Non-hazardous	
Recycling	159.849	Recycling	904.425
Subtotal	159.849	Reuse for Original Purpose	0.045
		Subtotal	904.470
Total Amount		1,064.319	

※ Note:

1. The statistics provided are sourced from Li-Je Site and I-lan Site.
2. Hazardous recycling items include empty barrels, waste liquid, and waste electronic components.
3. Non-hazardous recycling items include calcium fluoride sludge, waste activated carbon, and waste glass.
4. Non-hazardous items for reuse for original purpose include ion exchange compounds of noble metals.

Outsourced Waste Treatment Status

Direct treatment by clearance company in 2022

Unit: tons

Category	Clearance Method	Clearance Amount (tons)	Clearance Method Percentage(%)	Category Percentage(%)
Hazardous Waste	Incineration	125.353	80.87%	81.07%
	Other Treatment Operations	0.312	0.20%	
Non-hazardous Waste	Incineration	25.160	16.23%	18.93%
	Landfilling	4.180	2.70%	
Total		155.005	100.00%	100.00%

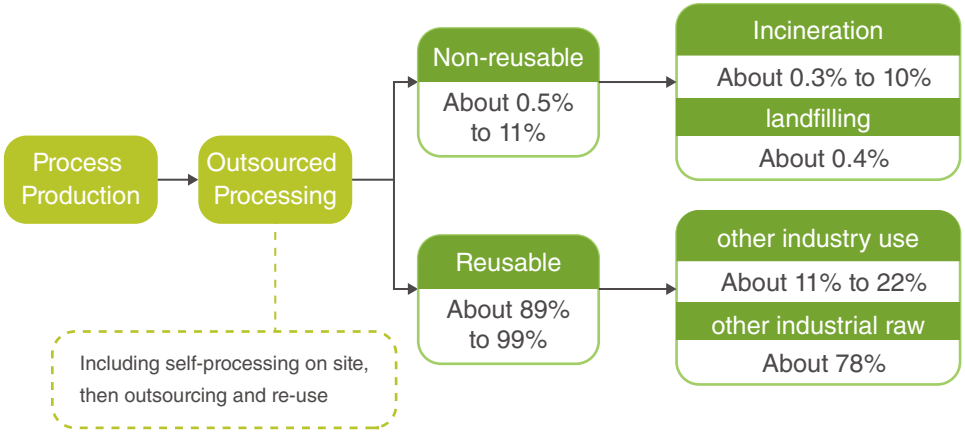
※ Note:

1. The statistics provided are sourced from Li-Je Site and I-lan Site.
2. According to the Ministry of Environment's announcement on "regulated recyclable waste and reuse waste, renewable resource items" and the Ministry of Economic Affairs' "Management Regulations on the Reuse of Industrial Waste," a list of reusable waste items has been provided. However, the hazardous industrial waste that is generated does not include any of the items listed, making it impossible to recycle and reuse. The percentage of hazardous waste that is recycled accounts for 55.99% of the total hazardous waste.
3. Other treatment operations refer to physical processing.

Waste Reduction at Li-Je Site

Li-Je Site actively promotes the utilization of off-site resources, effectively transforming waste from production processes into valuable resources. The reuse percentage for outsourced processing waste reaches an impressive 88.72%, resulting in waste reduction, decreased energy consumption and waste treatment costs, and enhanced efficiency in resource recycling. Our efforts include collaborating with cement manufacturers to recycle calcium fluoride sludge as a raw material in cement production, implementing physical treatment methods to crush and reuse waste glass, and conducting noble metal separation of waste electronic components. Additionally, we partner with recycling manufacturers to recover 94.40% of hazardous waste liquid. Through physical treatment techniques like distillation, this liquid is converted into raw materials such as banana oil, which can be further utilized in various industries, including paint production.

Li-Je Site's waste processing is mainly outsourced. The procedure is as follows:



I-lan Site Waste Reduction Plan

In the past, when our site purchased new equipment and materials, we would often end up with a significant amount of waste packaging materials, such as wooden pallets and crates, which were typically incinerated. In order to actively promote waste reduction, I-lan Site will be collaborating with external clearance companies in 2023. Our goal is to foster resource recycling by partnering with various industries and implementing recycling plans for wood, strip, and plastic waste. We have set a target to reduce total waste by 10% compared to the previous year, as well as decrease waste treatment costs by 20% from the previous year. We anticipate reviewing the results by 2024. The I-lan Site is actively seeking partnerships with manufacturers to achieve our reduction target and will also explore additional opportunities for waste reuse in the future.

Sludge Reduction Plan

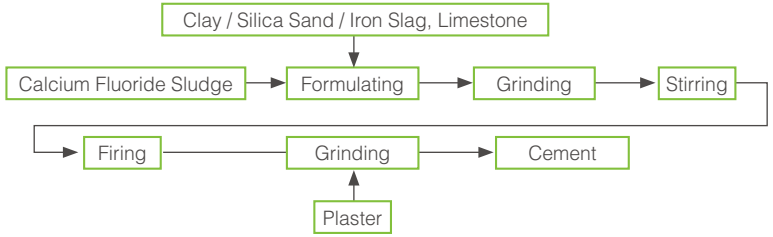
Sludge production at Li-Je Site accounted for 72.92% of the total waste. As outsourcing the removal of high-concentration waste liquid incurred high costs, in the past, the sludge was processed through Site's own wastewater system. We have further reduced sludge output by minimizing the use of chemicals in the wastewater system. With the MVR wastewater treatment mechanism, sludge production will be reduced by 10% monthly compared to the planned.

Highlight Story

We collaborated with the cement factory to recycle 100% of the sludge produced by the Li-Je Site to create a circular economy. During wafer manufacturing process, TSC uses hydrofluoric acid for wafer cleaning and etching. After chemical condensation and precipitation, the resulting hydrofluoric acid waste can be converted into calcium fluoride sludge. This sludge is then ground, stirred, and high-temperature fired in a rotary kiln reaching about 1,450°C . Afterwards, gypsum is added and ground to form cement. TSC then provides the recycled cement to the cement factory as raw material to fully enhance the reuse value of waste liquid.

Circular Economy

- Recycling of calcium fluoride sludge ➡ mineralizer as one of the raw materials for cement manufacturing



- Recycling Photo:

Contractor Waste Management

For contractors' waste treatment, TSC strictly requires manufacturers to regularly update their license. This includes conducting an annual audit of waste clearance and waste handling business activities, as well as noting it in the contract terms and regularly updating the contract. Failure to comply with waste management laws and regulations may result in contract termination. To effectively monitor industrial waste clearance, We utilize the "Global Positioning System (GPS) Real-Time Tracking System" website. This allows us to track the driving routes of the clearance company's vehicles and promptly confirm their movements. We also check and save the GPS track map of the vehicles, and occasionally conduct inspections to strictly monitor the flow direction of the clearance. TSC ensures proper handling of proof documents and produces scrap equipment treatment reports. The Li-Je Site conducts an annual audit of waste removal vendors, while the I-lan Site conducts audits on average once every two months. Vendors are scored based on the details provided in the table, with scores ranging from 0 to 5. A final score of 90 points is considered qualified according to the TSC waste clearance company standard. There have been no substandard contractor assessments for each site in 2022.

Contractor Waste Assessment Items

Clearance

- Regular maintenance on clearance machines
- Pollution prevention and safety equipment for clearance machines
- Clearance machines' grade of fit and clearance ability assessment
- Personnel driver's license management, dangerous goods delivery personnel certificate
- Emergency response equipment, methods, manuals

Other

- Organization/Competence
- Online reporting and proper handling of documents' accuracy and completeness
- Relevant performance and experience
- Accuracy of written information
- Establish ISO 14000 system or operating standard

Storage

- Whether storage capacity in the clearance site meets processing capacity
- Chemical compatibility/regional classification
- Groundwater/rainwater infiltration prevention facility
- Abnormal spills in storage area
- Preservation of hazardous and non-hazardous clearance documents

Industrial safety and fire protection

- Safe protection apparatus documents
- Feasibility of wearing and operation of protective equipment
- Inspection of fire safety facilities, audit records
- Establish security measures and fire protection equipment
- Other industrial safety management systems

5.2.2 Wastewater Management

Effective wastewater management is a crucial aspect of our sustainable development. The discharge of wastewater can have a direct impact on the local ecology and can also lead to the indirect pollution of the global environment through the spread of pollutants via runoff. TSC has established a stringent objective of "cleanliness improvement" for wastewater management, ensuring that waste liquid from each site is properly treated to prevent contamination of the surrounding soil.

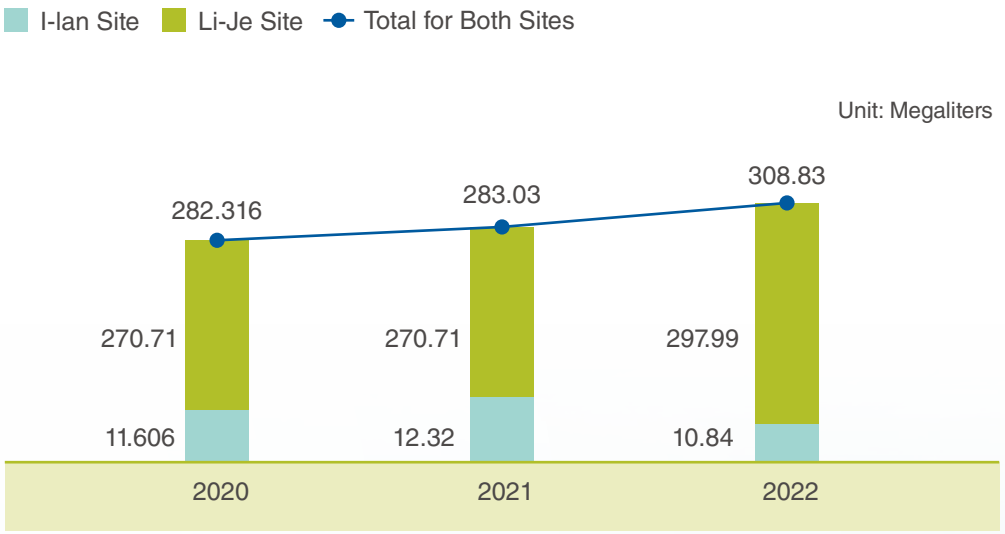
Wastewater Management Policy and Goals

In order to minimize the environmental impact of wastewater, TSC operates its wastewater facility in accordance with the discharge license and complies with the "Effluent Standards" for semiconductor manufacturing. We have implemented a comprehensive wastewater management process, which includes daily water quality analysis and regular engagement of third-party verification units to test the quality of effluent water. Additionally, we plan to introduce Mechanical Vapor Recompression (MVR) in 2023 to ensure consistent wastewater effluent and meet regulatory standards.

Annual Wastewater Discharge Trend in Each Site

Due to differences in production activities and scale, the amount of wastewater discharged at the Li-Je Site and I-lan Site varies. To address the specific needs and circumstances of each site, we have implemented appropriate project management methods and a water quality monitoring mechanism. The Li-Je Site specializes in semiconductor front-end wafer manufacturing and consumes a larger volume of water compared to I-lan. Consequently, the majority of wastewater discharged in 2022 originated from the Li-Je Site. In total, both sites processed 308.83 megaliters of wastewater in 2022. The increase can be primarily attributed to the expanded production capacity at the Li-Je Site. Conversely, wastewater at the I-lan Site decreased from 2021, primarily due to reduced cutting water consumption resulting from adjustments in the product mix.

Annual Wastewater Discharge in Each Site



※ Note: All drainage terminals in TSC are fresh water (≤1,000 mg/L total dissolved solids), and the water pressure index in the area is lower than 40%, no discharge of wastewater to areas with water pressure.

Wastewater Monitoring Mechanism

Two sites have implemented the "Wastewater Management Operating Procedure" to effectively control and process wastewater discharged during the production process. This procedure clearly regulates wastewater collection, monitoring, recording, testing, and reporting. By strengthening wastewater quality control, we can prevent abnormal effluent quality that negatively impacts the environment. The two sites diligently document the discharge and dosage on a daily basis, ensuring compliance with the effluent quality standards set by the Ministry of Environment. Additionally, they conduct 24-hour monitoring of the wastewater treatment system. The duty staff records the daily wastewater system operation data and water quality analysis values, which are then approved by the system engineer. The unit supervisor reviews these records, and the monthly reports are compiled into charts and submitted to the top supervisor of the site for review.

Water Quality Monitoring Mechanism of I-lan Site

The wastewater from the I-lan Site is discharged into the I-lan River under the supervision of the Site Affairs Department. The department conducts daily pH value examinations, weekly observations of suspended solids, and prepares semi-annual water quality reports. Additionally, the department undergoes annual ISO 14001 inspections conducted by external third-party certification units. In 2022, an inspection was conducted on the wastewater discharge from the I-lan Site. The inspection revealed that the discharge contained only a small amount of suspended solids (<5mg/L) and the pH level was determined to be neutral without requiring any adjustments (pH 7 ± 1). Based on these findings, TSC concluded that all wastewater discharged from the I-lan Site in 2022 met the effluent standard and did not cause any water pollution.

Due to the high purity and low pollution levels of the wastewater at the I-lan Site, as well as its low volume, the environmental impact is minimal. In 2022, the Environmental Protection Bureau of I-lan County advised TSC to apply for a modification to the wastewater discharge permit in accordance with legal requirements. As a result, the Wastewater Site Simplification Project was established at I-lan Site, aiming to reduce daily wastewater discharge from 100 tons to 64 tons. Additionally, the I-lan Site has developed a comprehensive plan for managing wastewater, which includes relocating the groundwater treatment unit tanks to the ground floor. This measure ensures that unprocessed wastewater will not spill and contaminate the soil. The completion of this plan is expected between 2023 and 2024.

Water Quality Monitoring Mechanism of Li-Je Site

Li-Je Site discharges wastewater into the Xincheng River. The wastewater treatment system is continuously monitored, and water quality is analyzed twice daily. Environmental Safety and Site Affairs staff collect the data, which is then submitted to the system engineer for approval. The unit supervisor verifies and analyzes the data, which is then compiled into monthly charts and reports for review by the highest-level supervisor at the site. Li-Je Site closely monitors any changes in water quality and promptly initiates an analysis and improvement process if the plant's limits are exceeded. Any violations are documented, and improvement plans are proposed. In terms of external audits, Li-Je Site's management performance is evaluated and certified by a third-party organization annually. This organization examines the operations and records of ISO 14001. Additionally, the quality of Li-Je Site's effluent is tested quarterly by a third-party certification unit, which reports the results to the Ministry of Environment using production data.

Regulatory Compliance and Improvement Measures

The Company's production process results in wastewater discharge that contains small amounts of heavy metal nickel and fluorine ion pollutants. The wastewater discharge from both sites complies with the "Effluent Standards" established for the semiconductor manufacturing industry. On May 21, 2022, the Environmental Protection Bureau of I-lan County conducted an audit of Li-Je Site. The audit revealed that TSC violated one paragraph of Article 7 of the Water Pollution Control Act. Specifically, the water sample taken from discharge port D01 did not meet the effluent standards (nickel: 2.39mg/L, exceeding the maximum value of 1.0 mg/L). As a result, TSC was fined NT$561,000 and required to attend 2 hours of environmental lectures conducted by the Environmental Protection Bureau, I-lan County. TSC made improvements by July 24, 2022, and developed short-term and long-term plans to enhance management and provide education and training to personnel, ensuring the achievement of each stage's goals. Following this incident, Li-Je Site included the higher hazardous pollutants present in the discharged water as part of the key items.

2022 Wastewater Discharge Violation

Site	Violation Incident	Fines
Li-Je Site	The water sampling quality test results for the discharge port (D01) do not meet the effluent standards.	NT$561,000

Water Quality Improvement Program

In order to achieve the goal of improving water quality management, we conducted a thorough investigation into the incident of wastewater discharge violation in 2022. Following the investigation and review, we developed the Li-Je Site water quality improvement plan to ensure compliance with sampling standards. Moving forward, we have devised short-term monitoring measures and long-term improvement efforts. The following methods are employed to monitor water quality and prevent the recurrence of illegal activities.

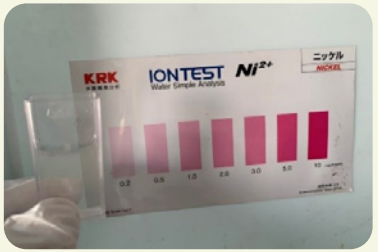
Implementation Methods Li-Je Site

Short-term Monitoring

- Increase and confirm dosing quantity, alter the safety stock of chemicals to ensure consistent dosage.
- Assign personnel to perform nickel quick sieving of the WM05 high fluorine system rapid sedimentation basin daily to ensure effective dosing *1, by adjusting dosage amount and dispensing concentration to ensure that heavy metal nickel in boiling water can be effectively removed. (figure below)

Undosed

After dosing



Medium-term Monitoring

- The new MVR system is scheduled for completion in 2023. It aims to decompose pollutants in wastewater to stabilize the quality of discharged water, reduce the dosage of the wastewater treatment system, and evaluate the inclusion of nickel ion detection equipment for real-time monitoring of water quality to ensure its normalcy.
- Utilizing innovative treatment technology to reuse sludge derived from wastewater treatment, forming a circular economy (please refer to 5.2.1 Waste Recycling - Sludge Recycle and Reuse)

Long-term Improvement

- Transform wet processes into dry processes to minimize the discharge of high-concentration waste liquids and decrease the presence of pollutants in wastewater.
- To enhance the efficiency of sludge treatment and minimize the potential for sludge spillage, it is recommended to procure and install a new sludge hydro extractor.

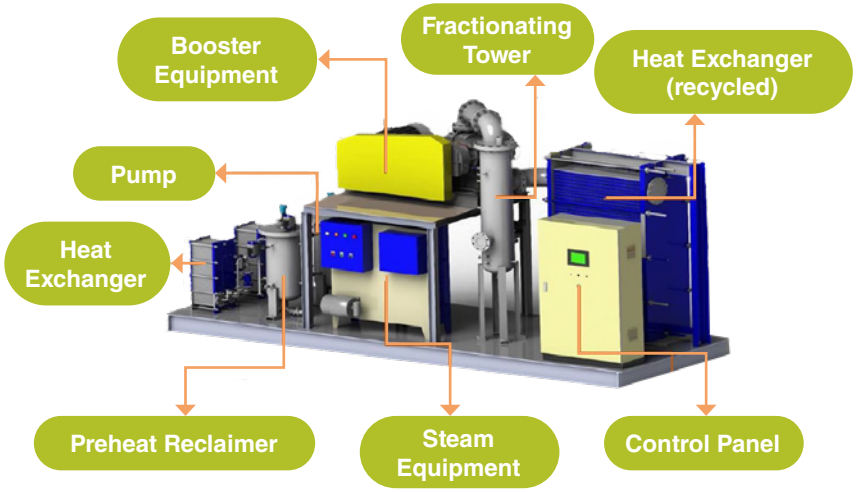
*1 : The heavy metal collecting reagent is utilized to conduct a rapid screening test for nickel. This test is performed on heavy metal wastewater in a quick sedimentation basin. The purpose of this test is to confirm the dosing status and ensure that the concentration of heavy metals in the water meets emission standards.

Highlight Story

Addition of Distillation Processing System

Li-Je Site is situated in I-lan. In order to address the expensive outsourcing costs associated with removing highly concentrated waste liquid produced at the site, it was decided to process it through the site's wastewater system. In light of the "Effluent Standards" regulation implemented in 2021, which imposes stricter controls on ammonia nitrogen and nitrate nitrogen management, the Company conducted an assessment of the potential risks to the effluent water quality at the site. In 2022, Li-Je Site carried out water sample testing and developed plans to incorporate it into the wastewater treatment facilities. By the end of 2022, TSC had installed the Mechanical Vapor Recompression (MVR) system, which is scheduled to be completed by the end of 2023. The first phase has already begun, converting high-concentration waste liquid into clarified liquid discharge for the low fluorine wastewater treatment system after undergoing MVR treatment. So far, the actual performance has resulted in a reduction of the monthly treatment volume of concentrated waste liquid to 12,300 tons, while increasing the capacity for treating high acid waste liquid to 214 tons per month. It is anticipated that in the future, these figures will further expand to 24,600 tons per month and 450 tons per month, respectively, leading to a significant reduction in various chemical substances in the wastewater and effectively minimizing the production of sludge used in the wastewater systems.

MVR System



For future utilization of MVR systems, TSC anticipates that the second phase of the plan will involve wastewater management. The Li-Je Wastewater Site will be utilized to treat low-concentration wastewater, thereby mitigating environmental impact and minimizing the potential for non-compliance with environmental laws and regulations at the site. In the third phase, the objective is to recycle and reuse the wastewater, thereby reducing water consumption and promoting sustainable operations.

Stage 1:

High concentration waste liquid discharging to the low fluorine wastewater treatment system through MVR system

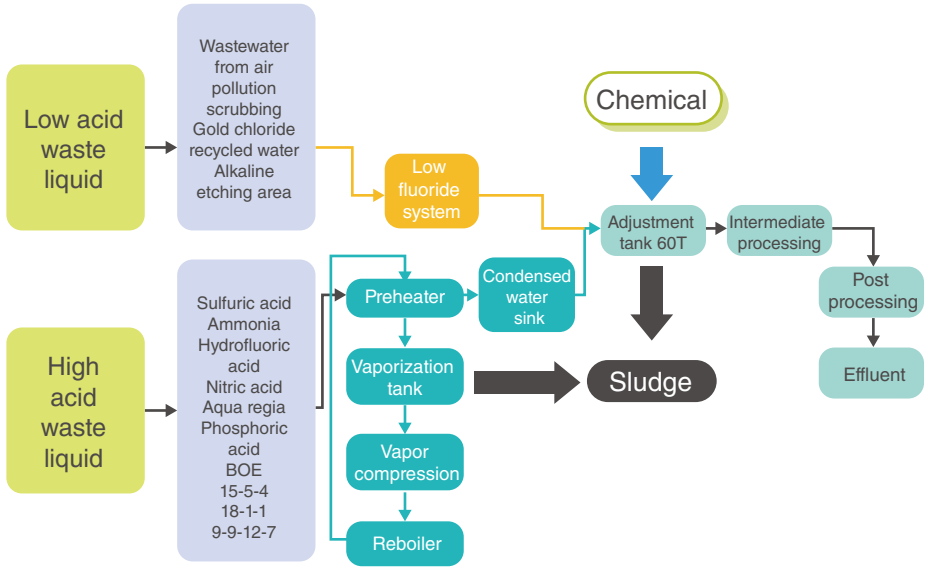
Stage 2:

Wastewater management

Stage 3:

Wastewater recycling and reuse

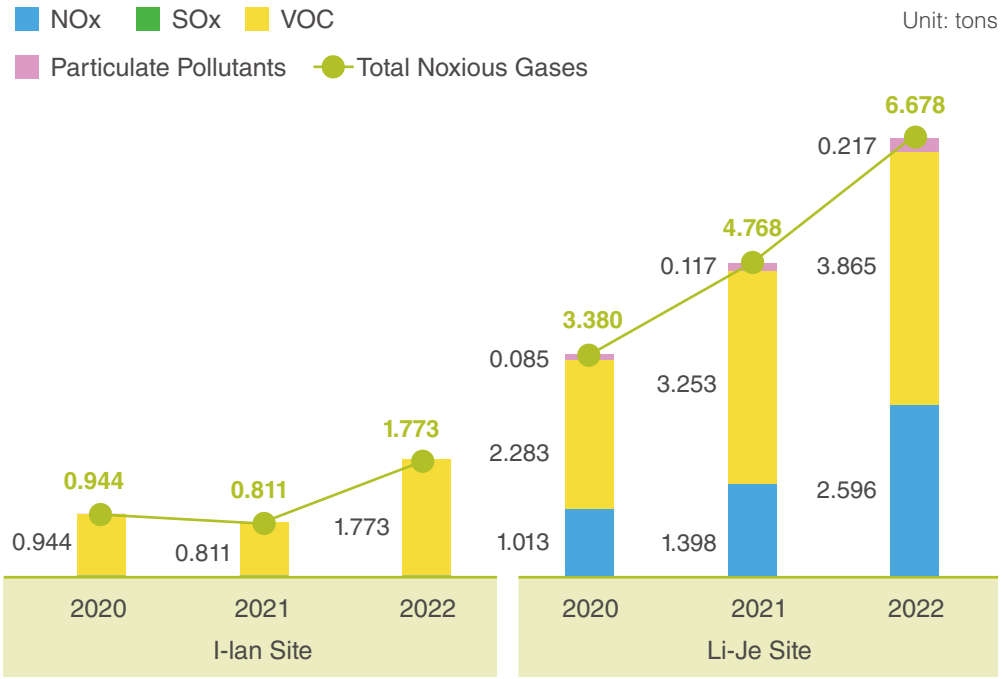
Reduce water consumption



5.2.3 Air Pollution Control

TSC is dedicated to preventing air pollution and implementing environmental protection measures. The company's air pollutant emissions, which include acid and alkaline waste gas, as well as volatile organic waste gas (VOCs), are effectively managed through various control equipment. These include acid and alkaline scrubbing towers and zeolite rotor incineration systems. Continuous monitoring is conducted using flame ionization detector (GC-FID systems) to ensure that the control equipment operates efficiently and meets regulatory standards. In 2022, due to the expansion of production capacity, there was a slight increase in actual VOC emissions compared to 2021.

Annual Noxious Gas Discharge in Each Site



Note:
1. Li-Je Site and I-lan Site have no emissions of ozone-depleting substance (ODS), persistent organic pollutants (POPs), and particulate matter (PM) in the past three years
2. Measurement method: Real-time site monitoring data
3. I-lan Site did not detect any NOx, SOx, or particulate pollutants in the past three years.
4. Li-Je Site did not detect any SOx in the past three years.

Air Pollution Control Monitoring

TSC complies with the "Air Pollution Control and Emissions Standards for the Semiconductor Industry" to manage emissions and conducts regular audits, both internally and externally, to monitor air pollution prevention equipment. In 2022, I-lan and Li-Je sites had average VOC emissions of 0.202kg/hr and 0.33kg/hr, respectively, surpassing the emission standards set by the Ministry of Environment.

Waste Gas Treatment

TSC emits primary air pollutants that can be classified as acid and alkali waste gas, as well as volatile organic waste gas. TSC utilizes specialized treatment equipment and processes that are tailored to the characteristics of each type of waste gas.

Treatment of Each Air Pollutant

Air Pollutant Type	Treatment Method
Acid/alkaline Exhaust Gas	Acid and alkali wastes are collected in an acid/waste scrubbing tower for appropriate treatment, ensuring that the resulting wastes comply with emission standards.
Volatile Organic Waste Gas	Li-Je Site: Volatile organic compounds (VOCs) are adsorbed and concentrated using a zeolite rotor. This is followed by a continuous high-temperature desorption process and catalytic incineration. As a result, the treated waste gas meets emission standards, achieving a reduction rate of over 90% for volatile organic waste gas. I-lan Site: VOCs are treated using scrubbing towers to remove VOCs from the waste gas. The resulting waste liquid is then discharged into the wastewater system. Since the concentration of VOCs is lower at the I-lan Site compared to the Li-Je Site, scrubbing is the preferred treatment method. This eliminates the need for concentrated purification using zeolite rotor adsorption.

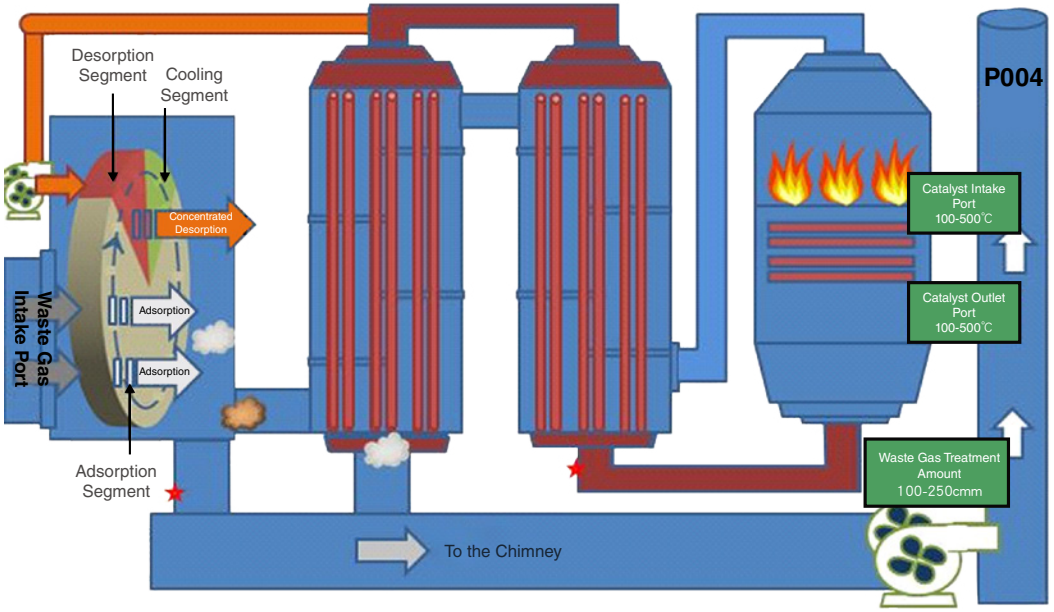
The scrubber tower at Li-Je Site utilizes a parallel method to process both acidic and alkaline waste gases. In the event of an emergency, the remaining equipment can be adjusted to handle the target exhaust treatment, while also coordinating with the production line to prevent air pollution. Furthermore, the zeolite rotor continuous incineration (RCO) system, which is employed to treat volatile organic exhaust gases, can be switched to the activated carbon tower in parallel during emergencies. This allows for simultaneous coordination with the production line to minimize environmental impact.

Waste Gas Treatment Flow Chart

Emission Management

Volatile Organic Waste Gas → Zeolite Rotor Adsorption Purification → High Temperature Desorption → Catalytic Combustion

Zeolite Rotor Concentration System	Heat Exchanger A	Heat Exchanger B	Heater Catalyst Bed	Chimney



On-site Photos:

6

Sharing Our Prosperity with Society

6.1 Social Influence

6.1 Social Influence

In line with the principle of "taking from society and giving back to society,"TSC has established two key social welfare goals: "humanistic care"and "youth empowerment."Recognizing the challenges faced by charitable organizations in recent years, particularly due to the pandemic, Li-Je and I-Lan Sites have taken proactive measures to address the decrease in donations and limited resources. They have organized charity sales, blood donation drives, and other public welfare activities, actively engaging with local communities and making valuable contributions. Regarding youth empowerment, we have initiated industry-academia collaborations and launched internship programs in local campuses, providing students with practical opportunities to apply their knowledge and fostering exchanges between academia and industry. Furthermore, we acknowledge the significant impact of climate change on our planet and, in addition to their focus on "humanistic care"and "youth empowerment,"they have plans to launch an "environmental public welfare initiative"in 2024, aiming to make a positive impact. The company aims to harness the collective power of the public to generate sustainable value and foster a prosperous society.

Two Major Visions and Goals

Vision	Goal	Target	Corresponding UN SDG(s)
Humanitarian Care	Regularly contribute funds or resources to disadvantaged groups requiring assistance, and maintain investment in social engagement.	Various public welfare organizations and institutions.	
Youth Empowerment	Promoting industry-academia collaboration to foster talent in the semiconductor industry.	College students	

6.1.1 Humanitarian Care

To implement social care and practice corporate social responsibility, TSC endeavors to create a favorable working environment and actively engages in public welfare initiatives. From the 2009 flooding in the wake of Typhoon Morakot to the 2014 Kaohsiung gas explosion, we have organized various public welfare initiatives to engage with society actively. Despite the ongoing pandemic, we continue to make meaningful contributions through charity sales, material donations, and monetary support. These actions have positively impacted our employees, fostering a culture of social responsibility and encouraging their active involvement in public welfare activities.

Since 2009, we have donated over NT$5 million to disaster relief, medical facilities, education subsidies, and charitable organizations. Furthermore, we have actively engaged in a range of philanthropic endeavors. This includes collaborating with Siangyu Care and Education Institute in Taoyuan City to co-organize charity events. We have also participated in blood donation activities organized by the Taiwan Blood Services Foundation. Additionally, we have contributed to meal services for underprivileged children and families in need, organized by the World Peace Association. These initiatives exemplify our commitment to addressing the nutritional needs of children through tangible actions.

Note*: The activities comprise the following: the "Spread Love Every Day" event, the "Save Hungry Children" breakfast donation, the "Bags of Love for Hungry Children" winter vacation meal service, and the nutritional meal service for children from impoverished families in the northern region.

Total Donation Statistics, 2009–2022

Unit: NT$

Category	Amount (NT$)
Impoverished Students	2,635,951
Social Love Assistance	3,190,000

Highlight Story

TSC's Pandemic Blood Drive

In 2020, the world experienced the prolonged COVID-19 pandemic, which had a significant impact on public welfare organizations. Due to the inability to hold physical fundraising activities, these organizations suffered a sharp decline in donation income. On January 26, 2021, in response to this situation, Li-Je and I-lan Site collaborated to organize a joint blood donation event. To motivate colleagues to actively participate, senior supervisors at TSC generously offered prizes for colleagues to win. A total of 100 individuals took part in the event, collectively donating 118 bags of blood. We intend to regularly host blood donation events in the future, aiming to foster a culture of blood donation among colleagues and contribute to society as a team.

This year, we launched a fundraising campaign for public welfare initiatives. In response to the generous support from the public, we collected a total of 288 invoices and NT$9,001. These donations will be given to the Genesis Social Welfare Foundation, aiming to promote the concept of social prosperity.


感謝狀

台灣半導體股份有限公司
110 年 1 月 26 日
於本會台北捐血中心捐獻
血液 118 袋濟助病患善行
可敬特此致謝

主任 林敏昌

中華民國 110 年 2 月 1 日

台北捐血中心

6.1.2 Youth Empowerment

TSC recognizes that talent is crucial for industrial development, and therefore places great emphasis on talent cultivation. To support students in their growth, the company has been actively implementing internship programs in recent years. Moving forward, we will strengthen our collaboration with academic institutions to promote research project plans and scholarship programs, to nurture more skilled and practical talents.

In 2022, Taiwan collaborated with a reputable university in Yilan to enhance the internship experience for college students. As part of this collaboration, the university's career development center organized an internship briefing. During this briefing, students had the chance to engage in individual interviews to gain deeper insights into and participate in the Company's internship program. The program achieved an impressive attendance rate of 93.3%.

In addition to creating a training plan, we implement a mentorship program for interns. Each intern is paired with a mentor who offers professional guidance, consultation, and support. This program allows students to intern at the Li-Je Site during their senior year. Upon completion of the internship, interns are required to give presentations to showcase their learning and accomplishments at TSC.

To implement the internship program, We have established evaluation and supervision mechanisms. These mechanisms ensure the effective implementation and achievement of the internship program's expected goals. They involve questionnaire surveys and mutual evaluations between students and mentors, fostering good communication. Mentors assist students in setting specific and achievable phased goals. Students gain experience and a deep understanding of basic process theory and semiconductor device physics through on-site practical operations.TSC is dedicated to improving the competitiveness of young people and nurturing talent in the semiconductor industry. We will further our collaboration and forge lasting partnerships with academic institutions.

▲ Students participated with enthusiasm and actively engaged during the company recruitment orientation.

▲ TSC has established an on-campus internship program to bridge the gap between academia and industry.

Future Industry-Academia Collaboration Projects

Research Project Plan

To foster talent that meets the demands of the industry, establish a connection between academia and industry, and strengthen the competitiveness of the semiconductor industry, we partner with research universities to launch research projects. Working alongside professors specializing in relevant fields, we undertake practical research to tackle industry challenges. Additionally, TSC aims to facilitate open communication among students, companies, and professors through this collaboration, thereby expediting the advancement of semiconductor technology and internal knowledge enrichment.

Scholarship Program

To foster exceptional talent in the semiconductor industry and recognize outstanding students, we initiate a scholarship program in partnership with research universities. This program will offer scholarships to exceptional students, providing them with a monthly stipend throughout their scholarship. Additionally, recipients will have the chance to partake in internships, receive internship salaries, and be given priority consideration for full-time employment opportunities at our company.

7

Appendix

GRI Standards Content Index

Sustainability Accounting Standards Board (SASB) Content Index

Climate-Related Information of TPEx Listed Company

Independent Limited Assurance Report

GRI Standards Content Index

GRI 2: General Disclosures (2021)		Report Chapters and Descriptions	Page Number
The organization and its reporting practices			
2-1	Organizational details	1.1.1 Company Profile, About the Report	13
2-2	Entities included in the organization's sustainability reporting	1.1.1 Company Profile, About the Report	13
2-3	Reporting period, frequency, and contact point	About the Report	4
2-4	Restatements of information	About the Report	4
2-5	External assurance	About the Report, Third-party Inspection Statement	4, 116
Activities and Workers			
2-6	Activities, value chains, and other business relationships	1.1.1 Company Profile, 3.1.1 Supply Chain Overview, 3.1.2 Sustainable Supply Chain Management	13, 59
2-7	Employees	4.1.1 Diversity and Inclusion	64
2-8	Workers who are not employees	4.1.1 Diversity and Inclusion	64
Governance			
2-9	Governance structure and composition	1.2.1 Sustainable Governance	19
2-10	Nomination and selection of the highest governance body	1.2.1 Sustainable Governance	19
2-11	Chair of the highest governance body	1.2.1 Sustainable Governance	19
2-12	Role of the highest governance body in overseeing the management of impacts	1.2.1 Sustainable Governance, 1.3.3 Climate Risk Management	19, 33
2-13	Delegation of responsibility for managing impacts	1.2.1 Sustainable Governance, 1.3.3 Climate Risk Management	19, 33
2-14	Role of the highest governance body in sustainability reporting	1.2.1 Sustainable Governance, 1.3.3 Climate Risk Management	19, 33
2-15	Conflicts of interest	1.2.1 Sustainable Governance	19
2-16	Communication of critical concerns	1.2.1 Sustainable Governance, 1.3.3 Climate Risk Management	19, 33
2-17	Collective knowledge of the highest governance body	1.2.1 Sustainable Governance, 1.3.3 Climate Risk Management	19, 33
2-18	Evaluation of the performance of the highest governance body	1.2.1 Sustainable Governance, 1.3.3 Climate Risk Management	19, 33
2-19	Remuneration policies	1.2.1 Sustainable Governance	19
2-20	Process to determine remuneration	1.2.1 Sustainable Governance, 4.1.1 Diversity and Inclusion	19, 64

GRI 2: General Disclosures (2021)		Report Chapters and Descriptions	Page Number
2-21	Annual total compensation ratio	As the information is incomplete, the total annual compensation of the highest individual remuneration in the organization is not disclosed at this time.	-
Strategy, policies, and practices			
2-22	Statement on sustainable development strategy	1.2.1 Sustainable Governance, 1.3.3 Climate Risk Management	19, 33
2-23	Policy commitments	1.2.2 Integrity Management, 4.2.2 Labor Relations and Human Rights Management	19, 77
2-24	Embedding policy commitments	1.2.2 Integrity Management, 4.2.2 Labor Relations and Human Rights Management	19, 77
2-25	Processes to remediate negative impacts	1.2.2 Integrity Management, 5.2.2 Wastewater Management	19, 98
2-26	Mechanisms for seeking advice and raising concerns	1.2.2 Integrity Management	19
2-27	Compliance with laws and regulations	1.2.2 Integrity Management, 5.2.2 Wastewater Management	19, 98
2-28	Membership associations	1.1.1 Company Introduction	13
Stakeholder engagement			
2-29	Approach to stakeholder engagement	Identification of material topics and communication with stakeholders	7-11
2-30	Collective bargaining agreements	Not applicable. There are no collective bargaining agreements in TSC in 2022	-

GRI 3: Material Topics (2021)		Report Chapters and Descriptions	Page Number
Disclosures on material topics			
3-1	Process to determine material topics	Identification of material topics and communication with stakeholders	7-11
3-2	List of material topics	Identification of material topics and communication with stakeholders	7-11
Customer Relationship Management			
3-3	Management of material topics	2.2.1 Customer Satisfaction Improvement	55
Human Resource Management			
3-3	Management of material topics	4.1.1 Diversity and Inclusion, 4.1.2 Human Resource Development	64
Quality and Safety Requirements and Inspections			
3-3	Management of material topics	2.1.1 Products and Services	45
Occupational Accidents			
3-3	Management of material topics	4.2.3 Workplace Safety Maintenance	79
Environmental Pollution Control			
3-3	Management of material topics	5.2.1 Waste Management	94
Climate Governance and Strategies			
3-3	Management of material topics	1.3.3 Climate Risk Management	33

GRI 200		Report Chapters and Descriptions	Page Number
GRI 201: Economic Performance (2016)			
201-1	Direct economic value generated and distributed	1.1.2 Financial Performance	23
201-2	Financial implications and other risks and opportunities due to climate change	1.3.3 Climate Risk Management	33
201-4	Financial assistance received from government	1.1.2 Financial Performance	18
GRI 204: Procurement Practices (2016)			
204-1	Proportion of spending on local suppliers	3.1.1 Supply Chain Overview	59
GRI 205: Anti-Corruption (2016)			
205-1	Operations assessed for risks related to corruption	Incomplete information, not disclosed in 2022	-
205-2	Communication and training about anti-corruption policies and procedures	1.2.2 Integrity Management	23
205-3	Confirmed incidents of corruption and actions taken	1.2.2 Integrity Management	23

GRI 300		Report Chapters and Descriptions	Page Number
GRI 301: Materials (2016)			
301-1	Materials used by weight or volume	2.1.3 Developing Sustainable Products	53
GRI 302: Energy (2016)			
302-1	Energy consumption within the organization	5.1.2 Energy Management	89
302-3	Energy Intensity	5.1.2 Energy Management	89
GRI 303: Water and Effluents (2018)			
303-1	Interactions with water as a shared resource	5.1.3 Water Stewardship	92
303-2	Management of water discharge-related impacts	5.2.2 Wastewater Management	98
303-3	Water withdrawal	5.1.3 Water Stewardship	92
303-4	Water discharge	5.2.2 Wastewater Management	98
GRI 305: Emissions (2016)			
305-1	Direct (Scope 1) GHG emissions	5.1.1 Carbon Emission Management	86
305-2	Energy indirect (Scope 2) GHG emissions	5.1.1 Carbon Emission Management	86
305-3	Other indirect (Scope 3) GHG emissions	5.1.1 Carbon Emission Management	86
305-4	GHG emissions intensity	5.1.1 Carbon Emission Management	86
305-6	Emissions of ozone-depleting substances (ODS)	5.2.3 Air Pollution Control	102

GRI 300		Report Chapters and Descriptions	Page Number
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	5.2.3 Air Pollution Control	102
GRI 306: Waste (2020)			
306-1	Waste generation and significant waste-related impacts	5.2.1 Waste Management	94
306-2	Management of significant waste-related impacts	5.2.1 Waste Management	94
306-3	Waste generated	5.2.1 Waste Management	94
306-4	Waste diverted from disposal	5.2.1 Waste Management	94
306-5	Waste directed to disposal	5.2.1 Waste Management	94
GRI 308: Supplier Environmental Assessment (2016)			
308-1	New suppliers that were screened using environmental criteria	3.1.2 Sustainable Supply Chain Management	59
308-2	Negative environmental impacts in the supply chain and actions taken	3.1.2 Sustainable Supply Chain Management	59

GRI 400		Report Chapters and Descriptions	Page Number
GRI 401: Employment (2016)			
401-1	New employee hires and employee turnover	4.1.1 Diversity and Inclusion	64
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	4.2.1 Employee Health and Welfare	72
401-3	Parental leave	4.2.1 Employee Health and Welfare	72
GRI 403: Occupational Health and Safety 2018			
403-1	Occupational health and safety management system	4.2.3 Workplace Safety Maintenance	79
403-2	Hazard identification, risk assessment, and incident investigation	4.2.3 Workplace Safety Maintenance	79
403-3	Occupational health services	4.2.3 Workplace Safety Maintenance	79
403-4	Worker participation, consultation, and communication on occupational health and safety	4.2.3 Workplace Safety Maintenance	79
403-5	Worker training on occupational health and safety	4.2.3 Workplace Safety Maintenance	79
403-6	Promotion of worker health	4.2.3 Workplace Safety Maintenance	79
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	4.2.3 Workplace Safety Maintenance	79
403-8	Workers covered by an occupational health and safety management system	4.2.3 Workplace Safety Maintenance	79
403-9	Work-related injuries	4.2.3 Workplace Safety Maintenance	79

GRI 400		Report Chapters and Descriptions	Page Number
403-10	Work-related ill health	4.2.3 Workplace Safety Maintenance	79
GRI 404: Training and Education 2016			
404-1	Average hours of training per year per employee	4.1.2 Human Resource Development	67
404-2	Programs for upgrading employee skills and transition assistance programs	4.1.2 Human Resource Development	67
404-3	Percentage of employees receiving regular performance and career development reviews	4.1.2 Human Resource Development	67
GRI 405: Diversity and Equal Opportunity 2016			
405-1	Diversity of governance bodies and employees	4.1.1 Diversity and Inclusion. For details about governance body, please refer to TSC's Annual Report 2022	64
405-2	Ratio of basic salary and remuneration of women to men	1.2.1 Sustainable Governance, 4.1.1 Diversity and Inclusion	19, 64
GRI 406: Non-discrimination 2016			
406-1	Incidents of discrimination and corrective actions taken	4.2.2 Labor Relations and Human Rights Management	77
GRI 408: Child Labor 2016			
408-1	Operations and suppliers at significant risk for incidents of child labor	4.2.2 Labor Relations and Human Rights Management	77
GRI 409: Forced or Compulsory Labor 2016			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	4.2.2 Labor Relations and Human Rights Management	77

GRI 400		Report Chapters and Descriptions	Page Number
GRI 411: Rights of Indigenous Peoples 2016			
411-1	Incidents of violations involving rights of indigenous peoples	4.2.2 Labor Relations and Human Rights Management	77
GRI 414: Supplier Social Assessment 2016			
414-1	New suppliers that were screened using social criteria	3.1.2 Sustainable Supply Chain Management	59
414-2	Negative social impacts in the supply chain and actions taken	3.1.2 Sustainable Supply Chain Management	59
GRI 415: Public Policy 2016			
415-1	Political contributions	1.2.2 Integrity Management	23
GRI 416: Customer Health and Safety 2016			
416-1	Assessment of the health and safety impacts of product and service categories	2.1.1 Products and Services	45
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	2.1.1 Products and Services	45
GRI 417: Marketing and Labeling 2016			
417-1	Requirements for product and service information and labeling	2.1.1 Products and Services	45
417-2	Incidents of non-compliance concerning product and service information and labeling	2.1.1 Products and Services	45
GRI 418: Customer Privacy 2016			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	2.2.2 Customer Privacy Protection	57

Sustainability Accounting Standards Board (SASB) Content Index

SASB		Report Chapters and Descriptions	Page Number
Activity Metric			
TC-SC-000.A	Total production	2.1.1 Products and Services	45
TC-SC-000.B	Percentage of production from owned facilities	2.1.1 Products and Services	45
Greenhouse Gas Emissions			
TC-SC-110a.1	(1) Gross global Scope 1 emissions (2) Amount of total emissions from perfluorinated compounds	5.1.1 Carbon Emission Management	86
TC-SC-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	5.1.1 Carbon Emission Management	86
Energy Management in Manufacturing			
TC-SC-130a.1	(1) Total energy consumed (2) Percentage grid electricity (purchased electricity) from total energy consumption (3) Percentage renewable from total energy consumption	5.1.2 Energy Management	89
Water Management			
TC-SC-140a.1	(1) Total water withdrawn (2) Total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	5.1.3 Water Stewardship	92

SASB		Report Chapters and Descriptions	Page Number
Waste Management			
TC-SC-150a.1	Amount of hazardous waste from manufacturing, percentage recycled	5.2.1 Waste Management	94
Employee Health & Safety			
TC-SC-320a.1	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	4.2.3 Workplace Safety Maintenance	79
TC-SC-320a.2	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	4.2.3 Workplace Safety Maintenance	79
Recruiting & Managing a Global & Skilled Workforce			
TC-SC-330a.1	(1) Percentage of employees that are foreign nationals (2) Percentage of employees that are located offshore	4.1.1 Diversity and Inclusion	64
Materials Sourcing			
TC-SC-440a.1	Description of the management of risks associated with the use of critical materials	3.1.2 Sustainable Supply Chain Management, 3.1.3 Conflict Minerals Management	59 62
Intellectual Property Protection & Competitive Behavior			
TC-SC-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	1.2.2 Integrity Management	23

Climate-Related Information of TPEx Listed Company

According to the TWSE's "Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies", the following tables are disclosed

Item	Implementation Status
Describe the board of directors' and management's oversight and governance of climate-related risks and opportunities.	Please refer to "1.3.3 Climate Risk Management".
Describe how the identified climate risks and opportunities affect the business, strategy, and finances of the business (short, medium, and long term).	Please refer to "1.3.3 Climate Risk Management".
Describe the financial impact of extreme weather events and transformative actions.	Please refer to "1.3.3 Climate Risk Management".
Describe how climate risk identification, assessment, and management processes are integrated into the overall risk management system	Please refer to "1.3.3 Climate Risk Management - Climate Risks and Opportunities".
If scenario analysis is used to assess resilience to climate change risks, the scenarios, parameters, assumptions, analysis factors and major financial impacts used should be described.	Please refer to "1.3.3 Climate Risk Management - Climate Risk Impacts Assessment and Scenarios Analysis".
If there is a transition plan for managing climate-related risks, describe the content of the plan, and the indicators and targets used to identify and manage physical risks and transition risks.	Please refer to "1.3.3 Climate Risk Management - Indicators and Goals".
If internal carbon pricing is used as a planning tool, the basis for setting the price should be stated.	There are currently no plans being considered, and the company is still in the discussion phase.
If climate-related targets have been set, the activities covered, the scope of greenhouse gas emissions, the planning horizon, and the progress achieved each year should be specified. If carbon credits or renewable energy certificates (RECs) are used to achieve relevant targets, the source and quantity of carbon credits or RECs to be offset should be specified.	Please refer to "1.3.3 Climate Risk Management - Indicators and Goals".
Greenhouse gas inventory and assurance status	Please refer to "5.1.1 Carbon Management". Li-Je Site has been conducting inventory and verification since 2014, with inspection being handled by TUV Rheinland Taiwan LTD (TUV). TSC has steadily increased the greenhouse gas inventory scope in line with the Sustainable Development Roadmap of Listed Companies.

Independent Limited Assurance Report

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Independent Limited Assurance Report

To Taiwan Semiconductor Co., Ltd.:

We were engaged by Taiwan Semiconductor Co., Ltd ("TSC") to provide limited assurance over the selected information attached as Appendix I ("the Subject Matter Information") on the 2022 Sustainability Report of TSC ("the Report") for the year ended December 31, 2022.

Reporting Criteria of the Subject Matter Information

TSC shall prepare the Subject Matter Information in accordance with Global Reporting Initiative Standards ("GRI Standards") issued by Global Sustainability Standards Board as set forth in Appendix I.

Management's Responsibility for the Report

TSC is responsible for determining its objectives with respect to sustainable development performance and reporting, including the identification of stakeholders and material aspects, and using the reporting criteria to fairly prepare and present the Subject Matter Information. TSC is also responsible for establishing and maintaining internal controls relevant to the preparation and presentation of the Subject Matter Information that is free from material misstatement, whether due to fraud or error.

Our Responsibilities

We performed our work in accordance with the Standard on Assurance Engagements TWSAE3000 – "Assurance Engagements Other than Audits or Reviews of Historical Financial Information" issued by the Accounting Research and Development Foundation in Taiwan and to issue a limited assurance conclusion on whether the Subject Matter Information is free from material misstatement. Also, we have considered appropriate limited assurance procedures according to the understanding of relevant internal controls in the circumstances, but not for the purposes of expressing a conclusion as to the effectiveness of the internal control over the design or implementation of the Report.

Independence and Standards on Quality Management

We have complied with the independence and other ethical requirements of the Code of Professional Ethics for Certified Public Accountant in the Republic of China, which is founded on the fundamental principles of integrity, objectivity, professional competence and due care, confidentiality, and professional behavior. In addition, we applied Standards on Quality Management. Accordingly, we maintained a comprehensive system of quality management, including documented policies and procedures regarding compliance with ethical requirements and professional standards as well as applicable legal and regulatory requirements.

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Summary of Work Performed

As stated in reporting criteria of the Subject Matter Information paragraph, our main work on the selected information included:

- Reading the Report of TSC;
- Inquiries with responsible management level and non-management level personnel to understand the operational processes and information systems used to collect and process the Subject Matter Information.
- On the basis of the understanding obtained mentioned above, perform analytical procedures on the Subject Matter Information and if necessary, inspect related documents to gather sufficient and appropriate evidence in a limited assurance engagement.

The work described above based on professional judgment and consideration of the level of assurance and our assessment of the risk of material misstatement of the Subject Matter Information, whether due to fraud or error. We believe that the work performed and evidence we have obtained are sufficient and appropriate to provide a basis of our conclusion. However, the work performed in a limited assurance engagement varies in nature and timing from, and is less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained has a reasonable assurance engagement been performed.

Inherent limitations

The Report for the year ended December 31, 2022 includes the disclosures of non-financial information that involved significant judgments, assumptions and interpretations by the management of TSC. Therefore, the different stakeholders may have different interpretations of such information.

Conclusion

Based on the work we have performed and the evidence we have obtained, as described above, nothing has come to our attention that causes us to believe that the Subject Matter Information has not been properly prepared, in all material aspects, in accordance with the reporting criteria.

Other Matters

The management of TSC is responsible for the maintenance of its website where includes the Limited Assurance Report, we shall not be responsible for any further changes on the Subject Matter Information or its applicable reporting criteria, nor be responsible for reconducting any assurance work after the issuance date of the Limited Assurance Report.

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Taipei, Taiwan (Republic of China)
September 26, 2023

Notes to reader

The limited assurance report and the accompanying selected information are the English translation of the Chinese version prepared and used in the Republic of China. If there is any conflict between, or any difference in the interpretation of, the English and Chinese language limited assurance report and the selected information, the Chinese version shall prevail.

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Appendix I: Summary of the Subject Matter Information

No.	Corresponding Section	Subject Matter Information	Reporting Criteria	GRI Standards
1	5.1.2 Energy Management (P.89)	■ TSC primarily relies on outsourced electricity as its main energy source. In 2022, electricity accounted for 99.84% of the company's energy consumption. Non-renewable fuel consumption, such as gasoline and diesel, made up less than 1% of the total energy consumption. In terms of energy distribution, the Li-Je site accounted for 71.41% of the company's total energy consumption, followed by the I-lan Site at 27.46%, and the headquarters at approximately 1.13%. ■ 2022 Total Energy Consumption: 102,583.92 GJ ■ Total Energy Consumption by Organization ● Taipei headquarters: - Total energy consumption: 1,159.29 GJ - Non-renewable fuels-Gasoline: 44.45 GJ - Outsourced Electricity-Non-renewable energy: 1,114.84 GJ ● I-lan Site: - Total energy consumption: 28,164.55 GJ - Non-renewable fuels-Gasoline: 1.31 GJ - Non-renewable fuels-Diesel: 2.46 GJ - Outsourced Electricity-Non-renewable energy: 28,160.78 GJ ● Li-Je Site: - Total energy consumption: 73,260.08 GJ - Non-renewable fuels-Gasoline: 6.39 GJ - Non-renewable fuels-Diesel: 108.89 GJ - Outsourced Electricity-Non-renewable energy: 73,144.80 GJ ※ Note: 1. Gasoline is not distinguished by octane number. 2. The conversion coefficients are based on the heating value conversion method by the "Heat Content of Energy Products" published by the "Bureau of Energy, Ministry of Economic Affairs". Gasoline 7,800kcal/L (1 liter of gasoline = 0.0327GJ), diesel 8,400kcal/L (1 liter of diesel = 0.0352GJ), electricity 860kcal/kWh	2022 TSC Energy Consumption Data	GRI Standards 302-1 Energy consumption within the organization

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No.	Corresponding Section	Subject Matter Information	Reporting Criteria	GRI Standards
		(one degree = 1 degree of electricity = 0.0036GJ). 3. Above numbers are rounded to the second decimal place.		
2	5.1.3 Water Stewardship (P.92)	■ 2022 Total Water Withdrawal: 324.24 Megaliters ■ Types of Water Source and Water Withdrawal at Each Site ● Taipei Headquarters: - Total water withdrawal: 2.11 Megaliters - Third-party water withdrawal: 2.11 Megaliters ● I-lan Site: - Total water withdrawal: 37.62 Megaliters - Groundwater withdrawal: 34.82 Megaliters - Third-party water withdrawal: 2.80 Megaliters ● Li-je Site: - Total water withdrawal: 284.51 Megaliters - Surface water withdrawal: 249.29 Megaliters - Third-party water withdrawal: 35.22 Megaliters ※ Note: 1. The third-party water withdrawal is tap water. 2. According to the WRI Aqueduct Tool, the formula for calculating water stress is as follows: annual total water withdrawal divided by annual total available recycled water supply. Areas with water stress ranging from 40% to 80% are classified as high water stress areas, while those exceeding 80% are categorized as extremely high water stress areas. TSC exclusively relies on freshwater sources with a total dissolved solid content of ≤1,000 mg/L. Additionally, all areas under TSC's purview have a water stress index below 40%, and none are designated as water stress areas. 3. The data of seawater and produced water withdrawal, or other water sources for I-lan Site and Li-Je Site is 0.	2022 TSC Water Consumption Data	GRI Standards 303-3 Water withdrawal

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No.	Corresponding Section	Subject Matter Information	Reporting Criteria	GRI Standards
		4. Third-party water and surface water withdrawal data are obtained from the water bill, and the groundwater withdrawal data is collected from the water meter reading records of the sites. 5. The water withdrawal at the Taipei headquarters is calculated by dividing the office building's water bill among its floors.		
3	5.2.1 Waste Management (P.95)	■ TSC outsources the clearance of all waste from both sites. ■ Direct treatment by clearance company in 2022 Category / Clearance Method / Clearance Amount (tons): Hazardous Waste – Incineration 125.353; Hazardous Waste – Other Treatment Operations 0.312; Non-hazardous Waste – Incineration 25.160; Non-hazardous Waste – Landfilling 4.180; Total 155.005 ※ Note: 1. The statistics provided are sourced from Li-Je Site and I-lan Site. 2. According to the Ministry of Environment's announcement on "regulated recyclable waste and reuse waste, renewable resource items" and the Ministry of Economic Affairs' "Management Regulations on the Reuse of Industrial Waste," a list of reusable waste items has been provided. However, the hazardous industrial waste that is generated does not include any of the items listed, making it impossible to recycle and reuse. The percentage of hazardous waste that is recycled accounts for 55.99% of the total hazardous waste. 3. Other treatment operations refer to physical processing.	2022 TSC Waste Clearance Data	GRI Standards 306-5 Waste directed to disposal

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No.	Corresponding Section	Subject Matter Information	Reporting Criteria	GRI Standards
4	4.1.1 Diversity and Inclusion (P.65)	■ Distribution of New Employees (by Age and Gender) 2022: Age – Under 30 years old (inclusive): Number of People Male 52 Female 29; Percentage Male 28% Female 16%; 31 to 49 years old: Number of People Male 51 Female 39; Percentage Male 28% Female 21%; 50 years old and above (inclusive): Number of People Male 11 Female 2; Percentage Male 6% Female 1%; Subtotal Male 114 Female 70; Total 184 ※ Note: The ratio is calculated on the basis of the number of people / new employee hires for that year.	2022 TSC New Employee Hires and Employee Turnover Data	GRI Standards 401-1 New employee hires and employee turnover
	4.1.1 Diversity and Inclusion (P.66)	■ Distribution of Employee Turnover (by Age and Gender) 2022: Age – Under 30 years old (inclusive): Number of People Male 20 Female 13; Percentage Male 18% Female 12%; 31 to 49 years old: Number of People Male 38 Female 30; Percentage Male 35% Female 27%; 50 years old and above (inclusive): Number of People Male 4 Female 4; Percentage Male 4% Female 4%; Subtotal Male 62 Female 47; Total 109 ※ Note: The ratio is calculated on the basis of the number of people / employee departures for that year.		

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<table>
<tr><th>No.</th><th>Corresponding Section</th><th>Subject Matter Information</th><th>Reporting Criteria</th><th>GRI Standards</th></tr>
<tr><td>5</td><td>4.1.2 Human Resource Development (P.68)</td><td>■ In 2022, the average number of training hours per employee was 57.42 hours.
■ Average Training Hours for Each Position Level in 2022
<table><tr><th>Position Level</th><th>Management Level</th><th>Non-management level</th></tr><tr><td>Training Hours</td><td>7,398.00</td><td>27,744.50</td></tr><tr><td>Number of People</td><td>120</td><td>492</td></tr><tr><td>Average Training Hours</td><td>61.65</td><td>56.39</td></tr></table>■ Average Training Hours by Gender in 2022
<table><tr><th></th><th>Male</th><th>Female</th></tr><tr><td>Training Hours</td><td>22,305.50</td><td>12,837.00</td></tr><tr><td>Number of People</td><td>350</td><td>262</td></tr><tr><td>Average Training Hours</td><td>63.73</td><td>49.00</td></tr></table></td><td>2022 TSC Employee Training Hours Data</td><td>GRI Standards 404-1 Average hours of training per year per employee</td></tr>
</table>

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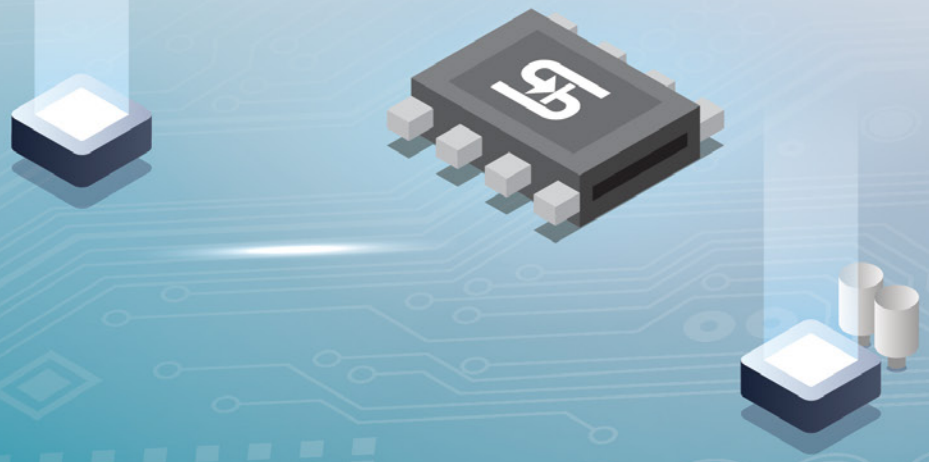

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