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Taiwan Union Technology Corporation(TUC)



2023 Sustainability
Report

Focus on innovation and dedication to create new value for customers

With integrity, honesty, and continuous innovation, TUC provides customers not only competitive pricing, but also quick response and short lead time to maximize customer value.

- TUC works with its customers and focuses on innovation, research and development to provide high performance materials.
- TUC uses the best raw materials and manufacturing standards to produce consistent and reliable products.
- TUC schedules production and adjusts inventory to meet customer requirements
- TUC provides quick global response and short lead time at competitive prices.

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A Message from the Chairman

Taiwan Union Technology Corporation (TUC) has released the 2023 Sustainability Report (hereafter referred to as the ESG Report) as part of our commitment to corporate sustainability and responsibility to our stakeholders. The purpose of this ESG Report is to update our stakeholders on the Company's progress in achieving our goals of honest governance, green sustainability, a safe and healthy workplace environment, and improved employee remuneration through sustainable operations. The mission of TUC is to deliver top-notch, high-value advanced materials and professional services that meet the needs of the global electronics industry. We are committed to upholding the principles of honesty, pragmatism, and continuous innovation in order to provide comprehensive and effective solutions to our customers. Our ultimate goal is to partner with our customers to enhance our collective competitiveness. The implementation of the ESG concept, which stands for "environmental, social, and corporate governance", tailored to the specific characteristics of the industry, is a positive contribution to the sustainable development of TUC and the coexistence and prosperity of our customers.

At the outset of 2023, there was a delay in overall demand attributable to various factors, including the continued expansion of the Russian-Ukrainian War, the Israel-Hamas war, and the Red Seas Crisis, as well as the ongoing strategic conflict between the US and China, thereby causing the 5G industry supply chain experience operational challenges. According to the Industrial Technology Research Institute (ITRI), the total output of global PCB industry in 2023 declined by 15.6% to US\$73.9 billion. Facing the rise of the new southbound economy arising from a shift in the global supply chain, TUC is expected to seize greater business opportunities through production expansion with the construction of factories in Thailand. Thanks to the unwavering efforts of our dedicated employees, we were able to achieve an individual turnover of NT\$7,561,849 thousand and an individual net profit before tax of NT\$1,309,646 thousand in 2023.

In the realm of green sustainability, TUC has taken steps to not only comply with pertinent environmental laws and regulations, but also continuously incorporate ISO 14064-1 in 2023. This standard enables the establishment of future reduction targets by means of systematic inventory results, thereby allowing for efficient targeting of various sources of greenhouse gas emissions. We formulate policies for energy saving, carbon emission reduction, greenhouse gas reduction, water conservation, and waste management based on greenhouse gas emissions, water consumption, and total waste weight. In addition, we implement pollution prevention and control measures to maintain environmental quality. We establish strategies and objectives to address potential risks and opportunities associated with climate change, including carbon neutrality, carbon taxation, and green energy. We also develop company strategies and goals and implement appropriate countermeasures to meet global standards.

At TUC, we recognize that our employees are our most valuable assets. As such, we place great emphasis on fostering a positive work environment, promoting employee development, and providing comprehensive care for our staff. To this end, we have implemented a range of communication channels throughout the Company and continue to support various initiatives related to employee relations, workplace safety, and health promotion. Our ultimate goal is to create a workplace that is both friendly and safe for our employees, while also fostering a harmonious relationship between employers and employees. TUC pledges to adhere strictly to all pertinent occupational safety and health regulations and other relevant requirements. Additionally, we are committed to enhancing the awareness of occupational safety and health among our employees through education, thereby mitigating the risk of accidents within the Company's control zone. Furthermore, TUC conducts employee health checks, fire management, and fosters a friendly working environment on an annual basis. Through the regular convening of "Occupational Safety and Health Committee Meetings", we proactively identify and eliminate potential workplace hazards. Given the significance of the workplace environment and the safety of our employees, we have taken steps to promote the implementation of ISO 14001 and ISO 45001 management systems. We conduct regular assessments of environmental factors and occupational safety and health risks, and establish targets and management plans to continuously improve our performance in these areas.

Moving forward, TUC is dedicated to investing in the future of 5G and 6G application materials, innovative technologies, advanced processes, and the development of environmentally friendly, halogen-free green products. Moreover, we are committed to pragmatic management, enhancing our research and development capabilities, and strengthening collaboration with both domestic and international end-users to create more competitive products and novel applications. Our focus

also includes the introduction of intelligent manufacturing systems, leveraging production technology and efficiency, and increasing the proportion of high-end, high-speed, high-frequency, low-loss laminates, high-density interconnect (HDI) boards, radio frequency (RF) substrates, and IC substrates, as well as AI servers, high-end network switches, automotive radar and low-orbit satellite material applications in our product offerings. TUC aims to work closely with our customers to collectively increase our value, fulfill our commitment to corporate social responsibility, and make progress in implementing sustainable management practices.



Chairman of TUC
Hsin, Chung-Herng

Editorial Policies

In pursuit of sustainable management and increased information transparency, TUC will continue to publish the Sustainability Report. The purpose of the ESG Report is to inform our stakeholders about the Company's progress in establishing honest governance, promoting environmental sustainability, fostering a healthy workplace, and enhancing employee salary packages, all in alignment with our commitment to sustainable management. TUC anticipates that stakeholders will maintain their focus on our endeavors and provide valuable guidance, enabling the Company to significantly advance in the implementation of sustainable management practices.

ESG Information Disclosure

Disclosure Category	Scope
Period	The ESG Report encompasses the entirety of 2023. To ensure comprehensive and consistent information disclosure, any sections addressing operating activities spanning multiple years will be distinctly indicated within this ESG Report.
Location of Operations	Taiwan Hsinchu Plant
Financial Statistics	Parent company (TUC) only financial statements
Environmental Safety and Health Statistics Employee Statistics Performance of Public Welfare Activities	Taiwan Hsinchu Plant

Report Preparation Basis and Information Verification Method

- ❖ The ESG Report adheres to the Global Reporting Initiative (GRI) Standards 2021 and satisfies the provisions of the "Rules Governing the Preparation and Filing of Sustainability Reports by TPEX Listed Companies" (hereafter referred to as the Rules). The Appendix of ESG Report includes the GRI Standards Index, Task Force on Climate-related Financial Disclosures (TCFD), Sustainability Accounting Standards Board (SASB) Standards, and Sustainability Disclosure Indicators for the Electronic Components Industry, which stakeholders may consult for further information.
- ❖ The financial data presented in this ESG Report have been audited and certified by Deloitte Touche Tohmatsu Limited in accordance with International Financial Reporting Standards (IFRS) and are denominated in NT\$ thousands. Information regarding environmental protection, employees, and occupational safety has been compiled by the respective departments and verified by the department supervisor. This information is presented in the form of general international indicators.

Restatement of Data and Information

Section	Restated Information
3.6.2 Customer Service	Revised 2022 customer satisfaction survey scores.
4.1 Water Resource Management	Revised wastewater treatment values for 2022.
4.2 Energy Conservation and Carbon Emissions Reduction	Revised energy intensity data for 2021 and 2022.
4.4 Sustainable Supply Chain	Revised Supplier's Quarterly Assessment Results for 2022.

- ❖ TUC, while adhering to the provisions of the Rules, has established procedures for preparing and verifying sustainability reports. These procedures have been integrated into our internal control system after being submitted to the Audit Committee and Board of Directors for approval and implementation in March 2023.
- ❖ To guarantee the quality of the disclosures in this ESG Report, TUC underwent an internal review by the ESG Committee. Following this, TUC commissioned GREAT Certification, an external independent organization, to conduct a Type 1 medium assurance level verification in accordance with the AA1000AS v3 assurance standard. This verification confirmed compliance with the GRI Guidelines 2021 and resulted in an assurance statement, which can be found in the Appendix.

Frequency of Publication

TUC has published its third ESG Report, which will be an annual publication going forward. To increase transparency and accessibility of disclosed information, the complete ESG Report can be downloaded electronically from TUC's official website.

Previous release date : June 2023.

Current release date : August 2024.

Next release date : August 2025.




Download the Report

Feedback

If you have any questions or suggestions with regard to the ESG Report, please contact us:

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ESG Sustainability Performance

Aspect	Sustainability Actions in 2023	
 Governance/ Economy	<ul style="list-style-type: none"> ◆ TUC ranked the top 5% among TWSE/TPEX listed companies according to the Corporate Governance Evaluation. ◆ The number of independent directors exceeded half the number of directors. ◆ More than half the independent directors have not served for more than three consecutive terms. ◆ Each director completed 6 hours of professional training, whereas the Corporate Governance Officer completed 18 hours of professional training. ◆ Performance evaluation for the Board of Directors, functional committees, individual directors, and committee members yielded an average score of over 96 points. ◆ Two sessions of online integrity training courses were held, which saw the participation of 1,151 people. ◆ No breaches of integrity, corporate governance regulations, or significant shortcomings in internal control practices were reported at TUC. ◆ TUC continued to retain the validity of the Taiwan Intellectual Property Management System (TIPS) A-level verification. 	<ul style="list-style-type: none"> ◆ There were no information security incidents that caused disruptions to TUC's operations. A total of 683 employees attended TUC's annual information security training courses. ◆ TUC reported an individual revenue of NT\$7,561,849 thousand and a net operating income of NT\$223,011 thousand. ◆ Sales of strategic products accounted for 66.7% of TUC's revenue. ◆ Halogen-free materials (including high-speed products) made up 12% of the global market share, whereas specialty substrates (including high-speed substrates, packaging substrates, and RF substrates) constituted 12% of the global market share. ◆ R&D expenditure accounted for 4.11% of TUC's revenue. ◆ TUC's customer satisfaction survey yielded a score of 86.2 points. ◆ TUC was honored with the Excellent Supplier Award by a major customer. ◆ No significant deficiencies were found in the Company's customer audits. No violations of customer privacy or trade secrets were reported at TUC.
 Environment	<ul style="list-style-type: none"> ◆ TUC continued to ensure the effective operation of the ISO 14001:2015 environmental management system. ◆ A greenhouse gas inventory was conducted according to the ISO 14064-1:2018 Greenhouse Gas Inventory Standards, and has passed third-party verification. ◆ TUC recorded an energy intensity of 24.55 (where energy intensity is defined as energy consumption per NT\$ million of revenue). ◆ TUC's vigorously implemented energy-saving projects contributed to 2,375.00 MWh of electricity saved in the total. ◆ TUC recorded 20,076.9607 tCO₂e of Category 1 greenhouse gas (GHG) emissions and 85,268.0963 tCO₂e of Category 2 to 6 greenhouse gas emissions, totaling 105,345.0570 tCO₂e of greenhouse gas emissions on the whole. ◆ TUC reported a GHG emission intensity of 13.9311 (where GHG emission intensity is defined as the amount of GHG emissions per NT\$ million of revenue). ◆ TUC has been in compliance with RoHS and REACH regulations on the management of hazardous substances in electrical and electronic equipment and chemicals, as well as customers' requirements for hazardous substance management. Our suppliers are also required to sign a letter of commitment to ensure that no hazardous substances are used. 	<ul style="list-style-type: none"> ◆ There were no complaints regarding the management of hazardous substances, and no conflict minerals were procured. ◆ TUC passed the customer RBA audit with no significant deficiencies. ◆ TUC conducted the assessments and audits of environment and people (including their human rights) for our Tier 1 suppliers. We successfully completed 26 audits with a 100% pass rate. ◆ No major environmental violations were reported at TUC. ◆ TUC was once again awarded the Green Partner Certification by our major customer Sony, an achievement which we have maintained till now. ◆ There were no interruptions in the supply chain due to significant breaches of laws and regulations pertaining to social responsibility by suppliers, including those related to the environment, human rights, and occupational safety. ◆ TUC recorded a decline of 1,155 tons in the total amount of hazardous industrial waste and general industrial waste compared to the previous year, and maintained a waste recycling rate at 76% or above.
 People (including their human rights)	<ul style="list-style-type: none"> ◆ All of our employees are categorized as working full-time in order to safeguard their employment rights. ◆ 100% of TUC's senior executives were hired locally. ◆ Direct employees, regardless of gender, received at least double the local minimum wage. ◆ For direct employees at TUC, the male-to-female basic pay ratio was 1.05:1, whereas the male-to-female total pay ratio was 1.08:1. ◆ For non-managerial full-time employees at TUC, the average annual salary was NT\$785,925, whereas the median annual salary was NT\$684,113. ◆ All our employees took human rights training, with 345.3 hours of training in total. ◆ Female and male employees received 6.8 hours and 8.2 hours of training on average, respectively. 	<ul style="list-style-type: none"> ◆ TUC accepted and handled two cases of unlawful infringement in the workplace, where one of them was found to be unsubstantiated upon investigation while the other case was found to be substantiated upon investigation and the corresponding disciplinary action was taken against the offenders, representing a 100% closure rate in the end. ◆ TUC continued to ensure the effective operation of the ISO 45001:2018 occupational health and safety system. ◆ TUC reported a decline in disabling injury frequency rate, severity rate, and total injury index compared to the past two years. ◆ No violations of labor laws and regulations were reported at TUC. ◆ No labor disputes were reported at TUC.

CH1

Stakeholder Engagement

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🌳 The Stakeholder Engagement Process



1.1 Sustainability Promotion Committee

TUC adheres to the Corporate Social Responsibility Best Practice Principles for TWSE/TPEX Listed Companies (now known as Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies) to implement the concept of corporate sustainable development. In 2022, TUC revised its Sustainable Development Best Practice Principles, which were approved by the Board of Directors and subsequently implemented. In 2023, TUC added provisions highlighting the Company's support for arts and cultural activities cultural and creative industries to the said principles. The Corporate Governance Office, a dedicated (part-time) unit, is responsible for proposing and implementing sustainable development policies, systems, and related management guidelines, as well as specific promotion plans.

The Corporate Governance Office has established a Sustainable Promotion Committee ("ESG Committee") that is task-organized and comprises the Legal Affairs Office, the Occupational Safety Division, and Human Resources Department. The ESG Committee meets every six months, with the Corporate Governance Officer serving as the Committee chairman. The ESG Committee is responsible for drafting the Company's sustainable development strategy, which, upon approval by the President, will be gradually promoted and implemented within the Company. The goal is to integrate the concept of sustainable management into TUC's corporate culture. The ESG Committee has established teams to gather stakeholder feedback on TUC's green initiatives, workplace safety, sustainable supply chain management, labor and human rights practices, operational performance, and corporate governance. This information will inform the annual implementation of TUC's ESG plan, which encompasses environment, people (including their human rights), and corporate governance aspects of sustainable development. Additionally, we've set up a dedicated section for stakeholders on TUC's website to appropriately address their concerns about significant sustainability issues.

At the same time, each team under the ESG Committee sets targets for the implementation of its area of responsibility for the current year.

Team	Targets
Economics	<ul style="list-style-type: none"> Continue to improve TUC's score in the Corporate Governance Evaluation each year.
Environmental Safety and Health	<ul style="list-style-type: none"> Achieve a 2% reduction in total GHG emissions by 2025, with 2021 as the base year. Maintain zero occupational accident.
Social	<ul style="list-style-type: none"> Maintain employee turnover at a rate of 11% or less each year. Continue to increase employee training hours.

During the preparation of TUC's ESG Report, each team has worked diligently to communicate, collect ESG information, and plan future goals. This effort aims to help employees better understand the benefits of ESG implementation for long-term operations and encourage their participation in the ESG Report's preparation. Once completed, the Committee Chair will review the ESG Report to ensure it covers all material topics and adheres to the GRI Standards' preparation principles.

With a view to ensuring the involvement of the Board of Directors in the Company's effort to promote sustainable development, the Corporate Governance Office is tasked with submitting a report on the Company's implementation of ESG in the previous year to the Board of Directors in the first quarter of each year. On March 8, 2023, the Corporate Governance Officer not only reported the Company's implementation of ESG in the previous year to the Board of Directors, but also provided a presentation on the Company's plans to publish the 2022 Sustainability Report and roll out GHG inventory, as well as the annual work plans of each team under the ESG Committee and their implementation status. At the same time, the ESG Report, prepared by TUC, was also published in August 2024 after being submitted to the Board of Directors for discussion and approval. Aside from providing recommendations on the Company's ESG outcomes, the Board of Directors also expressed concern about the potential financial impact of carbon trading on the Company after it is officially rolled out. As regards the carbon emission reduction promotion plan proposed by the Company, the Board of Directors reviewed the feasibility of the targets and plan, the progress of the plan, and its implementation outcomes, and will make recommendations for adjustments or modifications when necessary. TUC ensures effective and continuous operation of sustainable development strategies, ESG promotion plans, and implementation results through regular monitoring by the Board of Directors.

ESG Committee



1.2 Identifying Stakeholders

Identify the Key Stakeholders





Stakeholders are individuals or groups that have an impact on TUC or are impacted by it. Each department first identifies the stakeholders they regularly interact with during business transactions. Then, they evaluate the frequency of interaction between each stakeholder and TUC, as well as the level of mutual influence and importance, through internal meetings and with reference to the same industry, thereby identifying six categories of stakeholders that are essential to TUC. Considering that there have been no changes in the major stakeholders as the industry has been stable in recent years, the Company maintains the outcomes of key stakeholder identification in the previous year, where these key stakeholders include shareholders/investors, customers, employees, suppliers, local communities, and government agencies.







1.3 Stakeholder Communication

TUC has diverse stakeholders with varying interests. The concerns of each stakeholder category differ. TUC's departments engage with stakeholders through various channels to ensure timely communication and understanding of the Company's operations. TUC also tracks stakeholder requests and expectations and responds promptly. The Company reports to the Board of Directors annually on its communication with key stakeholders.

Our departments gathered concerns expressed by key stakeholders during regular business interactions. The ESG Committee then referenced the 2021 GRI Standards and ESG reports published by the same industry to compile these concerns. They summarized 19 sustainability issues that are more relevant to TUC, encompassing the economic, environment, and people (including their human rights) aspects. This ensures that TUC's sustainability information meets the GRI Standards' requirements for integrity and diversity.

Key Stakeholder	Key Responsibilities of the Company	Main Topic of Concern	Communication Channel/ Frequency
 Shareholders/ Investors	<ul style="list-style-type: none"> ◆ Ensure compliance with the latest laws, regulations, and policy revisions set forth by competent authorities. Promptly respond to and adjust the type and content of company information disclosure to meet regulatory requirements. ◆ Provide synchronized, real-time, and accurate company information promptly, and aim for balanced disclosure of investment information. ◆ Maintain a long-term, stable dividend policy that provides appropriate investment returns. ◆ A sound financial strategy, excellent corporate credit, and strong operational performance are essential components for success in business. 	<ul style="list-style-type: none"> ◆ Market Image ◆ Economic Benefits ◆ Compliance with Regulations regarding Environment and People (including their human rights) ◆ Invest ◆ Employer-Employee Relations ◆ Supplier Environmental Assessment ◆ Products and Services Labeling ◆ Product Liability Compliance ◆ Privacy, Health, and Safety of Stakeholders 	<ul style="list-style-type: none"> ◆ Contact Person: Mr. Huang, Corporate Governance Office TEL:03-5551103 #116 ◆ Shareholder's Meeting ◆ Establish an investor contact window on the Company's website, including an email address and contact number to facilitate open communication between investors and the Company. ◆ Designate a dedicated department for corporate investment relations to handle communication with both domestic and foreign corporate investment institutions. ◆ Immediate disclosure on the Market Observation Post System, as well as press releases or press conferences as necessary, are required for material events.
 Customers	<ul style="list-style-type: none"> ◆ Offer the most competitive and highest quality products and services available in the market. ◆ Enhance customer satisfaction by providing comprehensive customer support. ◆ Establish enduring, intimate, and reliable business alliances with clients. ◆ Encourage all employees to comply with the confidentiality agreement and the code of conduct when interacting with the media. 	<ul style="list-style-type: none"> ◆ Non-discriminatory ◆ No Forced Labor ◆ Anti-corruption ◆ Employer-Employee Relations ◆ Occupational Health and Safety ◆ Compliance with Regulations regarding Environment and People (including their human rights) ◆ Corporate Social Responsibility and Environmental Assessment ◆ Privacy, Health, and Safety of Customers ◆ Products and Services Labeling ◆ Product Liability Compliance 	<ul style="list-style-type: none"> ◆ Contact Person: Mr. Huang, Corporate Governance Office TEL:03-5551103 #116 ◆ Established a customer-oriented business model and an honest partnerships, and are committed to innovation and research and development of advanced base materials for the global electronics industry. ◆ Used high-quality raw materials and have a full set of reliable supply partners to meet customer orders through professional production planning and inventory management. ◆ Adhered to strict manufacturing management and a thorough testing system to develop stable and reliable products. ◆ Strive to continuously improve efficiency and offer real-time response services on a global scale. ◆ Collaborate with customers during audits related to product environmental responsibilities and provide support for ongoing prevention and continuous improvement efforts. ◆ Advocacy and training are provided to employees who may face the media and need to comply with information disclosure rules and regulations.

Key Stakeholder	Key Responsibilities of the Company	Main Topic of Concern	Communication Channel/ Frequency
 Suppliers	<ul style="list-style-type: none"> Legal and fair trade. Understand environmental safety precautions and specification details. Understand and provide relevant assistance for companies in implementing social responsibility. 	<ul style="list-style-type: none"> Market Image Economic Performance Compliance with Environmental Regulations Employer-Employee Relations Labor Assessments for Suppliers Non-discriminatory No Forced Labor Anti-corruption Compliance with Regulations regarding Environment and People (including their human rights) Impact on People (including their human rights) for Suppliers Product Liability Compliance 	<ul style="list-style-type: none"> Contact Person: Mr. Huang, Corporate Governance Office TEL:03-5551103 #116 Carry out relevant operations in accordance with the supplier management policy set by the Company Sign the corporate social responsibility/ environmental protection commitment letters Annual audit of suppliers and contractors
 Employees	<ul style="list-style-type: none"> Ensuring and respecting human rights Career development Evaluation and treatment that is legal compliant and fair Safe and healthy environment Flexible benefits and health promotion 	<ul style="list-style-type: none"> Employer-Employee Relations Non-discriminatory No Forced Labor Anti-corruption Occupational Health and Safety Diversity and Equal Opportunities Compliance with Regulations regarding People (including their human rights) 	<ul style="list-style-type: none"> Contact Person: Ms. Yang, Human Resources Department TEL:03-5551103 #310 Occasional communication meetings between supervisors and employees Planning a comprehensive education and training program. Set up employee service hotline and message board Set up a sexual harassment complaint hotline and mailbox On-site medical personnel to provide medical consultation and other services for employees Free annual employee health check-ups
 Local Communities	<ul style="list-style-type: none"> Compliance with environmental regulations Environmental pollution prevention Community involvement and feedback On-site support and assistance 	<ul style="list-style-type: none"> Waste Management Exhaust Emissions and Odors Wastewater Discharge and Treatment Community Involvement in Development 	<ul style="list-style-type: none"> Contact Person: Mr. Fang, Occupational Safety Division TEL:03-5551103 #150 Contact Person: Mr. Cho, Division of General Affairs TEL:03-5551103 #308
 Government Agencies	<ul style="list-style-type: none"> Ensure compliance with the most recent laws, regulations, and policy updates from competent authorities in order to satisfy regulatory obligations. Policy advocacy, coordination, and implementation 	<ul style="list-style-type: none"> Waste Management and Recycling Waste Water Treatment and Reuse Management of Energy Resource Usage Greenhouse Gas Control Occupational Health and Safety Compliance with Labor Laws Compliance with Environmental Regulations 	<ul style="list-style-type: none"> Contact Person: Mr. Fang, Occupational Safety Division TEL:03-5551103 #150 Contact Person: Ms. Yang, Human Resources Department TEL:03-5551103 #310

1.4 Determining Material Topics

🌲 Material Topics Identification Process

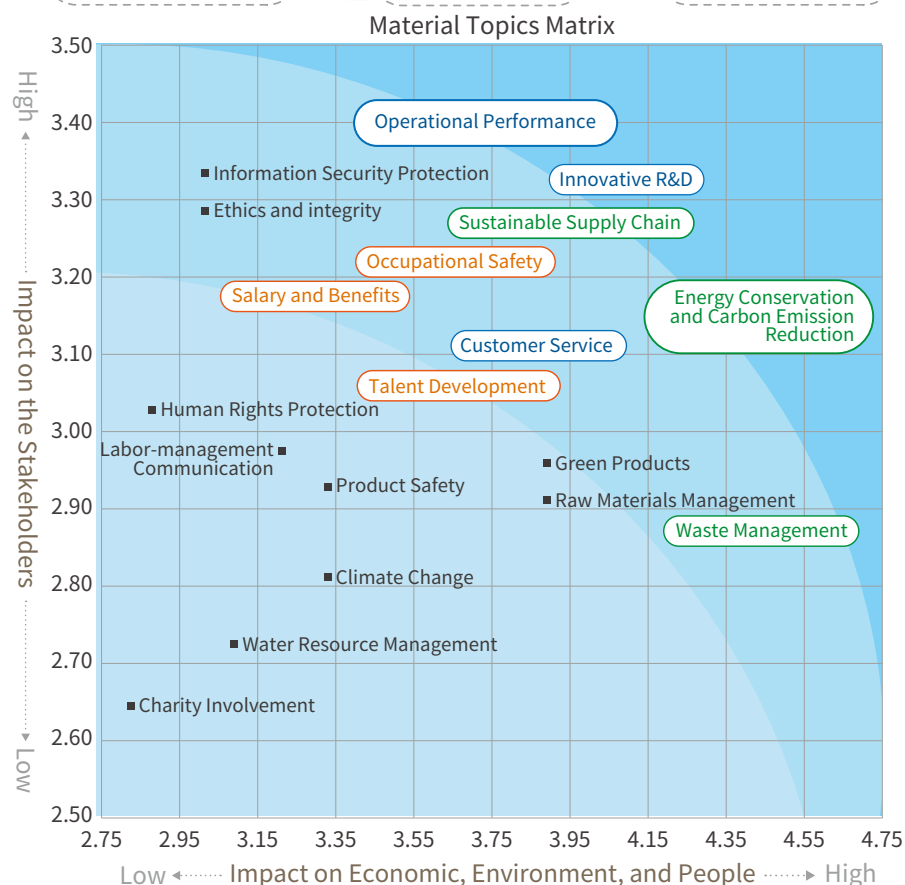


Aspect	Sustainability Issues
Environment	Raw Material Management, Water Resources Management, Energy Conservation and Carbon Emission Reduction, Waste Management, Sustainable Supply Chain, Green Products, and Climate Change
People (including their human rights)	Salary And Benefits, Labor-Management Communication, Occupational Safety, Talent Development, Human Rights Protection, Product Safety, and Charity Involvement
Economy	Ethics And Integrity, Operational Performance, Innovative R&D, Information Security Protection, and Customer Service

Note: Corporate governance, risk management, regulatory compliance, and grievance mechanisms are crucial disclosures in this ESG Report. Therefore, they are not redundantly included in the sustainability survey.

The ESG Committee of TUC has developed 19 sustainability issues and conducted an online survey among key stakeholders, including shareholders/ investors, employees, customers, suppliers, government agencies, and local communities. The survey aimed to determine the impact of each sustainability issue on them, with a score assigned to each issue. Simultaneously, an online survey was distributed to the Company's management to rate the impact of each sustainability issue on the Company. The scores from both surveys were combined to create a matrix of material topics. After deliberation with the ESG Committee, the top two issues with the highest scores were selected from the environment, people (including their human rights), and economic aspects, and the third highest score from the social aspect was chosen, resulting in a final selection of nine material topics. TUC's material topics under the environment, people (including their human rights), and economic aspects were identified and ranked based on their scores, which were: Energy Conservation and Carbon Emission Reduction, Innovative R&D, Waste Management, Sustainable Supply Chain, Operational Performance, Customer Service, Occupational Safety, Talent Development, and Salary And Benefits. During the year, TUC identified nine material topics that present both risks and opportunities. The Company is currently operating in a challenging business environment, where it must maintain operational performance and the trust of shareholders and customers, while also prioritizing the quality of the local environment and the health and well-being of its employees. Any inadvertent violations could seriously damage the Company's hard-earned reputation. Therefore, by turning risks into opportunities and finding a balance between economic performance, sustainable environment, and social prosperity, TUC will continue to grow and thrive towards sustainable operation.

In ESG Report, TUC will outline its management policies and disclosure items for each material topic. Additionally, to ensure a balanced sustainability report, TUC will provide supplementary disclosure of its commitment to public welfare.



In the list of TUC's ESG-related material topics over the past two years, five themes remain as material topics, namely Energy Conservation and Carbon Emission Reduction, Sustainable Supply Chain, Customer Service, Occupational Safety, and Salary and Benefits, whereas four material topics have been added to this list in 2023, including Innovative R&D, Waste Management, Operational Performance, and Talent Development. TUC's pursuit of sustainable development is premised on the Company's ability to stabilize profitability as the key to ensuring profitability lies in the Company's ability to lead the industry in R&D. Moreover, there is a high correlation between the Company's R&D capability and high-quality human resources. As regards the waste disposal issue that has been of great concern to Taiwanese people in recent years, TUC has not only stepped up efforts to increase our industrial waste recycling rate, but also carry out stringent screening of waste transportation and disposal contractors to ensure that we do not cause excessive negative impact on the environment.

Rank	Material Topic in 2022	Material Topic in 2023	Movement
1	Energy Conservation and Carbon Emission Reduction	Energy Conservation and Carbon Emission Reduction	-
2	Ethics and Integrity	Innovative R&D	New
3	Sustainable Supply Chain	Waste Management	New
4	Information Security and Trade Secrets Protection	Sustainable Supply Chain	↓ 1
5	Salary and Benefits	Operational Performance	New
6	Occupational Safety	Customer Service	↑ 1
7	Customer Service	Occupational Safety	↓ 1
8	-	Talent Development	New
9	-	Salary and Benefits	↓ 4

Note: Ethics and Integrity as well as Information Security and Trade Secrets Protection were identified as material topics in 2022, but were not listed as material topics in 2023. However, the performance related to these topics is still disclosed in this ESG Report.

TUC has summarized the three ESG material themes based on the nine material topics identified in 2023. These themes include: (1) Continue to generate more profits with the Company's strong R&D capabilities and excellent customer service; (2) Draw up and implement energy saving projects and waste recycling programs, as well as ensure that suppliers improve their ESG performance in phases; (3) Provide market competitive salary to attract and retain outstanding talents, conduct high-quality competency training for employees so that they can achieve self-fulfillment in the workplace, as well as create a safe and health workplace environment so that employees can work with peace of mind.



Principles of Report Publication







TUC adheres to the GRI reporting principles when preparing ESG reports. This ESG Report is based on the principle of Sustainability Context, which requires the Company to transparently disclose the measures it has taken to improve or reduce negative impacts on the economic, environment, and people (including their human rights) realities of its operations and surrounding areas. The principle of Completeness mandates that the information disclosed in this ESG Report should adequately reflect the Company's significant economic, environment, and people (including their human rights) areas of impact. The principle of Accuracy requires that the information in the ESG Report be sufficiently detailed and accurate for stakeholders to evaluate the Company's ESG performance. The principle of Balance mandates that the ESG Report should fairly reflect both positive and negative performance, allowing stakeholders to make a reasonable evaluation of TUC's ESG performance. The principle of Clarity requires that the ESG Report presents information in a manner that is easily understandable and accessible to stakeholders. The principle of Comparability mandates that the ESG Report discloses ESG information in accordance with internationally accepted standards, and the information is disclosed in a manner that allows stakeholders to analyze the long-term performance of the Company. The principle of Timeliness requires that the Company regularly issues ESG reports to provide important ESG information in a timely manner for stakeholders to make informed decisions. Finally, the principle of Verifiability mandates that the Company compiles ESG reports in a manner that can be reviewed internally and externally to ensure that the information is correctly disclosed.






Aspect	Material Topic	Importance to TUC Impacts	Internal Boundaries	External Boundaries				Corresponding GRI Standard	Report Disclosures
			Company	Shareholders / Investors	Suppliers	Customers	Local Communities		
Environment	Energy Conservation and Carbon Emission Reduction	<ul style="list-style-type: none"> As the Company expands our operations, the Company conducts a greenhouse gas inventory to mitigate the increase in energy consumption and total greenhouse gas emissions. The Company then implements energy-saving and carbon-emission reduction measures for each emission cycle to comply with stakeholder requirements and expectations. Potential negative impact 	●	●	●	●	●	<ul style="list-style-type: none"> GRI 302: Energy 2016 (302-1~302-3 ~ 302-5) GRI 305: Emissions 2016 (305-1 to 305-5) 	4.2
Economy	Innovative R&D	<ul style="list-style-type: none"> The Company has strong R&D capabilities to ensure the competitiveness of our products. Potential positive impact 	●	●	●	●		<ul style="list-style-type: none"> TUC-customized Topic (Innovation-1) 	3.6.1
Environment	Waste Management	<ul style="list-style-type: none"> In addition to our endeavor to increase industrial waste recycling rate, the Company carries out stringent screening of waste transportation and disposal contractors to ensure that we do not cause excessive negative impact on the environment. Potential negative impact 	●	●	●		●	<ul style="list-style-type: none"> GRI 306: Waste 2020 (306-1 ~ 306-5) 	4.3
Environment	Sustainable Supply Chain	<ul style="list-style-type: none"> The Company develops policies for managing suppliers, enforces control measures for suppliers in areas such as the quality, environment, labor and human rights, integrity, and legal compliance, and conducts supplier audits. By working closely with our suppliers, we aim to strengthen our ESG resilience, fulfill our social responsibility, and promote sustainable prosperity. Potential positive impact 	●	●	●	●		<ul style="list-style-type: none"> GRI: 308 Supplier Environmental Assessment 2016 (308-1~308-2) GRI: 414 Supplier Social Assessment 2016 (414-1~414-2) 	4.4
Economy	Operational Performance	<ul style="list-style-type: none"> The prerequisite for sustainable development is the Company's ability to not only make consistent and stable profits, but also respond positively to shareholders' expectations. Actual positive impact 	●	●	●	●		<ul style="list-style-type: none"> GRI 201: Economic Performance 2016 (201-1 ~ 201-2) 	3.3 4.5
Economy	Customer Service	<ul style="list-style-type: none"> Meeting customer needs and earning their trust are essential for the expansion of our business and the basis of our Company's sustainable management. Potential positive impact 	●	●		●		<ul style="list-style-type: none"> TUC-customized Topic (Customer Service-1) 	3.6.2
People (including human rights)	Occupational Safety	<ul style="list-style-type: none"> The Company places great importance on the physical and mental well-being of its employees and strives to provide a secure and pleasant work environment, enabling all staff to work without concern. Potential positive impact 	●	●		●	●	<ul style="list-style-type: none"> GRI 403: Occupational Health and Safety 2018 (403-1~403-9) 	5.3
People (including human rights)	Talent Development	<ul style="list-style-type: none"> The Company provides employees with high-quality professional training to help them achieve a sense of accomplishment in the workplace. Potential positive impact 	●			●		<ul style="list-style-type: none"> GRI 404: Training and Education 2016 (404-1 ~ 404-3) 	5.2.2
People (including human rights)	Salary and Benefits	<ul style="list-style-type: none"> The Company offers competitive compensation packages to attract exceptional talent and ensure the Company has a robust workforce. Potential positive impact 	●	●				<ul style="list-style-type: none"> GRI 401: Employment 2016 (401-1 ~ 401-3) 	5.1.2 5.2.1

1.5 Sustainable Development Goals

In 2015, the United Nations released the Sustainable Development Goals (SDGs), which comprise 17 sustainable development goals and 169 targets. These goals and targets will serve as guiding principles for member states and global businesses to pursue sustainable development by 2030.

TUC has incorporated the objective of sustainable development into its business strategy. This has expanded the Company's previous focus on economic performance to encompass environmental protection and regulatory compliance. Additionally, TUC has improved employee benefits to retain talented individuals, eliminated unequal conditions in the workplace, addressed environmental concerns such as reducing the discharge of wastewater, and worked with suppliers to improve the environment and bolster workplace condition. TUC has also collaborated with suppliers to enhance the workplace environment and benefits. Moving forward, TUC is committed to making further contributions to sustainable development and fulfilling our corporate social responsibility.

SDGs	Targets	Response from TUC
	1.4 Ensure that all men and women, in particular the poor and the vulnerable, have equal access to economic resources and rights.	<ul style="list-style-type: none"> ◆ Provide our employees with market-competitive salaries and benefits that exceed legal requirements, enabling them to work with dignity and enhance their economic well-being and that of their families. ◆ Adjust employee salaries moderately based on the Company's profitability and foster a sense of unity among colleagues towards the organization.
	3.9 Reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination.	<ul style="list-style-type: none"> ◆ Appoint dedicated labor health service personnel and engage resident doctors to conduct regular on-site visits. ◆ Organize general and special health checkups every year, where the resident doctor will conduct follow-up health management planning based on the results of health checkups.
	4.5 Eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations. 4.7 Ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace, and non-violence.	<ul style="list-style-type: none"> ◆ Arrange competency training for employees with diverse business attributes to ensure that each employee has the opportunity to receive vocational training.
	5.1 End all forms of discrimination against women. 5.4 Recognize and value the importance of women's caregiving responsibilities within the household through the provision of social protection policies.	<ul style="list-style-type: none"> ◆ Promote a workplace diversity policy so that recruitment, salary, promotion and remuneration do not vary by age, gender, race, nationality and other factors, and achieve equal pay conditions and equal promotion opportunities for men and women for equal work. ◆ Actively promote a gender equality policy to eradicate any form of sexual harassment. ◆ Grant all employees, irrespective of gender, the right to request parental leave.

SDGs	Targets	Response from TUC
	6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.	<ul style="list-style-type: none"> ◆ Implement strict water conservation measures, and conduct quarterly tests on the level of pollutants in the discharged water to ensure that they do not violate the standards for effluent discharge. ◆ Carry out source control of waste and implements sorting and recycling of waste generated from production process and strengthens waste management, where TUC's waste recycling rate remains at 75% or above.
	8.5 Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value. 8.7 Take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labor, and eradicate forced labor.	<ul style="list-style-type: none"> ◆ Provide employees with market-competitive salary and benefits that are better than those required by law, thus enabling them to work with dignity and enhance their economic well-being and that of their families. ◆ Do not use gender as a determining factor in the recruitment, salary, performance evaluation, and promotion of employees. ◆ Formulate human rights policies to ensure employees' basic rights through RBA audits.
	10.2 Promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status. 10.3 Ensure equal opportunity and reduce inequalities, including by eliminating discriminatory policies and practices.	<ul style="list-style-type: none"> ◆ Promote a workplace diversity policy so that recruitment, salary, promotion and remuneration do not vary by age, gender, race, nationality and other factors, and achieve equal pay conditions and equal promotion opportunities for men and women for equal work ◆ Actively promote a gender equality policy to eradicate any form of sexual harassment. ◆ There exists a reporting channel for employees, along with a comprehensive reporting process designed to safeguard whistleblowers.
	12.5 Substantially reduce waste generation through prevention, reduction, recycling, and reuse.	<ul style="list-style-type: none"> ◆ Continuously improve the production process and minimize waste generation.
	16.6 Develop effective, accountable, and transparent institutions at all levels. 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels.	<ul style="list-style-type: none"> ◆ Strengthen corporate governance by implementing internal controls to ensure employee compliance with the Company's norms. Establish an independent reporting channel and a comprehensive reporting process. ◆ Engage with stakeholders to comprehend their needs and anticipations for the Company, and provide regular reports to the Board of Directors.

CH2

About TUC

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2.1 Company Profile

Taiwan Union Technology Corporation (TUC), previously known as Taiwan Union Glass Industrial Co., Ltd, was founded in 1974 with a primary focus on manufacturing optical glass. However, in 1997, TUC shifted its production to Copper Clad Laminate (also called CCL) and Prepreg. By 2001, TUC had expanded its services to include mass lamination service for customers. In December 2003, TUC was officially listed on Taiwan OTC.

Since 2004, TUC has set up successively two production bases in Changshu City, Jiangsu Province and Zhongshan City, Guangdong Province have been completed successively in order to meet the supply demands of customers in the Greater China region. To offer comprehensive, prompt, and efficient solutions to customers worldwide, TUC has established service bases in China, Japan, South Korea, Taiwan, the United States, and Germany. The total capacity of TUC group exceeds 2,200,000 sheets/month of laminates and 1,600,000 sq. ft./ month of mass lamination.

To align with the decentralized supply plan of European and American end-users and PCB customers, TUC's Board of Directors has resolved on November 1, 2022 to establish a Thai subsidiary. This subsidiary will construct a new 100 rai (160,000 square meters) plant in Chonburi Province, located in Thailand's Eastern Economic Corridor (EEC) and it is expected to go into production in the first quarter of 2025. The initial target monthly production capacity of CCL in the first stage is 300,000 sheets, with subsequent dynamic adjustments will be made based on customer orders and the overall economic situation. The maximum monthly production capacity can reach 900,000 to 1.2 million sheets. In addition to strengthening the original high frequency, high speed and ultra-low loss HSD and HDI materials, TUC Thailand will also develop low-earth orbit satellite (LEO) device materials, the Southeast Asian car board market and the emerging Indian domestic market.

With a focus on market trends and customer expectations as the main axes of development, TUC prioritizes innovation and research and development of advanced base materials that meet the needs of the global electronics industry. These materials are suitable for lead-free assembly process requirements, environmental trends, and RoHS compliance. TUC has developed a series of advanced base materials for various applications, including cell phone boards, base station backplanes, communication boards, servers, and automotive boards. These materials offer high temperature thermal shock and chemical resistance, excellent dimensional stability, high speed, and complete signal transmission. To ensure stable and reliable quality products, TUC insists on using excellent raw materials and strict manufacturing management. Our goal is to provide first-class quality, service, and high value-added base materials and professional lamination foundry services required by the global electronics industry. In addition to offering competitive prices to our customers, we also provide fast response and prompt delivery services, and aim to help our customers improve their competitiveness in the market.













Important Milestones
of TUC



Latest Updates on
TUC Thailand

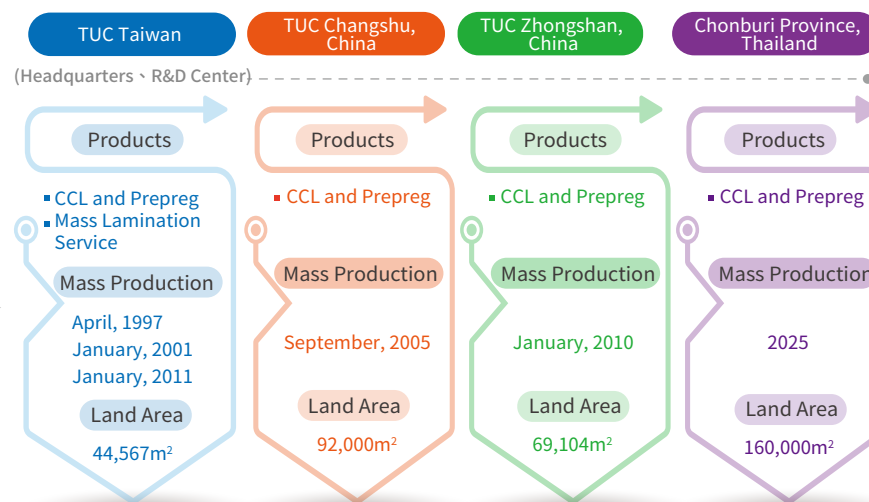
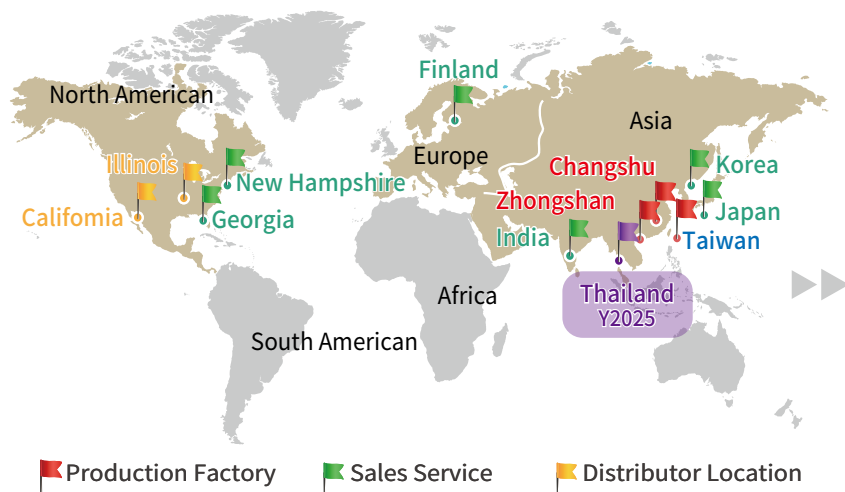


 Name of Company	▶ Taiwan Union Technology Corporation	 Number of Employees	▶ 993 people in Taiwan
 Location of Headquarters	▶ 803 Bo-ai St., Zhubei, Hsinchu County 302045, Taiwan	 Location of Operations	▶ Hsinchu, Taiwan; Changshu, Jiangsu; Zhongshan, Guangdong; and Chonburi, Thailand
 Industry	▶ Domestic Industry Category: Over-the-Counter Electronic Components Industry SASB Industry Classification as Technology & Communications/Hardware	 Primary Products and Services	▶ Hsinchu: Copper clad laminate, Prepreg, and mass lamination service (Note3) Changshu: Copper clad laminate and Prepreg Zhongshan: Copper clad laminate and Prepreg Thailand: Copper clad laminate and Prepreg
 Makeup of Shareholding Structure	▶ Domestic corporations: 27.94%, domestic individuals: 44.77%, foreign institutions and foreign individuals: 27.29% (Note1)	 Product Sales	▶ Copper clad laminate: 4,338,000 sheets Prepreg: 10,330,000 meters Mass lamination service: 2,686,000 sq. ft.
 Capital (Unit: NT\$ thousands)	▶ 2,716,802 (Note2)	 Individual revenue for the year (Unit: NT\$ thousands)	▶ 7,561,8491

Note1 : Data collected up to April 18, 2024.

Note2 : Data collected up to March 25, 2024.

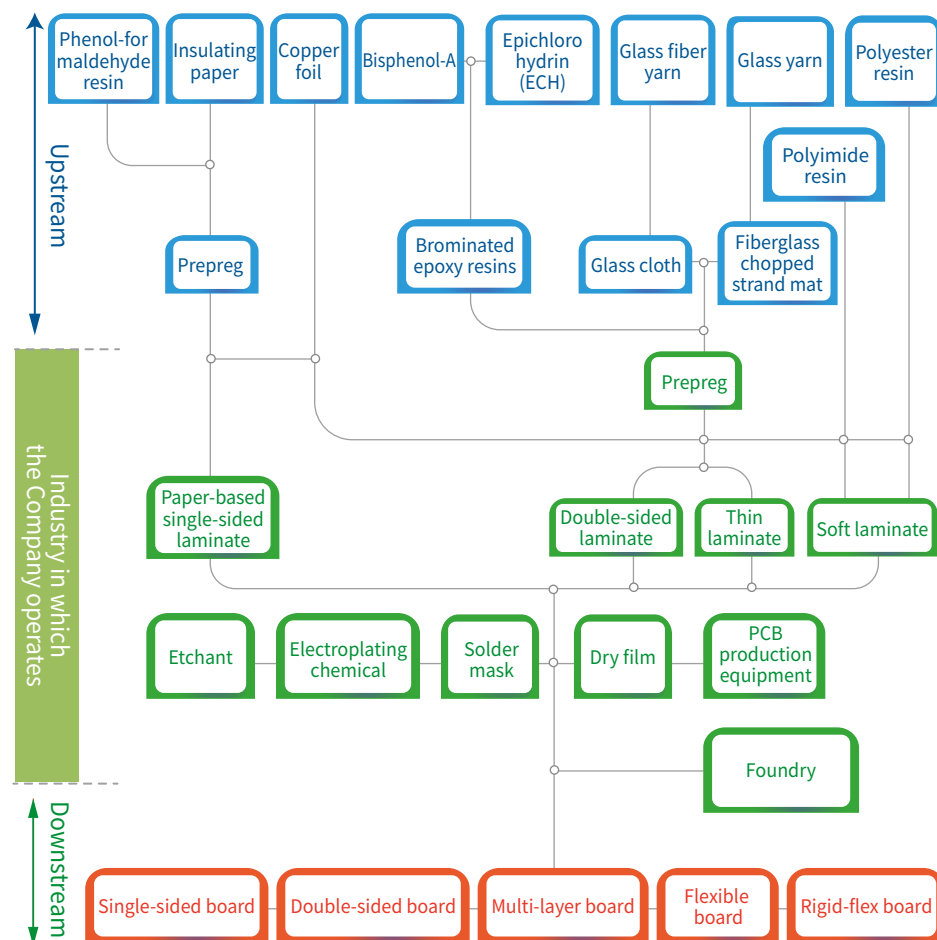
Note3 : TUC's Thai subsidiary is expected to begin production in the first quarter of 2025.



Product Types and Application

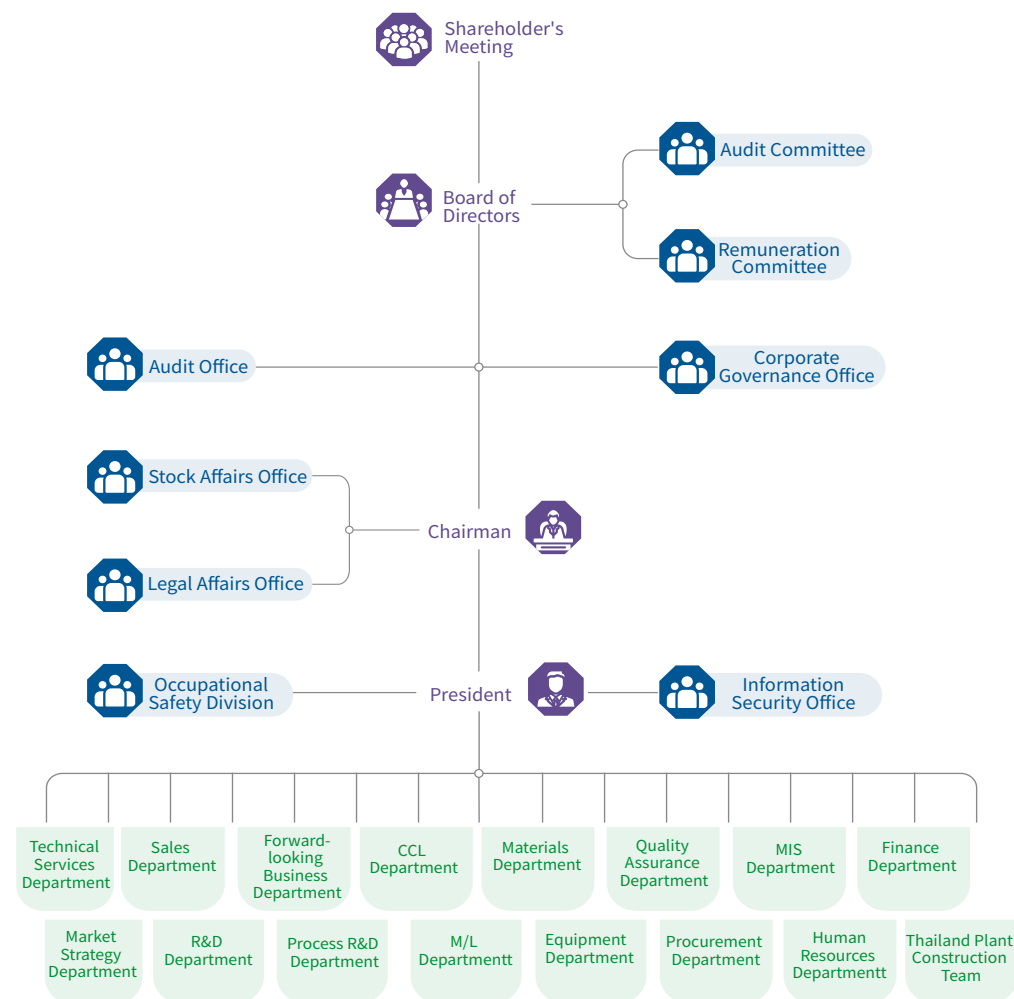
Value Chain

TUC's primary offerings consist of copper clad laminates and mass lamination, serving as the fundamental raw materials and front-end process products for PCB manufacturing. TUC operates within the midstream of the value chain.



Upstream and downstream structure of PCB

Organizational Structure of Taiwan Union Technology Corporation



2.2 Business Philosophy

Established a customer-oriented business model and an honest partnerships, and are committed to innovation and research and development of advanced base materials for the global electronics industry.

Used high-quality raw materials and have a full set of reliable supply partners to meet customer order needs with professional production planning and inventory adjustment.

Focus on innovation and dedication, creating new value for customers

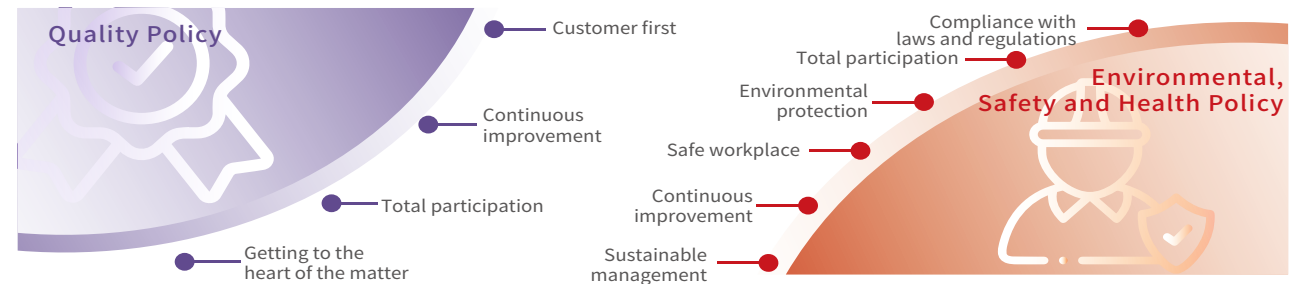
Adhered to strict manufacturing management and a thorough testing system to develop stable and reliable products.

Constantly seeking to improve efficiency, not only to provide competitive prices, but also to provide global responsiveness and prompt delivery services.

2.3 Honors and Management Systems Over the Years

TUC persists in enhancing and innovating our processes, products, and services to fulfill the demand for non-hazardous products, thereby delivering the most competitive and valuable solutions to our customers.

Since 1998, the Company has successively obtained several certifications, including the ISO 9001 quality management system, IATF 16949 automotive industry quality management system, QC8000 IECQ HSRM certification, ISO 14001 environmental management system, and ISO 45001 occupational safety and health management system. Additionally, the Company conducted our own inventory and passed the ISO 14064-1 greenhouse gas inventory. TUC was a participant in the 54th Quality Awards hosted by the Chinese Society for Quality in 2018, and was honored with the Excellence in Business Quality Award. In recent years, the Company has received recognition from major clients and has been awarded for our outstanding performance, making TUC an excellent supplier.



Furthermore, TUC, not being satisfied with the achievements above, has implemented the Taiwan Intellectual Property Management System (TIPS) to enhance the quality of corporate governance. We not only passed the certification ahead of our competitors for the first time in 2022, but also re-awarded TIPS certification in 2023. By implementing and completing IP systematic management, the Company aims to establish a comprehensive framework for obtaining, safeguarding, preserving, and leveraging intellectual property. This will ultimately bolster TUC's worldwide competitiveness and facilitate the attainment of sustainable corporate growth.



▲ TUC's President was invited to attend the 2023 TIPS Certification Awarding Ceremony.



▲ TUC was awarded the TIPS certification in 2023, which is valid till the end of 2025

Management System	ISO 9001:2015	IATF 16949:2016	QC080000 IECQ HSPM	TIPS
Verification Agency	DQS	DQS	DQS	Industrial Development Bureau, MOEA
Management System	ISO 14001:2015	ISO 14064-1:2018	ISO 45001:2018	-
Verification Agency	SGS	SGS	SGS	-



Management System Certifications and List of Honors

Management System Certifications and List of Honors

IPC 4103 Certificate (Valid till 2025)



TUC's CCL (TU-1300N) conforms to the IPC-4103B base material specification for high-speed and high-frequency applications. We are the first company in the world to earn an IPC-4103 Qualified Product Listing.

Pass Recertification Under IPC-4101 Qualified Products Listing (Valid till 2026)



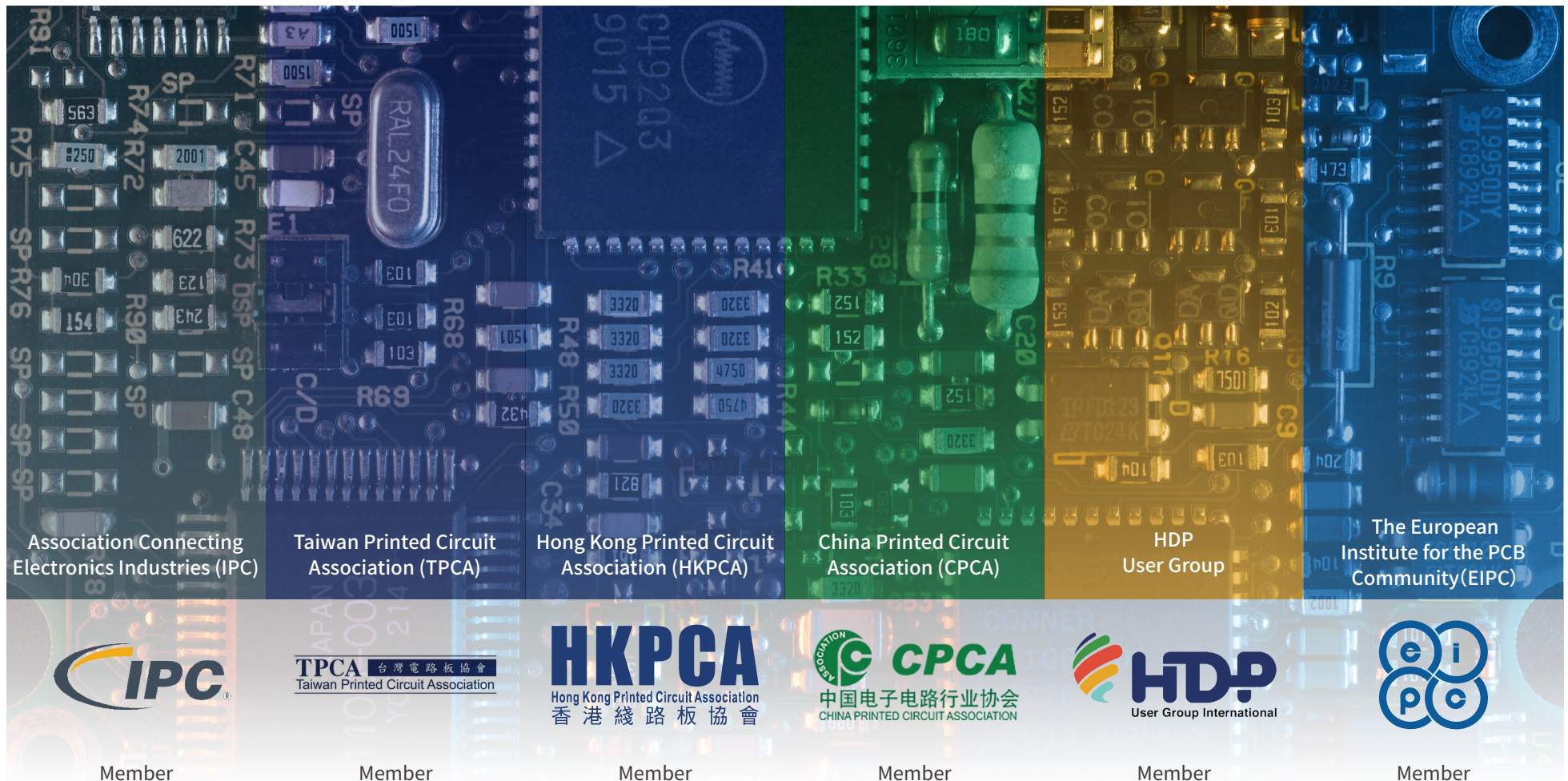
In 2017, TUC achieved our first IPC-4101 (Specification for Base Materials for Rigid and Multilayer Printed Boards) certification for the first time for 18 products, encompassing IPC Specification sheets 102, 126, 130, and 134. TUC has since successfully recertified these products in 2022, becoming the first company globally to recertify products to the IPC-4101 Qualified Product Listing.

TUC was honored with the Excellent Supplier Award by a major customer



2.4 Participation in External Associations

TUC not only enhances its product competitiveness but also engages with stakeholders from divergent sectors. By participating in industry-related associations, TUC fosters constructive relationships with the association members to stay abreast of the latest industry trends.



CH3

Integrity Governance

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TUC's Rules and Regulations
Concerning Corporate Governance

A comprehensive corporate governance framework comprises a fully operational Board of Directors, rigorous internal control system, and stable financial control. This framework not only mitigates operational risk, but also bolsters the Company's competitiveness and creates brand value. We have fostered a corporate culture of honesty and accountability and have adhered to all applicable laws and regulations to operate with integrity. A robust corporate governance structure guarantees the Company's sustainable growth and safeguards the interests of investors and other stakeholders.

TUC has implemented a corporate governance system that complies with the Taiwan Securities and Exchange Act and related regulations. To safeguard shareholders' rights and interests, reinforce the functions of the Board of Directors, respect stakeholders' rights, and enhance the information transparency, the Board of Directors has adopted the "Corporate Governance Best Practice Principles". These principles ensure fair, impartial, and transparent procedures for electing directors and establishing independent directors to strengthen the Board of Directors' management and supervision functions. Additionally, the Board of Directors. The Board of Directors has also approved the "Procedures for Handling Material Insider Information", which prohibits insiders, including directors, management, and employees, from profiting from non-public information that is not available in the market. In addition, TUC also adheres to the principles of accurate, timely, and equitable disclosure. To this end, the Company has implemented a comprehensive information disclosure system that provides up-to-date information on our operations, finances, board of directors, and shareholders' meetings on our website and public information online reporting system. This ensures that shareholders have access to the latest information about the Company.

3.1 Governance Practices

The shareholders' meeting is composed of all shareholders, which makes decisions on important matters of the Company and receives reports from the Board of Directors on a regular basis, and is the highest decision-making body of the Company. The Board of Directors is the supreme governing body, responsible for planning the Company's operating policies, reviewing its financial performance, and ensuring compliance with various laws and regulations. The members of the Board of Directors exercise due care and diligence as good managers. To enhance corporate governance and strengthen the Company's competitiveness, the Board of Directors has established an Audit Committee and a Remuneration Committee. Additionally, an independent audit office under the Board of Directors conducts regular audits and reports audit results to the Audit Committee and the Board of Directors.

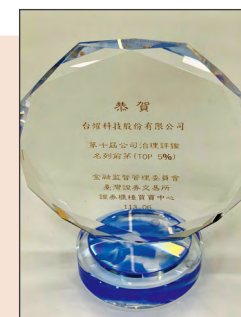
TUC places significant emphasis on corporate governance, striving for sustainable growth and ethical management. The Company consistently reinforces its corporate governance structure, upholds information transparency, and collaborates with an efficient internal control system to safeguard the rights and interests of stakeholders. In accordance with the Regulations Governing Establishment of Internal Control Systems by Public Companies, TUC weighs the Company's overall operating activities, designs and implements the internal control system, and reviews it at any time to respond to changes in the internal and external environment to ensure that the design and implementation of the internal control system continue to be effective. The Company enhances the performance of operations and achieve the goal of sustainable management through a sound management mechanism.

To bolster the Company's capacity to aid directors in fulfilling their responsibilities and improve the Board of Directors' efficacy, the Board of Directors resolved in October 2020 to create a Corporate Governance Officer. This role will be accountable for supporting directors in carrying out their duties, furnishing essential information and facilitating additional education, organizing meetings of the Board of Directors and shareholders' meetings in compliance with legal requirements, and assisting the Company in adhering to pertinent resolutions of the Board of Directors and shareholders' meetings while maintaining investor relations. With the leadership of the Corporate Governance Officer in implementing corporate governance program, in 2023, TUC has risen to the top 5% in the 10th Corporate Governance Evaluation, demonstrating TUC's efficient and proficient operation in all areas of corporate governance. The Company remains committed to enhancing the overall effectiveness of corporate governance and bolstering stakeholders' confidence in TUC in the coming years.

Corporate Governance Officer's Performance Results in 2023

- ❖ TUC has risen to the top 5% in the TPEx-listed companies of the 10th Corporate Governance Evaluation, as a result of its corporate governance program.
- ❖ Completed 18 hours of continuing education and training.
- ❖ Assisted independent directors and other directors in carrying out their duties, provided information as required, and arranged training for directors:
 - ✦ The Board of Directors receives regular updates on the latest developments in laws and regulations pertaining to the Company's business fields and corporate governance.
 - ✦ Ensured seamless communication between directors and business managers by assessing the confidentiality level of information and furnishing the Company's information necessary for the directors.
- ❖ The Board of Directors is required to inform the directors of the upcoming meeting at least seven days prior, organize the meeting and furnish the necessary details, remind about recusal ahead regarding any matters that a potential conflict of interest exists involving themselves, and finalize and send the minutes of the Board of Directors' meeting within 20 days of the meeting.
- ❖ Conducted Board of Directors' self-assessment for 2022, and engaged an external professional institutional (i.e., The Business Development Foundation of the Chinese Straits) to complete performance evaluation for the Board of Directors in March 2023.

- ❖ Prepared TUC's 2022 Sustainability Report in accordance with the GRI sustainability reporting guidelines, which passed the verification process carried out by an external institution (i.e., GREAT International Certification Co., Ltd.).
- ❖ Conducted greenhouse gas inventory in 2022, which passed the verification process carried out by an external institution (i.e., SGS) in November 2023.
- ❖ The Corporate Governance Office reports the implementation status of sustainable development for the previous year in the first quarter of each year.



Items for Improvement Based on the Corporate Governance Evaluation	Implementation of TUC	Goals Achieved
Voluntarily set up more independent directors than the statutory provisions, and whether the Company's independent directors account for more than half of the directors' seats.	Appointed four independent directors, accounting for 57% of the Board of Directors, which is also more than half the total number of directors.	○
More than half the independent directors have not served for more than three consecutive terms.	Appointed four independent directors, three of who have not served for more than three consecutive terms.	○
All directors have completed advanced training in accordance with the regulations.	Complete at least six hours of continuing education and training each year.	○

TUC has not only put in place a comprehensive control structure and instituted control procedures at all levels to assist the Board of Directors and managers in ensuring the effective control of all operational risks, but also institutionalized and systematized all operational processes. TUC's departments engage with stakeholders on a regular and occasional basis through established channels. If a potential negative impact arises between an interested party and the Company, the responsible department will conduct a due diligence investigation into the interested party's financial affairs, value chain management, customers' feedback, legal compliance records, environmental pollution, infringement of employee rights and health hazards. The results of the investigation will be reported to the President and Chairman of the Board, who will assess whether they will significantly harm to the Company's overall operations and report to the Board of Directors. If the Board of Directors is informed of such matter, they will approve the due diligence report and pass a resolution to the responsible department for implementation. In 2023, there were no potential events with negative material impact between TUC and our stakeholders.

Due Diligence

- TUC conducts financial due diligence on our counterparties, as well as investigations into the financial, environmental, and occupational health and safety compliance records of our suppliers and contractors.
- The head of the responsible department reports the results of investigation to the President and the Chairman, and also to the Board of Directors in the event of a serious violation.

The Company's financial statements undergo regular audit and certification by an accounting firm on a regular basis, and all mandated disclosures required by law are promptly completed. Additionally, we have implemented a spokesperson system to ensure that all material information is disclosed in a timely and appropriate manner, for the benefit of shareholders and other interested parties to refer to information related to the Company's financial affairs.

Looking forward to the future, strengthening the operation of the Board of Directors, enhancing information transparency, and gradually integrating sustainable governance strategies into the corporate governance structure are the goals that TUC will continue to strive for.

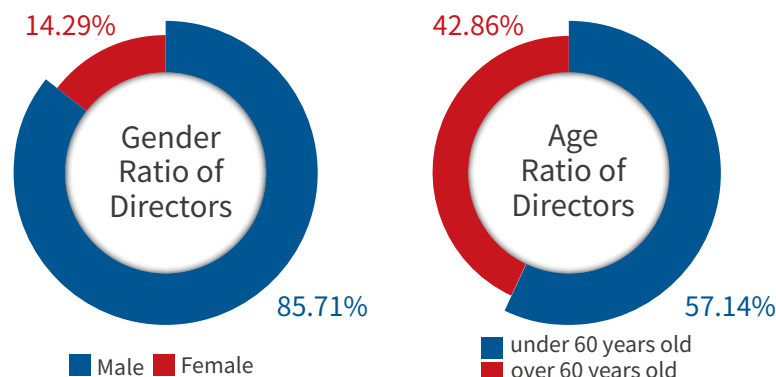
3.1.1 Board of Directors

The Board of Directors is responsible for devising the Company's business strategies and being answerable to shareholders and other stakeholders. The Directors must dutifully execute their business and fulfill their duty of care as competent managers to exercise their powers judiciously. Unless a matter is required to be resolved by the shareholders' meeting as per the law or the Articles of Association, all issues must be resolved by the Board of Directors. The Articles of Association of TUC stipulate that the selection of directors follows a candidate nomination process, and the principle of meritocracy is upheld through periodic re-election. Adhering to the Corporate Governance Best Practice Principles, the Board of Directors must not exceed one-third of the total number of directors who are also hold managerial positions within the Company. Additionally, the Board should prioritize diversity among its members, taking into account various criteria such as fundamental conditions and values, professional expertise, and overall qualifications necessary knowledge, skills and qualities to fulfill their duties. The Board of Directors currently consists of TUC comprises seven members, including four independent directors, each serving a three-year term of office. The directors possess industry expertise and extensive practical experience, enabling them to stay abreast of industry developments. The Board of Directors convenes at least quarterly in compliance with legal requirements. In 2023, the Board of Directors convened a total of five meetings, with a 100% attendance for all but one director, who only recorded an attendance rate of 80% in person.



TUC's Rules
and Regulations
Concerning the
Board of Directors

Note: For the major experience (academic) and concurrent positions held by TUC's board members, please refer to the 2023 Annual Report of Shareholders' Meeting - Chapter 3. Corporate Governance Report - II. Information on Directors, Supervisors, President, Vice President, Assistant Vice President, and Managers of Department and Branches - (I) Directors and Supervisors - 1. Information on Directors and Supervisors.



Diversity Goals for Board Membership	Implementation of TUC	Goals Achieved
Gender diversity on Boards: Appoint at least one director of another gender.	Appointed one female independent director	○
Diverse experiences and expertise in areas: Appoint at least one director specializing in technology, finance, law, and other areas.	Appointed one director specializing in technology, finance, law, and other areas.	○

Method of Performance Evaluation for the Board of Directors and Functional Committee

- Annual self-assessment questionnaire
- External expert evaluation every three years

Performance Achievement Rate in 2023 (%)

- Board of Directors: 98%
- Each functional committee: 100%
- Individual directors: 97%
- Members of the Audit Committee: 96%
- Members of the Remuneration Committee: 97%

To establish an effective operating system for the Board of Directors, enhance the supervisory function, and to ensure the independent directors' autonomy in fulfilling their responsibilities, TUC's Board of Directors has implemented the "Rules of Procedure for Board Meetings". These regulations define the independent directors' duties and responsibilities for compliance. The Board of Directors maintains a strict level of self-discipline in the spirit of interest of recusal. If any director or a juristic person represented by a director is an interested party with respect to any agenda item, the director shall state the important aspects of the interested party relationship at the respective meeting. When the relationship is likely to prejudice the interests of the Company, the director may not participate in discussion or voting on that agenda item, and further, shall enter recusal during discussion and voting on that item and may not act as another director's proxy to exercise voting rights on that matter.

To improve the quality of decision-making, the Board of Directors has implemented the "Rules for Performance Evaluation of Board of Directors and Functional Committees," where the results of performance evaluation for the Board of Directors serve as the basis for director selection or nomination in the future, while the results of performance evaluation for individual directors can be used as a reference for determining their respective salary and remuneration. At TUC, the Board of Directors conducts an internal evaluation of its own performance and that of functional committees at the end of each year. Board members undergo self-evaluation in the form of a questionnaire, and the results of the self-assessment are reported to the Remuneration Committee and the Board of Directors in the first quarter of the following year. The results of self-assessment for 2023 have been reported to the Remuneration Committee and the Board of Directors in March 2024. Additionally, TUC engages external experts to conduct evaluation every three years. In March 2023, TUC completed the external evaluation of the Board of Directors, individual board members, and functional committees for 2022, where the evaluation results were "Excellent".

To enhance risk management and encourage professionals to serve as directors, TUC has procured liability insurance for our directors, amounting to US\$15 million. This measure aims to alleviate concerns of directors while performing their duties and mitigate potential losses to the Company and shareholders resulting from errors or negligence on the part of the directors.

TUC proactively promotes and facilitates attendance of our directors in pertinent professional courses, considering the diverse legal compliance and governance practices that directors may encounter while participating in the Company's operational decisions. In 2023, all directors accomplished a total of 42 hours of training. The Corporate Governance Officer will further augment the number of ESG-related courses for directors in the forthcoming years. TUC is of the opinion that with the guidance of an ethical and experienced Board of Directors, the Company can operate with greater vigor and continue to make significant strides in sustainable management.

3.1.2 Functional Committees

To enhance the supervisory and managerial functions, the Board of Directors has instituted the Audit Committee and the Remuneration Committees. These committees are answerable to the Board of Directors, except for those mandated by law to exercise independent authority. They are responsible for presenting proposals to the Board of Directors for resolution.

3.1.2.1 Audit Committee

The Audit Committee assists the Board of Directors in supervising the Company's execution of accounting, auditing, financial reporting procedures, and financial controls to ensure their quality. It then reports the outcomes of its assessment to the Board of Directors for deliberation. The "Audit Committee Charter" has been approved by TUC's Board of Directors, and an Audit Committee has been established on the Board. The committee comprises four independent directors, with one serving as the convener, and at least one possessing accounting or financial expertise. A minimum of one meeting is held every quarter, and in 2023, four Audit Committee meetings were conducted with a 100% attendance rate.

Independent directors maintain regular communication with the internal audit manager to oversee audit operations. They schedule face-to-face meetings with the internal audit manager at least once a quarter and provide monthly written reports. In 2023, the independent directors held two meetings with the internal audit manager and two meetings with the accountant. During these meetings, the accountant presented the results of the financial report reviews, provided legal education, and engaged in discussions with the independent directors.

Note: For the resolutions of TUC's 2023 Audit Committee meetings, please refer to the Annual Report of the 2023 Annual Shareholder's Meeting - Chapter 3. Corporate Governance Report - IV. Corporate Governance - (II) Operation of Audit Committee.

3.1.2.2 Remuneration Committee

To enhance the compensation system for directors and managerial officers, and assess their operational performance and the equity and rationality of their remuneration they receive, TUC's Board of Directors has approved the "Remuneration Committee Charter" and instituted a Remuneration Committee within the Board. The Committee must comprise of at least one independent director. Presently, all four members are independent directors, and two meetings were conducted in 2023 with a 100% attendance rate.

The primary responsibilities of the Remuneration Committee's main duties include establishing and periodically reviewing the system and criteria for directors' and managerial officers' performance and compensation, as well as regularly assessing their remuneration. The Remuneration Committee must consider the following principles when evaluating remuneration: ensuring that the compensation arrangements comply with applicable laws and regulations and are sufficient to recruit outstanding talent; performance assessments and compensation levels of directors and managerial officers shall take into account the general pay levels in the industry, the time spent by the individual and their responsibilities, the extent of goal achievement, their performance in other positions, and the compensation paid to employees holding equivalent positions in recent years. Also to be evaluated are the reasonableness of the correlation between the individual's performance and the Company's operational performance and future risk exposure, with respect to the achievement of short-term and long-term business goals and the Company's financial condition. There shall be no incentive for the directors or managerial officers to pursue compensation by engaging in activities that exceed the tolerable risk level of the Company. For directors and senior managerial officers, the percentage of remuneration to be distributed based on their short-term performance and the time for payment of any variable compensation shall be decided with regard to the characteristics of the industry and the nature of business. TUC has not yet to align the personal compensation of the Board of Directors and managerial officers with the Company's ESG objectives and performance. However, the Company remains committed to addressing this matter and will formulate the regulations once the relevant guidelines are to be announced by the competent authorities.

Remuneration Item	Board of Directors	Managerial Officers
Fixed and variable compensation	Travel expenses for meetings and annual remuneration	Monthly salary/ Remuneration/ Annual bonus/ Employee stock options
Signing bonus or recruitment bonus	None	None
Recovery mechanism	None	None
Retirement benefits	None	Retirement appropriation

The Remuneration Committee shall exercise the care of a good manager to faithfully perform the following duties. The duties are to establish and periodically review the policies, systems, standards, and structures of performance evaluation and remuneration of directors and managerial officers. Additionally, it regularly assesses and determines their remuneration, and submits its recommendations to the Board of Directors for deliberation.

Note: For the resolutions of TUC's 2023 Remuneration Committee meetings, please refer to the Annual Report of the 2023 Annual Shareholder's Meeting - Chapter 3. Corporate Governance Report - IV. Corporate Governance - (IV) Operation of Remuneration Committee.

In addition, Article 18 of TUC's Articles of Incorporation stipulates that in the event of the Company generating a profit in a given year, it must allocate 4% to 8% of said profit as employee compensation. Additionally, the Company may distribute shares or cash, and allocate no more than 0.8% as director compensation. The distribution of both employee compensation and director compensation must be approved by a special resolution of the Board of Directors and reported to the shareholders' meeting.

3.1.3 Internal Audit

The objective of the Company's internal audit is to aid the Board of Directors and managerial officers in identifying and assessing any shortcomings in the internal control system. This includes evaluating the effectiveness and efficiency of operations, and offering timely recommendations for improvement to guarantee the consistent and efficient execution of the internal control system. Additionally, the internal audit serves as a foundation for reviewing and modifying the internal control system. The internal control system is designed and implemented, by considering the overall operating activities of the Company and our subsidiaries and adhering to the "Regulations Governing Establishment of Internal Control Systems by Public Companies", and reviewed regularly to respond to changes in the internal and external environment. To make sure that the auditors are fair and impartial, TUC has established an autonomous Audit Office under the Board of Directors, staffed with dedicated auditors. The Audit Committee must approve the appointment and dismissal of the internal auditor, which is then presented to the Board of Directors for resolution. The appointment, dismissal, evaluation, and salary, and compensation of internal auditors comply with the "Regulations of Recruitment and Employment" and "Regulations of Resignations". These actions are proposed by the internal audit manager and approved by the Chairman. Performance evaluation for internal auditors are conducted twice every year. The Audit Office is staffed with full-time auditors who attend continuing education and training courses held by professional organizations each year in accordance with the relevant rules and regulations to ensure their suitability.

The Board of Directors and management conduct an annual review of the results of each department's self-assessment and the Audit Office's audit report, in addition to TUC's internal control system self-assessment. The internal audit officer attends the Board of Directors' meeting to report on the execution of audit operations in accordance with the regulations. Furthermore, the internal audit officer communicates with the independent directors on a quarterly basis regarding the Company's internal audit execution and internal control operations.

Annually, the Audit Office conducts a review of the self-assessment report on the internal control system of each unit and subsidiary of the Company. With the identified internal control deficiencies and irregularities, they are improved and provided to the Board of Directors and the President for assessing the effectiveness of the overall internal control system and issuing a statement of the internal control system.

TUC consistently monitors the Company's implementation of diverse operating systems through auditors, establishes sound governance practices and risk control mechanisms, and fosters a sustainable business environment. In 2023, the Audit Office performed 33 major audits with no major non-conformities, and all non-conformities were corrected within the deadline.

Audit Flow Chart



3.1.4 Ethics and Integrity

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> Responsible Departments: Corporate Governance Office and Human Resources Department Grievance Mechanism: <ul style="list-style-type: none"> Corporate Governance Office (035551103 ext 116; lan.Huang@tuc.com.tw) Human Resources Department (035551103 ext 316; tenchi.hsieh@tuc.com.tw)
Management Mechanism	<ul style="list-style-type: none"> Formulate and revise the ethical management procedures and submit them to the Board of Directors for approval. Objective and Commitment: The Company's employees conduct their tasks in accordance with the code of ethics, and there were no breaches of ethics. The accounting system and internal control systems are effectively established and operated. The Audit Office conducts monthly audits of the actual implementation and operation, in accordance with the annual audit plan, and submits reports to the Board of Directors and independent directors. All of the managerial officers of the Company have signed an ethics and integrity agreement. Besides, their employment agreement provides ethical clauses. Suppliers must sign a Statement of Integrity to verify their adherence to TUC's Ethical Policy. Ethical training courses are offered regularly. The Corporate Governance Officer presents a report to the Board of Directors every first quarter of the year regarding the Company's adherence to ethical practices within the Company in the preceding year.
Effectiveness Assessment	<ul style="list-style-type: none"> Scored in items 4.2 and 4.15 related to the ethical management from the corporate governance evaluation. No complaints/ reports were received during the year. A total of two online sessions of ethical training courses were offered within the year, which saw the participation of 1,151 people in total. No deficiencies were found during the internal audit.

TUC establishes our corporate core values based on ethics. To ensure that the internal implementation of an ethical management philosophy is carried out, the Company places great importance on employee ethics and cultivates their awareness of ethical practices. Additionally, management is expected to lead by example and uphold the principles of honesty and ethics. This approach shapes the Company's overall culture of integrity through subtle influence.

Internally, TUC utilizes the Corporate Governance Office as a part-time unit to promote the ethical management policies. The Company has developed "Ethical Management Procedures," which were approved by the Board of Directors. External documents express the commitment of all directors and management to ethical management. The Company discloses our ethical regulations on our official website for external stakeholders to review. Additionally, a corresponding contact window is available for stakeholders to provide feedback. Employees can inquire about the Company's integrity regulations through the official website or consult with the Human Resources Department by various channels, such as email and telephone. At the same time, TUC requires new directors and managers to undergo ethical education within one month of assuming office and sign a declaration to uphold ethical principles. New employees receive ethical education from the Human Resources Department upon joining the Company. The employment and confidentiality agreement stipulates that employees have ethical and honesty obligations. In 2023, TUC provided two online ethical training courses, which saw the participation of 1,151 people in total. The Company also required suppliers to sign the Statement of Integrity aimed at confirming compliance with our ethical policy. The Corporate Governance Officer reports annually to the Board of Directors on the implementation of the Company's internal ethical practices in the previous year. The implementation of ethical management at TUC in 2023 was reported to the Board of Directors in March 2024.

In addition, TUC has established various channels for stakeholders to file grievances or reports, for example, the stakeholder area on Company's official website. The Human Resources Department and the Legal Affairs Office serve as the contact window. The whistleblower must name the incident and provide specific information about the incident, such as the name of the person being reported, the time and place of the incident, the circumstances of the case, and other relevant investigation contents and evidence. If the anonymous whistleblower provides specific evidence, the officer may conduct a follow-up investigation. The investigation process must be impartial and strictly confidential, and the whistleblower's identity must remain undisclosed. TUC is committed to protecting whistleblowers from any improper disposal resulting from their whistleblowing. If the report pertains to general employees, it should be directed to the head of department. If it pertains to the head of department, it should be directed to the President and Chairman. If it pertains to directors or company insiders, it should be directed to the independent directors. Documentation of prosecution, investigation processes, and investigation results should be retained in written form for five years, which may include electronic documentation. No complaints/ reports regarding ethics and integrity were received in 2023.

3.1.5 Legal Compliance

During business interactions, TUC employees must explain to the counterparties the Company's ethical management policy and related regulations. They must also explicitly refuse to offer, promise, request, or accept any improper benefits in any form or name, directly or indirectly. Additionally, it is important to avoid conducting business transactions with agents, suppliers, customers, or other business partners who engaged in dishonest practices. If any dishonest practices are discovered, TUC should evaluate whether to list the partner as a rejected partner in order to uphold the Company's ethical management policy. When entering into a contract with a counterparty, TUC must fully understand its operations of ethical management aspect and shall, to the extent possible include TUC's ethical policy in the contract, including but not limited to, that if either party becomes aware of a breach of prohibiting the receipt of commissions, kickbacks, or other improper benefits, such party must immediately and factually inform the other party of the identity of such personnel involved, the manner, amount or other benefits provided, and provide relevant evidence to cooperate with the other party's investigation. If the injured party suffers losses, it may claim damages from the other party as a percentage of the contract amount and may deduct it from the contract price payable. Either party may terminate or cancel the contract unconditionally if the other party engages in the event of dishonest conduct during their business activities.



TUC's Rules and Regulations
Concerning Integrity and Ethical
Management

Compliance with laws and regulations forms the basis of any business operation. TUC not only disseminates internal rules of integrity to employees upon their commencement of work, but also mandates that employees uphold ethical and integrity obligations. Given the multitude of laws and regulations, each department remains informed of relevant revisions through interactions with government agencies or media reports. Subsequently, internal and external training is conducted for employees in each department to ensure that the Company's operations comply with all laws and regulations.

Firstly, in terms of corporate governance, TUC has established functional committees to oversee the Company's financial operations and internal control system. The Company has adopted the "Corporate Governance Best Practice Principles" and the "Board of Directors' Performance Evaluation Method" to encourage the Board's active participation in important corporate decisions. Additionally, a Corporate Governance Officer has been appointed to provide professional advice and support to strengthen the functions of the Board, enhancing its operational effectiveness. In the future, TUC will persist in adhering to follow the Corporate Governance Assessment and the Corporate Governance Best Practice Principles to augment the legal compliance consciousness of our staff.

Regarding personnel management, TUC has established ethical rules and regulations, and consistently promoted the Company's core values of ethics and integrity. Through various mechanisms such as regulation formulation, implementation, self-examination, and open reporting channels, as well as protection for whistleblowers, TUC has constructed a robust legal compliance firewall. Management should lead by setting an example and require all employees to ensure that their relevant business behaviors comply with laws, company policies, and internal regulations. Annual internal control self-assessments and accept internal audits should be conducted to ensure compliance. To establish guidelines for employees to follow in conducting business, requiring all employees of TUC's group companies, regardless of position, rank, or location, must comply with the "Ethical Management Procedures" and the "Code of Ethical Conduct." These guidelines include working environment standards, equal opportunity, confidentiality, prohibition of part-time employment and avoidance of conflict of interest, gifts and shopping etiquette, respect for employees and customers, whistleblowing, protection, and immunity. Adhering to these guidelines will help TUC gain public trust, enhance our corporate image, and ensure sustainable operation and development. Additionally, TUC has formulated a code of conduct for management and employees when engaging in commercial conduct to prevent and avoid violations of fair competition and anti-trust laws, reducing the risk of legal violations. To compete in the industry with ethics and fairness, TUC has established a corporate culture of compliance, and cultivated a reputation as a trustworthy and respected company.

TUC has implemented a comprehensive personnel training program that includes regular training sessions for employees of various departments and ranks. These sessions focus on the laws and regulations governing business management, in accordance with both legal requirements and the Company's internal policies. The Legal Affairs Office and other relevant authorities collaborate with TUC to provide this training, which aims to enhance employees' understanding of ethics and compliance with legal requirements. Training content is tailored to employees' specific business responsibilities, with different types of training available, such as training for new recruits, physical courses, promotion-specific training, and external training. Additionally, TUC provides regulatory compliance guidelines through multiple channels, ensuring that employees have access to legal knowledge at all times.

Lastly, in terms of environmental, health and safety, TUC has implemented monitoring, measurement, and performance management rules to ensure compliance with environmental protection regulation and occupational safety and health act throughout the product life cycle. Our environmental and occupational safety management system operates effectively, detecting potential problems through the management cycle and taking timely control measures to prevent damage to TUC. In 2023, no penalties were imposed by the competent authorities on TUC due to material violations of the law.

3.2 Risk Management

The sustainable operation of an enterprise necessitates consideration of potential risk issues and operational assessments. Risk issues derive various aspects differed from the economic in the past, such as environment, society, technology, and geopolitics. In light of the evolving global economic landscape, the Company remains vigilant in monitoring global risk trends and implementing risk management measures under the guidance of the Board of Directors, with the Corporate Governance Office serving as the focal point. The Company identifies potential risks that may impact our operations and collaborates with relevant business-related units to evaluate the likelihood and severity of such risks. Subsequently, the Company promptly adjusts our operational strategy in response to the risk assessment.

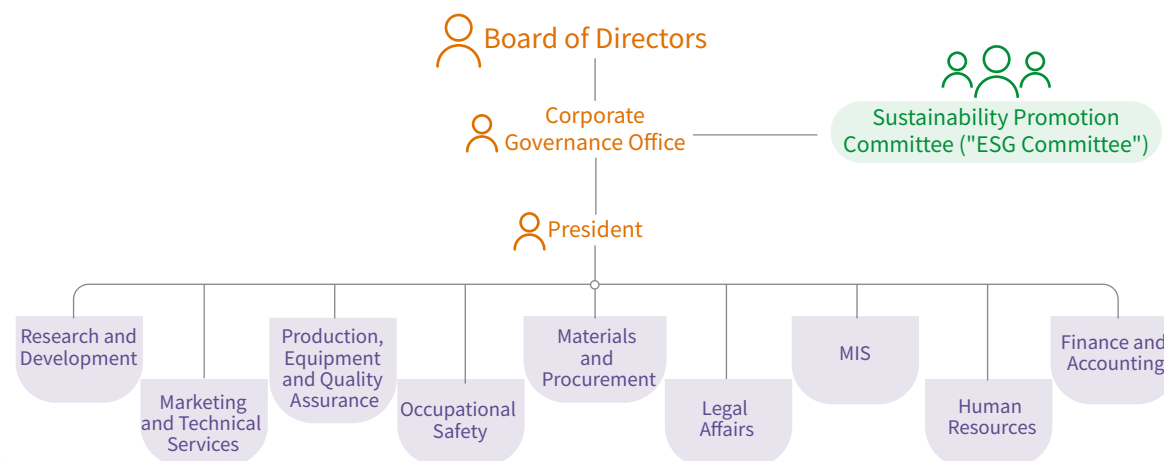
3.2.1 Risk Management Policies

To ensure the Company's sound operation and sustainable development and to establish a comprehensive risk management culture as a basis for risk management, TUC developed the "Risk Management Policies and Procedures" in 2022. The Board of Directors approved the policies, which include risk identification, risk analysis and assessment, risk control and handling, risk monitoring and review, and information communication and reporting. These policies aim to enhance employees' risk awareness and maintain risks within a tolerable level.

3.2.2 Risk Management Framework

As per TUC's Risk Management Policies and Procedures, the Board of Directors serves as the primary decision-making and supervisory body for risk management. The Corporate Governance Office is tasked with promoting and overseeing the execution of diverse risk management initiatives, approving the Company's risk management policies and associated measures to comply with legal requirements. It also supervises the implementation of various risk management systems and ensures the efficient functioning of the mechanism. Each risk is categorized into environmental issues, human rights issues, and governance issues, which are under the actual responsibility of each functional group.

TUC's Risk Management Framework



Responsible Department	Rights and Responsibilities
Board of Directors	<ul style="list-style-type: none"> ◆ The highest unit of risk management, responsible for approving, reviewing, and monitoring the Company's risk management policy.
Corporate Governance Office	<ul style="list-style-type: none"> ◆ Responsible for the monitoring, measuring, and evaluation of corporate risks at the executive level, and reporting regularly to the Board of Directors. It also exercises the relevant authority independently of the business units and operations. ◆ The Corporate Governance Office has established the SESG Committee to carry out risk assessments on environmental, human rights or corporate governance issues related to TUC's operations, and formulate relevant risk management policies or strategies according to the materiality principle.
Department Managers	<ul style="list-style-type: none"> ◆ Responsible for analyzing and monitoring the related risks within the department to ensure the effective implementation of risk control mechanisms and procedures.

3.2.3 Risk Management Operations

The Process of Risk Management

- By following the risk management process of identifying, measuring, monitoring, risk reporting, and responding to risks, we gain a clear understanding of each risk's scope and take necessary actions to manage them effectively. This enables us to efficiently allocate limited resources towards risk management.


The Implementation of Risk Management


- Risk management shall be performed in accordance with the three-level system (business owner, department manager and the Corporate Governance Office) and the self-assessment procedures of each department.
- Risk factors are identified on a regular basis in order to pinpoint relevant risks that could impact the sustainable development of the Company. The frequency of risk events and the severity of their impact on the Company's operations are evaluated using a risk map to define risk levels and order of priority for responses before adopting corresponding risk management strategies according to risk levels.
- Monitoring of potential risks and preventive measures are implemented based on the latest internal audit developments, standards, and requirements to bolster risk management. Risk management policies, encompassing management objectives, organizational structure, attribution of authority and responsibility, risk management procedures and other mechanisms, are formulated for each type of risk, and implemented to control various risks arising from business activities within an acceptable range.

Specific Operations

- Company's Risk Management Team holds at least two meetings every year and arranges for the Corporate Governance Officer to report to the Board of Directors on the operation of risk management once a year.
- A report was submitted to the Sustainability Promotion Committee in February 2023. The content of this report included an assessment of the key points of each type of risk encountered by TUC and the corresponding measures to address them for the year.
- In March 2023, a report on the activities implemented by the Company's Risk Management Team was presented to the Board of Directors. The content of this report included an assessment of the scope of risks, the risk environment and the risk control measures adopted, as well as the operation of risk management.
- Risk management training was conducted for about 20 department heads and members of the Sustainability Promotion Committee in the first quarter of 2023.

3.2.4 Risk Identification

Risk Category	Explanation of Risks	Feedback on Risks
 Sustainable Environment	Failure to reduce energy intensity	<ul style="list-style-type: none"> Draw up annual energy conservation plans, as well as roll out and implement energy conservation programs accordingly.
	Failure to reduce greenhouse gas emission intensity	<ul style="list-style-type: none"> Set reduction or control targets, conduct annual inventory of greenhouse gas emissions, review the achievement of targets, and make reviews and corrections when targets are not met. Inventory the Company's greenhouse gas emissions according to the ISO 14064-1 standards, and continue to implement carbon reduction measures based on the inventory results, in hopes of lowering the risks of Scope 1 emissions and Scope 2 indirect greenhouse gas emissions arising from electricity use.
	Failure to lower wastewater discharge intensity	<ul style="list-style-type: none"> Continue to maintain the ISO 14001 environmental management system and apply for the Green Factory Label of Cleaner Production Assessment System certification. Effectively reduce pollutant emissions and their impact on the environment through the implementation of process safety management and the institutionalization of management cycle. Monitor and record wastewater discharge volume and discharged water quality on a daily basis, as well as compare them with production capacity to control anomalies. Draw up an internal audit plan to review the Company's compliance with the relevant environmental laws and regulations, and check whether each operational process meets the relevant requirements.
	Failure to increase waste recycling volume and rate	<ul style="list-style-type: none"> Continue to maintain the ISO 14001 environmental management system and apply for the Green Factory Label of Cleaner Production Assessment System certification. Effectively reduce pollutant emissions and their impact on the environment through the implementation of process safety management and the institutionalization of management cycle. Promote waste reduction, formulate waste classification standards, and require waste to be sorted and collected according to such standards from the output end in order to increase recycling rate and reduce the total amount of waste. Draw up an internal audit plan to review the Company's compliance with the relevant environmental laws and regulations, and check whether each operational process meets the relevant requirements.
	Water and electricity shortage	<ul style="list-style-type: none"> Water conservation and power limitation emergency response measures are proposed and implemented accordingly.
	Typhoons, floods	<ul style="list-style-type: none"> Develop contingency plans for typhoon and flood, and conduct regular drills to ensure preparedness.

Risk Category	Explanation of Risks	Feedback on Risks
 Employee Care	Occupational accidents	<ul style="list-style-type: none"> ◆ All factories in Taiwan and subsidiaries have completed ISO 45001 verification and confirmed the effectiveness of system operation based on the PDCA framework. ◆ Draw up contingency standard operating procedures (SOP) or business continuity plan (BCP) in light of external environmental factors, and implement them accordingly. ◆ Develop a plan to provide regular employee training for new hires, on-the-job training, special operations, and transfer operations standard operating procedures (SOPs). ◆ Conduct thorough accident investigations and analyses in the event of occupational accidents occur, and enhance countermeasures to address the root causes of such incidents.
	Fire incidents	<ul style="list-style-type: none"> ◆ Establish fire safety training programs, provide fire safety education and training for employees, and conduct emergency response and evacuation drills on a regular basis. ◆ Carry out regular inspection and reporting of fire protection equipment to ensure that all fire protection equipment and facilities are in good condition. ◆ Carry out investigations and cause analysis in the event of a fire, malfunction or false fire alarm, and then follow up until improvements are completed.
	Human rights violations	<ul style="list-style-type: none"> ◆ Formulate the human rights policy, and set up channels for reporting human rights violations. ◆ Gradually incorporate the Responsible Business Alliance (RBA) Code of Conduct.
	Overworked employees	<ul style="list-style-type: none"> ◆ Reducing working hours can lead to a decrease in the frequency of occupational accidents. <ul style="list-style-type: none"> ➢ If an employee works more than 12 hours a day, BI statistics will be sent to his/ her supervisor for inquiries. ➢ The system will automatically give an early warning after anyone works for six days straight, requiring the unit to provide time off. ➢ If an employee works more than 46 hours per month, BI statistics will be sent to his/ her supervisor for inquiries. ◆ The annual physical examination aims to assess the physical and mental well-being of units with high working hours, in order to prevent potential fatigue. Factory nurses administer overwork questionnaires to these units on a yearly basis, to diagnose any signs of fatigue and take early action (such as reducing working hours or changing units).
	High turnover of staff/ Shortage of workers	<ul style="list-style-type: none"> ◆ Strengthen the environment and welfare measures to decrease the turnover of staff. ◆ Design a new salary structure to increase employees' salaries. ◆ Strengthen industrial-academic cooperation and expand new sources of work. <ul style="list-style-type: none"> ➢ Appoint domestic college students to intern at the factory. ➢ Engage in global industry-university collaboration by enlisting Thai students interested in pursuing internships in Taiwan. Upon completion of their studies, consider offering them permanent employment opportunities.


3.1 Governance Practices 3.2 Risk Management 3.3 Operational Performance 3.4 Information Security
3.5 Personal Data Protection 3.6 Products and Services

3.2.1 Risk Management Policies 3.2.2 Risk Management Framework 3.2.3 Risk Management Operations 3.2.4 Risk Identification

Risk Category	Explanation of Risks	Feedback on Risks
 Corporate Governance/ Operational Performance	Financial impact of climate change	<ul style="list-style-type: none"> ◆ Develop TUC's climate risk identification process based on the TCFD framework. A total of three opportunities and four risks have been identified following interdepartmental discussions on climate risks and opportunities. ◆ Conduct follow-up risk responses for the aforesaid four risks.
	Poor communication with stakeholders	<ul style="list-style-type: none"> ◆ Establish various channels of communication and actively communicate with stakeholders to reduce confrontation and misunderstanding among them. ◆ Set up an investor mailbox and designate the spokesperson to handle and answer investor inquiries.
	Declining competitiveness in the market	<ul style="list-style-type: none"> ◆ Develop high-frequency, high-speed, RF, and mmWave products, such as PegaClad Series, heavy copper foil material, and low-earth orbit satellite (LEO) materials, as well as provide customers with high-quality and high-stability products in order to create more value. ◆ Expand into the Southeast Asian market (including Thailand, Malaysia, and Vietnam). ◆ The surge in global environmental awareness and the evolution of vehicle energy systems have propelled the growth of the new energy industry. TUC is committed to advancing electric energy in vehicles, while also addressing economic energy and environmental concerns to identify potential business prospects.
	Ethics violations by staff	<ul style="list-style-type: none"> ◆ Ethical Management Procedures have been formulated and implemented upon a resolution passed by the Board of Directors. ◆ The Company conducts internal ethical training and requires personnel to sign an ethical pledge. All external documents include ethical controls. ◆ Formulate the whistleblowing process flow and set up whistleblowing channels to practice whistleblower protection.
	Customer complaint	<ul style="list-style-type: none"> ◆ Set up a customer service hotline and communication website to ensure the quality of customer service, and conduct customer service satisfaction surveys on an annual basis to bolster cooperative relationship with customers. ◆ The mode of operation for risk management in response to customer complaints is as follows: <ul style="list-style-type: none"> ➢ Monitoring: Customer satisfaction survey and customer interview form. ➢ Response: Based on the guidelines outlined in the customer complaint management procedure manual, response times will vary depending on the severity of the complaint. ➢ Analysis: The Quality Assurance Department identifies the responsible units according to the content of the customer complaint, and then calls the relevant units to review and response to the customer complaint, as well as make the necessary improvements.
	Information Security Incidents	<ul style="list-style-type: none"> ◆ We have developed information security policies, information security management practices, and information security emergency response plans based on ISO 27001 and BS 7799 standards, tailored to meet the specific needs of TCU. ◆ In 2013, the Business Continuity Response Team was established to mitigate the effects of operational disruptions resulting from information security incidents and expedite the recovery process. The team's primary objective is to minimize losses and ensure business continuity. ◆ The Information Security Promotion Committee was formed in 2016, with the President serving as the chairman and the Information Department assisting in the implementation of directives. The committee convenes annually to assess the Company's information security status. ◆ In 2023, the Information Security office was established as a dedicated information security unit in charge of carrying out the planning and monitoring of the overall information security system, as well as the execution of information security management operations. ◆ Implement annual information security incident notification and disaster recovery drills. ◆ Perform annual information security risk assessment and conduct improvement plans for internal and external information security threat risks. ◆ In the future, we intend to perform vulnerability scans, social engineering exercises, and effectiveness checks of our protection systems, among other related information security tests. Additionally, we regularly provide information security awareness and annual information security training to our employees.

3.1 Governance Practices 3.2 Risk Management 3.3 Operational Performance 3.4 Information Security
3.5 Personal Data Protection 3.6 Products and Services

3.2.1 Risk Management Policies 3.2.2 Risk Management Framework 3.2.3 Risk Management Operations 3.2.4 Risk Identification

Risk Category	Explanation of Risks	Feedback on Risks
 Corporate Governance/ Operational Performance	Supply chain disruption	<p>Short-term Response:</p> <ul style="list-style-type: none"> ◆ Real-time information investigation and tracking. ◆ Quickly integrate suppliers' feedback and production information, adjust production and resource allocation, and minimize the impact. ◆ Establish a supplier management policy, requiring suppliers to comply with relevant regulations on issues such as environmental protection, occupational safety and health, or labor rights. <p>Medium to long-term Response:</p> <ul style="list-style-type: none"> ◆ Pay attention to market changes, have a high degree of control over delivery dates and inventory trends, and discover potential risks and respond to material shortage risks in advance. ◆ Ongoing evaluation of new suppliers. ◆ Development of multiple sources for raw materials. ◆ Simulate a variety of unexpected situations and solutions to prevent and reduce damage in advance. ◆ Promote local procurement, shorten logistics time, and have a high degree of control over suppliers' supplying status. ◆ Provide guidance to suppliers to expand production capacity, improve advanced process technology, and refine manufacturing quality. ◆ Suppliers must sign a commitment letter regarding Corporate Social Responsibility (CSR) to guarantee the sourcing of non-conflict minerals. ◆ Suppliers must sign a Product Change Notification agreement. In the event of any necessary changes to products or production conditions, a corresponding report must be submitted by supplier within the designated timeframe. Upon confirmation, changes will be implemented in accordance with the agreed-upon date following completion of all required documentation. ◆ Implement regular on-site audits and counseling for suppliers to ensure effective risk control.

3.3 Operational Performance

Business Policy

TUC's mission is to deliver top-notch, high-value-added advanced materials and professional services to meet the needs of the global electronics industry.



In 2023, the revolutionary development of generative AI drove demand for high computing power, triggering a dramatic rise in demand for ultra-high-speed, low-loss materials in the process. However, the global economy has yet to recover significantly due to a number of persistent factors, such as wars and conflicts on the international arena, ongoing deterioration of the geopolitical situation, and global inflation. As a result, TUC's overall sales remained unsatisfactory despite growing sales of high-end products, which in turn led to a slight decline in profits compared to the previous year. TUC still managed to generate NT\$7,561,849 thousand in individual revenue in 2023.

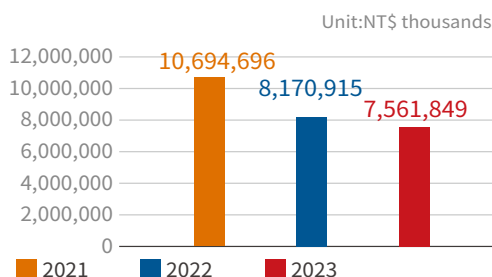
In 2023, TUC continued to develop the AI server market, with a view to boosting the market share of Super/ Ultra Loss Server motherboards, in line with Intel or AMD's CPU data transfer speed enhancement (Birch Stream and Turin). Additionally, TUC has been increasing our market share of very/low-loss base station (5G/6G) and high-end communication and networking products (100G/400G/800G) in order to strengthen our leading position in high frequency, high speed, and ultra-low loss material product lines. The Company is also actively investing in R&D for energy and market expansion to broaden the product portfolio of halogen-free HDI board for mobile devices such as laptops, cell phones, tablets, and game consoles. This will provide a more stable operating base for the Company.

In addition, TUC is proactively promoting customer certification and market development for high-value-added niche products, including low-earth orbit satellites, automotive radars, high-end automotive electronic materials (such as auto-driving servers and electric vehicles), and IC substrates. Additionally, TUC is strengthening and promoting HDI board for mobile phone customers such as Oppo, Vivo, Xiaomi, and Honor. TUC is also expanding the mSAP process laminates, and increasing the demand for Heavy Copper Foil materials in electric vehicle charging devices in order to enhance product competitiveness. In the face of the challenges ahead, TUC has successfully expanded our products to emerging markets such as India, Thailand, Malaysia, and Vietnam.

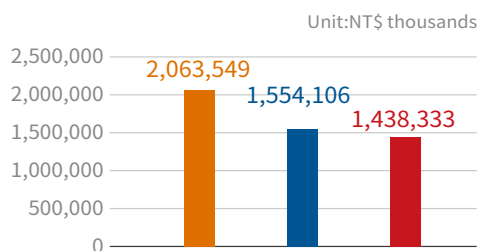
Looking ahead to 2024, demand for high-end materials is expected to grow thanks to the booming development of AI, high-performance computing (HPC), and high-end switches. With the gradual easing of the high-inflation environment, the macro-economy is anticipated to recover gradually, which will help facilitate the growth of various fields, including cloud data centers, telecommunications core systems, smartphones, high-performance computing, the Starlink project, and in-vehicle electronic platforms. TUC will carry on deepening our own R&D capabilities and co-developing products that are more competitive and meet the requirements of new application areas with customers, incorporate smart manufacturing systems to leverage related production technologies and benefits, and actively acquire large-scale end-customers at home and abroad while striving for industry-leading or benchmark position in the market of various high-end products or application areas.

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> Responsible Departments: Sales Division and R&D Division Grievance Mechanism <ul style="list-style-type: none"> TUC's official website: Stakeholders Section/ Contact Us. Corporate Governance Office (+886-35551103 ext. 116/ Ian.Huang@tuc.com.tw)
Management Mechanism	<ul style="list-style-type: none"> Policy/ Commitment <ul style="list-style-type: none"> TUC is committed to upholding the principles of ethics, pragmatism, and continuous innovation in providing comprehensive and efficient solutions to our customers. Our mission is to be a partner with our customers to enhance our collective competitiveness together. Achievements in 2023 <ul style="list-style-type: none"> Developed and secured orders for 800G low-loss high-dielectric substrate material. MSAP process materials with the property of CTE (X, Y) less than 6 to 7 ppm. Developed M9HF-grade new materials. Developed and evaluated materials for automotive mmWave radar applications. Conducted electrical evaluation of 224Gbps high-speed communication applications. Underwent actual certification of end-use materials in ground receivers for low-earth orbit satellite. Mass production of 100G, 400G, and 800G optical modules. Honored with the Excellent Supplier Award by a major customer. Goals <ul style="list-style-type: none"> Short-term: TUC is dedicated to practical management, improving our R&D capabilities, and partnering with customers to create products with greater competitiveness and new applications. The Company is implementing intelligent manufacturing systems to optimize production technologies and benefits. TUC is also actively expanding our reach to large domestic and international end-users, while increasing the proportion of high-end, high-speed, and high-frequency laminates, low-loss HDI boards, radio frequency substrates (RF), and other products. In the upcoming year, the Company anticipates to sell approximately 20.16 million sheets of CCL (TUC Group), and generate a turnover of approximately NT\$1.2 billion from mass lamination service. Medium to long-term: (1) Continue to obtain certification and mass production of new 5G and 6G high-end products from end customers; (2) Adjust our product and customer structure to increase profits; (3) Actively secure orders for HSD high-end boards, HLC boards, and HDI multi-layer boards; (4) Increase the proportion of production and sale of eco-friendly (halogen-free) substrates; (5) Enhance real-time service for local customers in conjunction with the mass production of ultra-low-loss products; (6) Actively obtain customer certifications for RF substrates (RF, Antenna, and Hi-Dk) and incorporate them in mass production; (7) Actively improve product quality and reliability, and brand image; (8) Acquire PCB customers in Thailand, Malaysia, and Vietnam following our plan to expand into the Southeast Asian market; (9) Develop high-voltage-resistant materials to expand the market for charging piles and electric vehicles; (10) Obtain material certifications for 400/800 GHz switches from major international manufacturers and actively strive for orders; (11) Develop materials for low-earth orbit satellite and obtain the relevant certifications; (12) Secure AI orders from major international companies; (13) Secure orders for 100G/ 200G/ 400G/ 800G optical modules.
Evaluation Mechanism	<ul style="list-style-type: none"> Reported an increase in the proportion sales of strategic products^(Note 1) to the Company's revenue for the past three years from 39.6% in 2021 to 66.7% in 2023. Note 1: Strategic products refers to products whose selling price is above the average selling price or average gross profit. Successfully expanded into the Southeast Asian market (i.e., Thailand, Malaysia, and Vietnam). Halogen-free materials (including high-speed materials) accounted for 12% of the global market share; special substrates (including high-speed substrates, packaging substrates, and RF substrates) constituted 12% of the global market share. Note 2: Source: Prismark report dated June 2023 Received zero customer complaint in 2023.

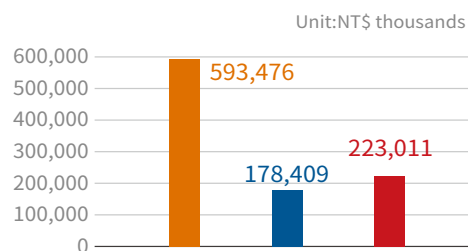
Revenue



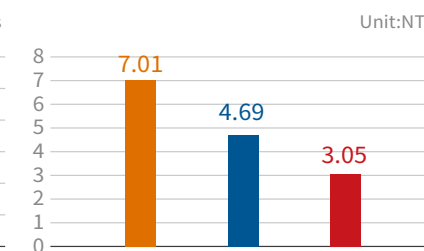
Gross Operating Profit



Net Operating Profit



Earnings Per Share, EPS



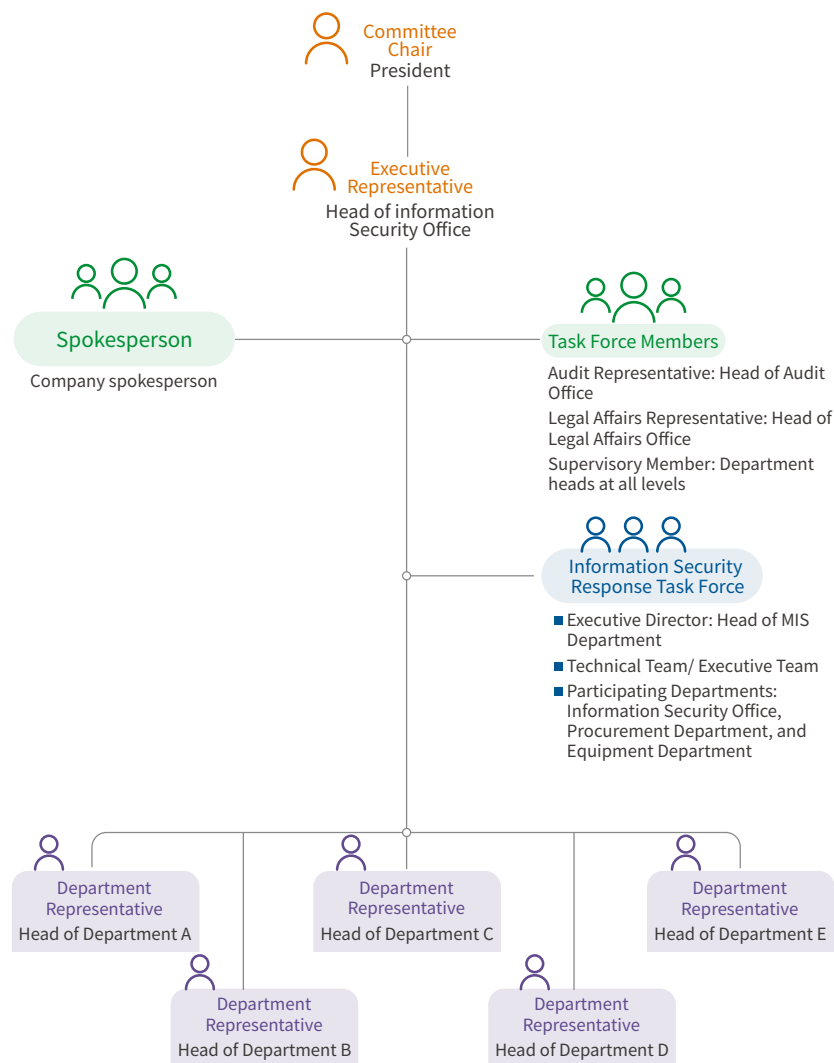
Note: The above table only discloses TUC's individual data; for detailed financial data for 2023, please refer to the 2023 Annual Report of the Shareholders' Meeting - VI. Financial Overview.

3.4 Information Security

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> Responsible Department: Information Security Office Grievance Mechanism: <ul style="list-style-type: none"> Corporate Governance Office (+886-35551103 ext. 116; lan.Huang@tuc.com.tw)
Management Mechanism	<ul style="list-style-type: none"> Policy <ul style="list-style-type: none"> Maintain the confidentiality, integrity, availability, and legality of company information to prevent the inappropriate use, leakage, tampering, damage, and disappearance of information and assets in the event of human negligence, deliberate sabotage, or natural disasters, which may affect the Company's operations and result in damage to the Company's rights and interests. Management Objectives <ul style="list-style-type: none"> Maintain continuous operation of various information-related systems Prevent intrusion, damage, and other security threats posed by hackers, viruses, and other malicious entities. Prevention of intentional improper and unlawful use. Avoid accidents due to human error. Maintain physical environment security Commitment <ul style="list-style-type: none"> Implement and abide by relevant information security laws and regulations. Protect the security of TUC and customer information assets, gain customer trust, and maintain the Company's overall competitiveness. Formulate complete regulations and clear operating procedures to allow information security management to operate systematically. Adopt PDCA cycle to ensure the achievement of goals and continuous improvement. Goals <ul style="list-style-type: none"> Short-term goals (2024 to 2025): (1) Zero major information security incidents; (2) Key service-level agreement (SLA) reaches 99.99%; (3) More than 16 hours of advanced trainings for information security specialist per year; (4) Build an information security monitoring center; (5) Conduct regular social engineering drills and vulnerability scans; (6) Build a computer file operation record system. Medium to long-term goals (beyond 2025): (1) Insure information security insurance to transfer information security risks; (2) Implement ISO 27001 information security management system. Information Security Management Practices <ul style="list-style-type: none"> (1) Anti-virus software protection; (2) USB management and private USB encryption control; (3) Account authority management and access control; (4) Email security control, transfer encryption, spam, virus email anti-blocking mechanism; (5) User internet control mechanism; (6) External advanced firewall blocking virus and intrusion prevention detection; (7) Internal network micro-segmentation adopts advanced firewall blocking virus and access control; (8) Regular system updates and patches; (9) Regular data backup; (10) Regular disaster recovery drills; (11) Regular training on personnel information security education; (12) Internal and external information security audits; (13) Amend the Employee Working Rules to clearly stipulate the punishments for violations of information security policies; (14) Host vulnerability scans; (15) Social engineering drills for employees.
Evaluation Mechanism	<ul style="list-style-type: none"> Disaster recovery drills are regularly conducted every year to ensure uninterrupted business operations. The Company's system for the reporting, classification, grading, handling, statistical analysis, and tracking of information security incidents is maintained in accordance with the operational practices set out in the information security emergency response plan. In case of an information security incident, the incident is promptly reported and responded to within the shortest possible time to ensure the normal operation of all businesses. There have been no major information security incidents, nor have any confidential data leaks compromised the personal information of our customers and employees, or led to any penalties. No significant deficiencies were found in the Company's internal audits, CPA audits, and customer audits.

TUC holds a significant position in the global PCB supply chain. The Company maintains our commitment to delivering exceptional CCL manufacturing services to our worldwide clientele while fostering enduring and mutually advantageous relationships with them. Additionally, TUC is proactively enhancing our information security and confidential information protection measures with the aim of not only maintaining the confidentiality, integrity, availability, and legality of company information to prevent the inappropriate use, leakage, tampering, damage, and disappearance of information and assets in the event of human negligence, deliberate sabotage, or natural disasters, which may affect the Company's operations and undermine the Company's competitiveness in the market, but also safeguarding the interests of customers and partners. In view of the increasing significance of information security concerns in the industry, the Company established the Information Security Promotion Committee in 2016, where the President serves as the committee chair. A task force, which is set up under this committee, comprises representatives from various departments to serve as committee members in charge of promoting information security within their respective departments and enhancing employees' awareness of information security. The committee convenes annually and may hold interim meetings as required. The Committee convened a meeting in September 2023, where the agenda encompassed information security risk management, reports of information security incident handling, implementation of diverse information security control measures, and advocacy for information security concerns, including computer rooms, computer operations, mobile devices, access control and internet security, etc. In December 2023, the Board of Directors passed a resolution to set up the Information Security Office as the dedicated information security unit at TUC, with the President as the chief information security officer and senior engineers as information security specialists, which is tasked with planning, monitoring, and implementing the overall information security system and information security management operations.

Organizational Structure of the Information Security Promotion Committee



Member		Rights and Responsibilities
Committee Chair		<ul style="list-style-type: none"> ♦ Serving as the highest-level person in charge of information security management practices at the Company. ♦ Responsible for approving information security policies and management practices. ♦ Convening the Information Security Response Team and establishing a 24-hour command center as needed in case of an operational disruption. ♦ Keeping abreast of the coordination and status of emergency response measures. ♦ Making decisions on various response measures as well as announcing and implementing such measures.
Executive Representative		<ul style="list-style-type: none"> ♦ Responsible for convening and chairing information security management review meetings, as well as overseeing and approving meeting affairs according to delegation of authorization. ♦ Formulating information security management operation manuals. ♦ Implementing information security policies, as well as coordinating and integrating information security activities across various departments. ♦ Formulating information security risk management procedures. ♦ Managing information security incidents. ♦ Assessing the effectiveness of implementing and executing information security management in order to report the performance of information security management to the committee chair on a regular basis.
Task Force	Audit Representative	<ul style="list-style-type: none"> ♦ Regular internal audits of the Company's information security. ♦ Overseeing departmental compliance with the resolutions of the Information Security Committee and the implementation of relevant systems.
	Legal Affairs Representative	<ul style="list-style-type: none"> ♦ Planning and reminders for legal compliance of information security. ♦ Writing information security-related operational documents and legal reviews.
	Supervisory Members	<ul style="list-style-type: none"> ♦ Overseeing the staff to enforce resolutions and regulatory obligations of the Information Security Committee. ♦ Participating in and supervising the operation of the Committee.



Member		Rights and Responsibilities	
Information Security Response Task Force	Executive Director	<ul style="list-style-type: none"> Assisting the committee chair in overseeing the operations of the Information Security Response Task Force. Assisting the committee chair in coordinating and supervising the performance of duties and responsibilities by the specialized teams established under the Information Security Response Task Force. 	
	Technical Team/ Executive Team	<ul style="list-style-type: none"> Technical Team: Serving as professional and technical support to provide key decision makers with recommendations on the procedures for subsequent restoration actions. Executive Team: Executing technical procedures related to the actual restoration operation. 	
	Participating Departments	<ul style="list-style-type: none"> The Information Security Office is required to carry out interpretation and reporting of information security incidents and perform log analysis together with MIS Department, as well as assist the Information Security Response Task Force in implementing information security emergency response measures. The Equipment Department is required to provide assistance in response to electrical power, air-conditioning, lighting, network cabling, and other needs. The MIS Department is required to restore information-related infrastructure, track and report the implementation status of the information security emergency response plan as assigned and directed by the commander, seek support and assistance from the relevant divisions, as well as notify the Factory Affairs Division and other departments to carry out contingency procedures. The Procurement Department is required to assist the MIS Department with hardware leasing or purchase from relevant vendors or digital forensic needs in the event of various hardware needs, such as servers and networks, or information security incidents. The Equipment Department is required to establish the service disruption production process for day-to-day operation, and direct subordinate divisions to carry out contingency procedures based on the operation disruption process. 	
Information Security Promotion Committee		<ul style="list-style-type: none"> Attending Information Security Committee meetings. Participating in regular meetings to promote information security issues. Fully reflecting the concerns of employees. Executing the resolutions and referrals of the Information Security Promotion Committee. Advising and responding to Executive Representatives on issues. Summarizing progress control and confirming results. Work assignment, progress follow-up, coordination and liaison. 	<ul style="list-style-type: none"> Providing operational advice and consultation on information security implementation to the employees under its supervision, so that the system can be maintained and continuously improved. Reviewing the suitability of the information contained within the departmental data on the internal file server from time to time, and deliberating on ways to enhance the confidentiality of sensitive documents by refining file permissions for inappropriate documents. For information security training and education for its staff.

Specific Information Security Actions in 2023

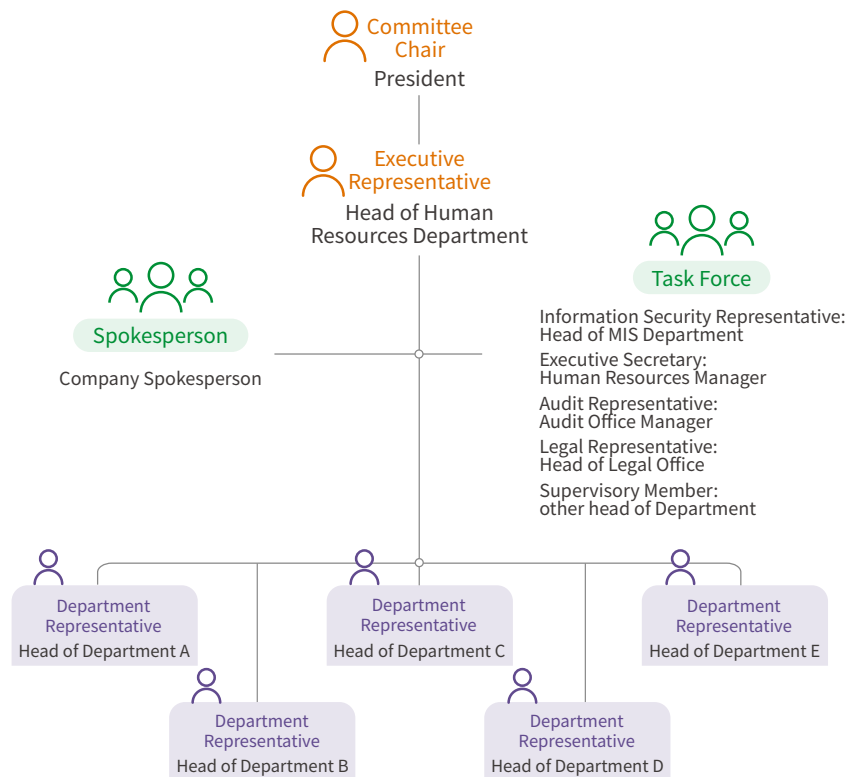
- ✓ Convening an Information Security Promotion Committee meeting once a year.
- ✓ Conducted the annual information security training program, which saw the participation of 683 people.
- ✓ Perform daily remote backup of system data.
- ✓ Encryption for transmission of confidential information.
- ✓ The anti-virus software version is promptly updated to the latest version. The network security employs advanced firewall technology to defend both the intranet and extranet. The firewall is updated regularly with virus database and intrusion prevention detection and identification. The Company's information equipment undergoes regular vulnerability scans, and annual disaster recovery drills are conducted.
- ✓ Regular information security education and training, occasional information security promotion, and social engineering drills are conducted through the intranet's E-learning system.
- ✓ Building a DDoS traffic cleaning defense mechanism.
- ✓ Conducting information security audits annually.
- ✓ Setting up a dedicated information security office, appointed a chief information security officer and information security specialists.
- ✓ Information security specialist participated in external training courses and information security seminars for 18 hours.
- ✓ Joined the Taiwan CERT/ CSIRT alliance to learn about international information security issues and obtain the collaborative cyber defense.



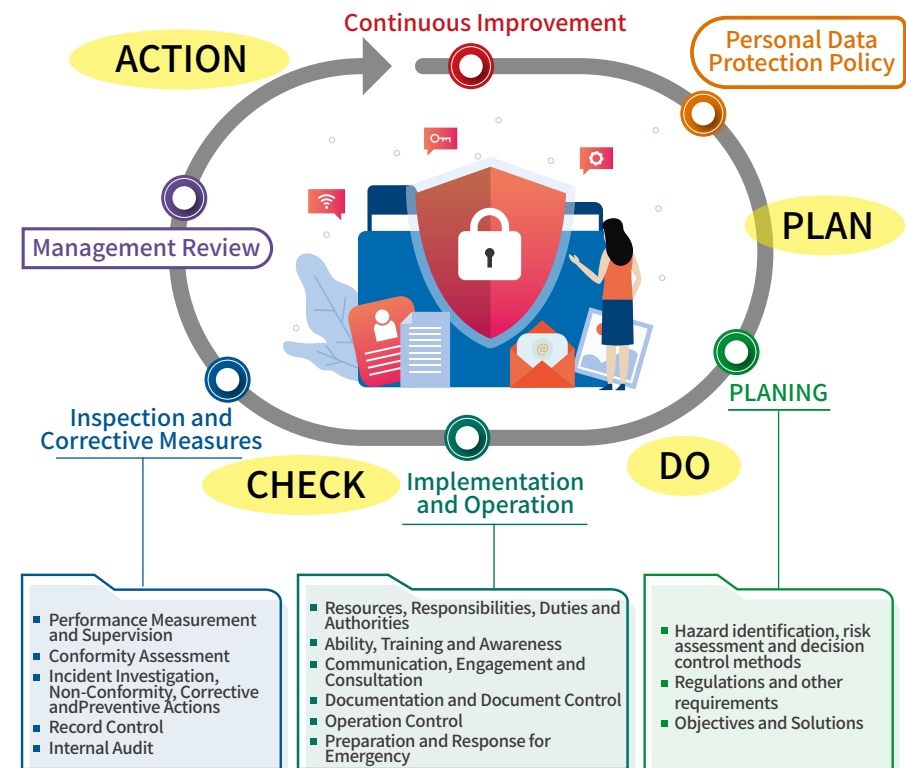
3.5 Personal Data Protection

In safeguarding both its proprietary information and the personal data of our employees, not only TUC has implemented stringent information security measures. The Company also established the Personal Data Protection Committee in 2014, with the President serving as the committee chair, the Head of the HR Department as the executive representative, and members of the task force and representatives from various departments, each with their own authority and responsibility. The committee formulates the personal data policy and announces it internally. The committee conducts annual regulation identification of regulations, personal data inventory, risk assessment and case sharing of personal data incident, promotes the control measures for the five life cycles of personal data, and plans the process for reporting personal data incidents. No incidents of personal data loss or leaks were reported at TUC in 2023.

Organizational Structure of the Personal Data Protection Committee



Personal Data Protection Management Cycle



3.6 Products and Services

TUC is dedicated to technological innovation and product development. By collaborating with clients, TUC creates products that fulfill the requirements of the worldwide electronics industry and specialized markets, establishes proprietary technologies, strengthens our capacity for innovation to distinguish ourselves from our rivals, and ultimately meets market and customer demand. The Quality Assurance Department promptly forwards customers' feedback to the R&D Department for follow-up improvements in an effort to ensure that customers receive quality service and trust in the Company, thereby boosting revenue and creating a win-win situation.

3.6.1 Innovative R&D

TUC utilizes premium raw materials and a meticulous and methodical approach to development, manufacturing, and quality management, along with continuous input of R&D capabilities, to provide industry-leading material technology and application solutions while developing high-quality and reliable products for customers. Additionally, as electronic material for mobile devices become thinner, more powerful, and multi-functional, the new generation of high density interconnect (HDI) boards focusing on miniaturizing through-hole and refining conductors has become the consensus in the PCB industry. In 2023, TUC offered ultra-low coefficient of thermal expansion and low-loss high-density link application substrates to cater to the requirements of cell phones, high-end consumer products, and mobile devices, in response to the increasing demand for such devices. Furthermore, TUC enhances material reduction, volume reduction, weight loss and waste reduction, as well as improves energy efficiency, with the aim of minimizing the negative impact of our products on the environment.

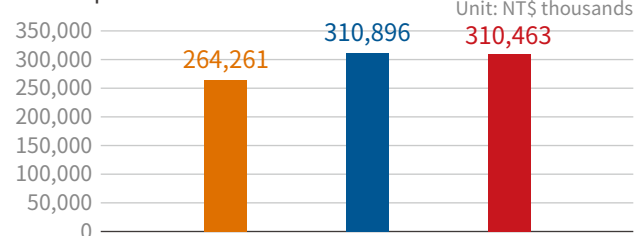
Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> Responsible Departments: Sales Department, Quality Assurance Department and R&D Department 	<ul style="list-style-type: none"> Grievance Mechanism <ul style="list-style-type: none"> TUC's official website: Stakeholders Section - Contact Us. Corporate Governance Office (+886-35551103 ext. 116; Ian.Huang@tuc.com.tw)
Management Mechanism	<ul style="list-style-type: none"> Policy/ Commitment <ul style="list-style-type: none"> TUC boasts a robust R&D team and exceptional technological innovation capabilities, with a steadfast dedication to diversified product development. We are committed to innovate with ethics and a pragmatic, responsible approach to assisting our clients in enhancing their competitiveness and generating fresh industry value in collaboration with them. Goals <ul style="list-style-type: none"> Short-term goals: We provide a diverse selection of eco-friendly products, including specialized and premium materials for high-speed communication and low-loss, high-density link applications, as well as high heat-resistant substrates, RF substrates, and IC substrates. Our offerings cater to meet the varied demands of the industry. Medium to long-term goals: We are actively engaged in the development of specialized products through innovative research and development, while also focusing on strengthening and maintaining customer relationships. We are exploring potential niche markets through strategic partnerships and patent portfolio, with the aim of increasing the added value of our products. Our products are designed for applications such as high performance computing (HPC), artificial intelligence (AI), and other high-end applications such as switches, routers, servers, network storage devices, advanced automotive electronic materials (Hybrid/ electric vehicles), IC carriers, RF substrates, and low-earth orbit satellites. 	<ul style="list-style-type: none"> Resources invested in 2023 <ul style="list-style-type: none"> The R&D Department built precision analytical instruments and improved small-scale pilot production equipment to reduce the costs of raw materials, energy, and manpower for direct testing of new products. Small volume samples were also provided to customers for testing and evaluation, thereby accelerating the development of new products and process optimization, and thus maximizing profits. As our sustainable direction includes high-value and eco-friendly products, the R&D Department boldly implemented new formulation technologies and developed a complete range of lead-free, free halogen, and environmentally friendly high-speed, high-frequency, and (ultra) low-loss laminators for PCIe 5.0/ 6.0 for high performance computing (HPC) applications. These products were also applied to the external interconnection of 800GbE high-speed switches, high-end servers, and data centers. These products have been certified by many customers, and have increased the market share of super/ultra-low loss server motherboards. With the gradual advancement of 5G technology, the overall communication and telecommunications industry is progressively shifting towards high-frequency and high-speed environmental design. In 2023, we developed, constructed, and validated RF substrate application materials for electrical testing systems operating in the 110GHz radio frequency band. Furthermore, we reinforced our strategic partnerships and material certification processes with end-users, including those in the 5G/ 6G, automotive radar, and low-earth orbit satellite industries, to establish a presence in specialized product markets. Owing to the gradual expansion of the electric vehicle market, fast charging and automotive parts and components are progressively shifting towards a high-voltage resistant design. In 2023, we designed, built, and validated PLC Level 0 products for high-CTI substrate application materials while promoting material certification for end-use applications such as automotive charging and converters in an effort to establish a presence in specialized product markets. To provide customers with the most up-to-date product information, the results of our latest product development are disclosed on TUC's official website.
Evaluation Mechanism	<ul style="list-style-type: none"> TUC is the first company in the world to be awarded an IPC-4103 Qualified Product Listing with the TU-1300N CCL. TUC was awarded the IPC-4101 certification for 18 of our products for the first time in 2017. In 2022, we successfully renewal the certification for these products, thus becoming the first company in the world to renew the IPC-4101 certification for its products. 	<ul style="list-style-type: none"> TUC conducted assessments through Group Vision Meeting and R&D meetings to review the progress of implementing KPIs for innovative R&D, including certification of new products on the customer side, differentiation of competitive products, and analysis of stakeholder complaints or grievances. In 2023, R&D expenditure accounted for 4.11% of TUC's revenue, up 3.80% from the previous year. In 2023, TUC owned a total of 156 valid patents, up 2.6% from the previous year.

🌲 Successfully Developed Products or Technologies in Recent Years

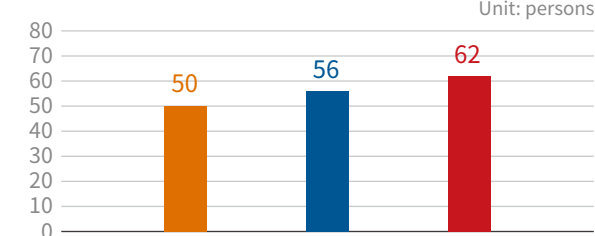
Item	Description
Low-loss substrates for high-speed communication	ThunderClad 4SR/2A(SP)/3+/2C/1+ and other low-loss substrates, which are used in applications such as high-end networks, servers, and switches across computing centers and data centers.
RF substrates	PegaClad 5/4A/2A/2/1 etc. RF wireless communication substrates, which are used in 5G millimeter wave communications, automotive sensing and imaging radar, and low-earth orbit satellites.
IC substrates	TU-M700/TU-H701 and other substrates with ultra-low dimensional change characteristics, which are suitable for use as chip substrates.
Substrates for high density interconnect (HDI) applications	TU-900/TU901/TU-862T/TU787Lk/TU-747HF and other substrates for high-density connection with good dimensional stability, which are suitable for use in the high-density through-hole and circuit connection fields.
Highly heat-resistant substrate	TU-865/TU-862HF and other high heat-resistant substrates with excellent heat stability characteristics, which are suitable for use as a base material for combining heterogeneous materials.
High CTI substrates	TU-865S is high-CTI substrate with the high-CTI characteristic of PLC Level 0, which is suitable for use as a base material for high-voltage resistant materials in fast charging piles and electric vehicles.

🌲 R&D Capacity in Recent Years

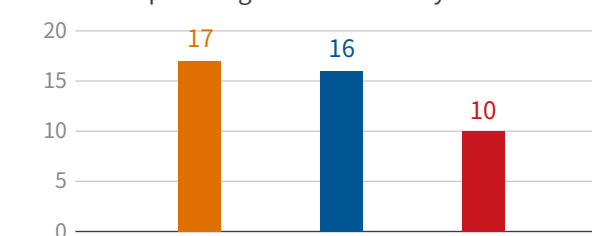
R&D expenditure



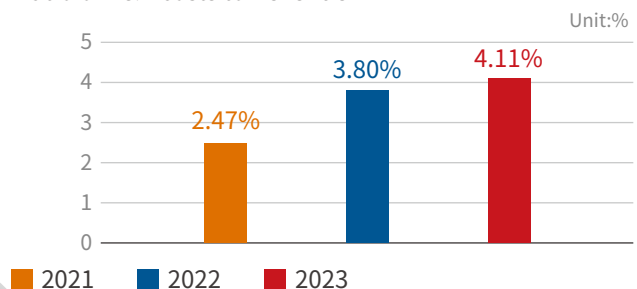
Number of R&D Personnel



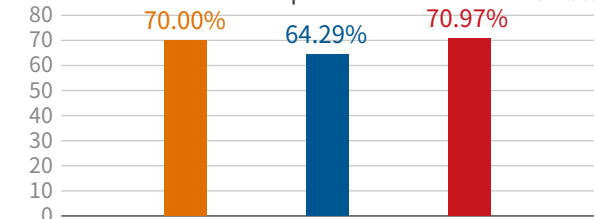
Number of patents granted in recent years



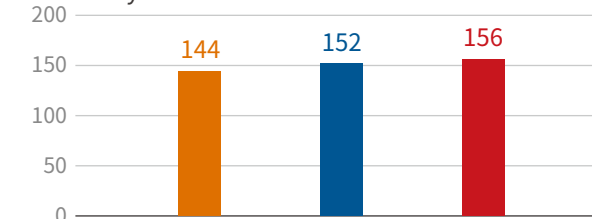
Ratio of R&D costs to Revenue



Ratio of personnel with a Master's degree or above to number of R&D personnel



Number of valid patents accumulated in recent years



■ 2021 ■ 2022 ■ 2023

3.6.2 Customer Service

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> Responsible Departments: Sales Department and Quality Assurance Department 	<ul style="list-style-type: none"> Grievance Mechanism <ul style="list-style-type: none"> TUC's official website: Stakeholders section- Contact Us. Corporate Governance Office (+886-35551103 ext. 116; Ian.Huang@tuc.com.tw)
Management Mechanism	<ul style="list-style-type: none"> Policy/Commitment <ul style="list-style-type: none"> We are dedicated to offering our customers competitive pricing, swift response, and timely delivery services. Furthermore, we are devoted to assisting our customers in enhancing their competitiveness by adhering to the values of ethics, practicality, and ongoing innovation. Goals <ul style="list-style-type: none"> Short-term: Maintain strong customer relationships and prioritize their needs. Consistently communicate with customers through phone, email, or in-person visits to offer assistance and support. The target score in customer satisfaction survey is set at above 85 points. Medium-term: Deliver comprehensive customer service, aid in resolving product abnormalities, and enhance customer satisfaction. The target score in customer satisfaction survey is set at above 85 points. Long-term: Regularly organize education and training sessions (including customer service and industry-specific courses, etc.) to enhance the professional skills of the customer service representatives. The target score in customer satisfaction survey is set at above 85 points. 	<ul style="list-style-type: none"> Resources invested in 2023 <ul style="list-style-type: none"> As per the Company's protocol for handling customer complaints, customers are provided with feedback on the reasons for product abnormalities and disposal methods. This is done to minimize waiting time and prevent production shutdown. Filed a case and investigated the root cause of each customer complaint. Simultaneously, extended the analysis to other products or processes in parallel to minimize recurring issues and enhance overall product quality. Kept a close eye on the implementation of policies on the customer side, participated in supplier meetings organized by customers on a regular basis, and conducted briefings on key quality issues raised by customers in internal meetings. Customer Satisfaction Survey <ul style="list-style-type: none"> Every year, a survey is conducted to evaluate six aspects of quality, delivery, feedback, professional knowledge, order processing, and hazardous substance management capabilities. The survey results are used to score and compare competitors within the industry.
Evaluation Mechanism	<ul style="list-style-type: none"> The average score in TUC's customer satisfaction survey for 2023 was 86.2 points, which was 5.9 points higher than among competitors. TUC was honored with the Excellent Supplier Award by a major customer. TUC reported a 27% decline in the number of customer complaints in 2023, down 49% in comparison to the average number of customer complaints over the past three years. 	<ul style="list-style-type: none"> No significant deficiencies were found in customer audits. No instances of personal data violations or breach of customers' trade secret were reported at TUC.

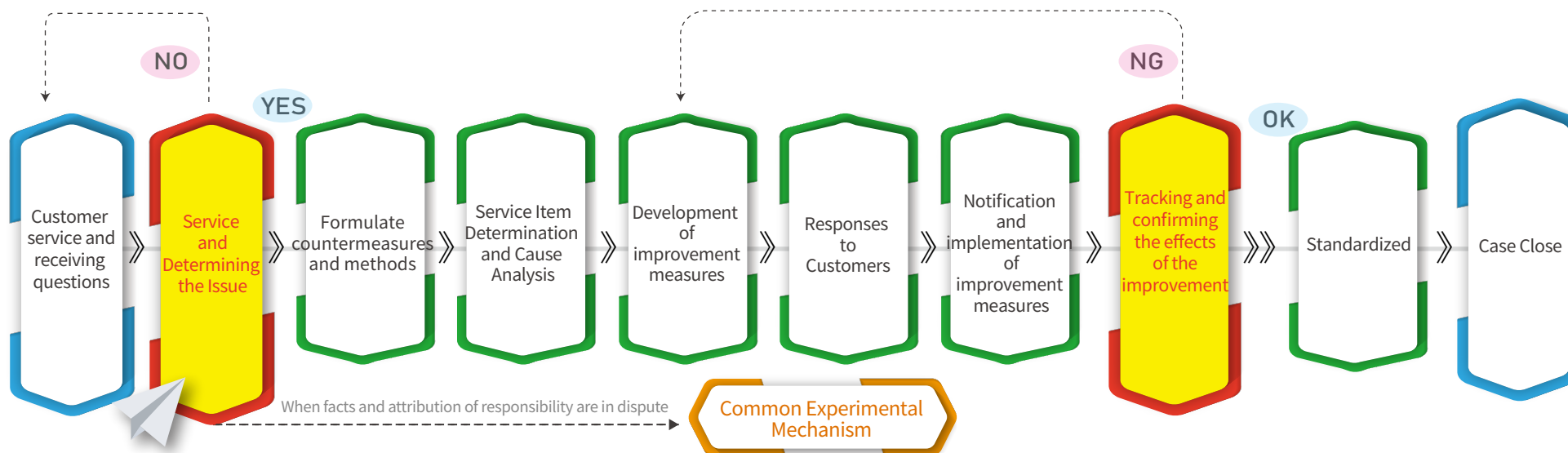
TUC has responded to market demand by offering comprehensive technical services, and conducting regular customer satisfaction surveys. In cases where projects received low satisfaction ratings, TUC conducted internal reviews and made improvements. Inter-departmental meetings were held to propose solutions for improvement, ensuring customer problems were resolved. Customers can also contact us by phone, via e-mail, or through other channels if they need any assistance. When a customer sends his/ her opinion, the responsible department is required to conduct an investigation into the matter related to the customer's opinion according to the Company's customer service procedure or reply to the customer's opinion within the time limit designated by the customer. As TUC continues to maintain a long-term cooperative relationship with customers, TUC has not infringed upon any customer's personal data or trade secret in recent years.

In addition, TUC began participating in the PCB design requirements for the next-generation AMD EPYC platform in the second quarter of 2023 while actively developing the multi-coaxial multi-layer (MCML) high-bandwidth measurement methodology for the AMD ecosystem. Thereafter, TUC was invited to attend the AMD PCB Ecosystem Enabling Program (PEEP) Seminar in January 2024, and was honored with a trophy and certificate for participating in the corresponding program in 2023 so as to express its gratitude for the Company's support and contribution to the program. After joining such beta program for the platform, TUC has successfully introduced our own products into the AMD Approved Vendor List (AVL), thus further benefiting the Company's operations.



▲ Honors Received from AMD

🌲 Customer Service Process



🌲 Customer Satisfaction Surveys

Unit: points



Note: The full score for customer satisfaction survey is 100 points. The customer satisfaction score was mistakenly inserted as 89.2 points in the 2022 Sustainability Report, and has thereafter been corrected to 86.3 points.

CH4

Green Sustainability

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CARBON CREDIT

TUC has consistently operated in an environmentally friendly and sustainable manner, implementing control measures for energy, greenhouse gas emissions, water, and waste management to minimize its negative impact on the environment. In 2005, the Company was awarded the ISO 14001 Environmental Management System certification with a view to ensuring that we are able to minimize the negative impact of our operations on the surrounding environment based on the Plan-Do-Check-Act (PDCA) cycle.

4.1 Water Resource Management

TUC is located in an area with no immediate risk of water shortage. Nevertheless, the Company has made significant efforts to cooperate with various water management measures in Taiwan to address the issue of water conservation. As part of these efforts, TUC has installed an underground mat foundation with approximately 1,800 tonnes of water storage capacity for process use in the event of a water shortage.

The Company obtains its water from both tap water and groundwater sources provided by the Taiwan Water Corporation. This water is primarily utilized for general domestic wastewater and production purposes, such as for processes, product cleaning, and air conditioning cooling systems. To ensure water availability, the Company regularly activated Ground Water production facilities for emergency use. (Groundwater Rights Certificate No.: J0112857)



▲ ISO 14001:2015 Certificate
(valid from September 15,
2023 to March 15, 2024)

Unit: million liters

Year	Source of Water Withdrawn	Amount of Water Withdrawn	Amount of Water Withdrawn from Water Stress Area	Total Amount of Water Withdrawn
2021	Water from third parties	337.13	None	365.39
	Groundwater	28.27	None	
2022	Water from third parties	318.32	None	330.35
	Groundwater	12.03	None	
2023	Water from third parties	297.50	None	297.53
	Groundwater	0.03	None	

Note 1: Water from third parties is tap water, and its total dissolved solids are $\leq 1,000$ mg/L of fresh water.

Note 2: The data of 2022 is revised and presented as shown in the table above.



- ◆ The backwash water from the pure water production system is used for toilet cleaning to save about 30 tonnes of water per day.
- ◆ Use water-saving faucets.
- ◆ Use rainwater recycling systems for watering and planting.
- ◆ Connect pipelines between cooling towers at Plant 1 and Plant 2, which can help save up to 14,400 tons of water each year.

To conserve water resources, TUC employs water-saving faucets in its facilities and gives priority to replacing water equipment with water-saving designs. Additionally, the Company replaces cooling towers to reduce water consumption, recycles purified wastewater for toilet cleaning, and constructs rainwater recycling systems for irrigation purposes. In 2023, there was a sudden increase in water consumption due to a leaking pipe, where repair works on this pipe were completed in December 2023.

Unit: million liters

Year	Amount of Water Withdrawn from Tap Water	Amount of Water Withdrawn from Groundwater	Total Amount of Water Withdrawn	Total Amount of Water Discharged	Amount of Water Consumed
2021	337.13	28.27	365.40	214.47	150.92
2022	318.32	12.03	330.35	199.76	130.59
2023	297.50	0.03	297.53	145.36	152.17

Regarding wastewater treatment, after the plant treats the wastewater, it discharges it through a dedicated pipe into the Fongshan River. TUC has a wastewater treatment unit that includes a comprehensive equalization tank, rapid mixing tank, pH adjustment tank, slow mixing tank, sedimentation tank, gravity-type concentrated pool, neutralization tank, and sludge dehydrator. This ensures proper treatment of the process wastewater generated. TUC is committed to strict wastewater control and conducts regular quarterly checks on the pollutant content of discharge water to ensure compliance with discharge water standards.

Wastewater Treatment Value	pH Value	Water Temperature (degree Celsius)	BOD (mg/L)	COD (mg/L)	SS (mg/L)	Copper Ions (mg/L)
Emission Standards	6~9	15~35	≤ 47	≤ 111	≤ 49	≤ 1.4
2021	7.15	26.15	13.70	53.10	9.75	0.51
2022	7.58	24.95	8.83	33.33	4.15	0.18
2023	7.10	25.90	7.68	28.70	3.23	0.30

Note 1: The water quality data is taken from the average of the annual inspection data.

Note 2: The data of 2022 is revised and presented as shown in the table above.

4.2 Energy Conservation and Carbon Emissions Reduction

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> Responsible Department: Occupational Safety Division Grievance Mechanism: <ul style="list-style-type: none"> Occupational Safety Division (+886-3-555-1103 ext. 150; Eric.Fang@tuc.com.tw)
Management Mechanism	<ul style="list-style-type: none"> Policy: <ul style="list-style-type: none"> To effectively implement energy management, TUC conducts regular reviews to adjust relevant energy-saving projects. Occupational Safety Division provides policy support, explores relevant energy consumption factors, and constructs a basic database of energy data. In addition to referencing the energy consumption index of our overseas counterparts, TUC has implemented various internal energy management and conservation measures to enhance energy management, strengthen energy-saving technology, and improve efficiency control. Our goal is to become a leading indicator in the industry. Commitment: <ul style="list-style-type: none"> The Company is actively engaged in promoting emission reduction strategies in response to the global trend towards reducing emissions. At all levels, managers implement energy management policies in compliance with laws, customer demands, and other relevant requirements to establish an eco-friendly and energy-efficient work environment. Goals <ul style="list-style-type: none"> Short-term: <ul style="list-style-type: none"> Reduce carbon emissions by 2% in 2025 compared to 2021. Medium to long-term: <ul style="list-style-type: none"> Reduce carbon emissions by 10% in 2030 compared to 2021. Continue to reduce carbon emissions by 2% year by year in 2031. Actions in 2023: <ul style="list-style-type: none"> Replace low-efficiency production equipment and introduce energy-saving and high-efficiency production equipment; Daily energy-saving promotion in offices and factories to improve the energy-saving awareness of all employees within the Company; Introduce ISO 14064-1 to check carbon emissions, and formulate reduction plans for high emission sources.
Effectiveness Assessment	<ul style="list-style-type: none"> External (customer/certification authorities) verification and evaluation. Hold regular meetings to review and track KPI achievement status, and conduct performance review as appropriate.

To comprehend the carbon emissions produced by TUC's plant operations, establish carbon emission reduction objectives, and evaluate the efficacy of energy conservation, the Company has implemented ISO 14064-1 for conducting carbon emission inventories. The following table presents the outcomes of TUC's carbon emissions inventory for the past three years.

Unit: (tCO₂e/year)

Emission Source Category		Emissions in 2021	Emissions in 2022	Emissions in 2023
Direct Emissions	Category 1	22,594.57	20,993.3650	20,076.9607
Indirect Emissions	Category 2 to Category 6	127,645.64	89,924.2122	85,268.0963
Total		150,240.21	110,917.5770	105,345.0570

Note: The carbon emissions data for 2023 comes from the results of TUC's self-conducted inventory during the review of this Report. External verification of this report is scheduled for completion in June 2024. Please refer to Appendix 3 of this ESG Report for the carbon emissions data of TUC's subsidiaries.

Carbon Emission Intensity

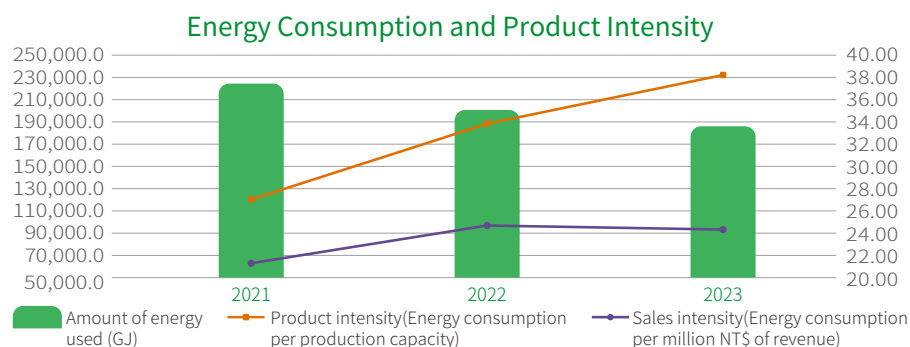
Carbon Emissions Intensity	Revenue (NT\$ millions)	Production Output (1000 Sheet)	Carbon Emissions (tCO ₂ e/year)	Sales Intensity	Product Intensity
				(Carbon emissions per NT\$ million)	(Carbon emissions per thousand sheets)
2022	8,170.91	5,956.87	110,917.577	13.5747	18.6201
2023	7,561.85	4,867.48	105,345.057	13.9311	21.6426

TUC's main products are copper clad laminate and prepreg, as well as mass laminating services. Generally, higher output leads to greater overall energy consumption. However, the unit energy consumption may be lower due to the fact that high energy-consuming equipment is mostly infrastructure facilities. This can dilute energy consumption when output or revenue is high. Conversely, if the decrease in production or revenue is greater than the decrease in energy, the total energy consumption may decrease, but the unit energy consumption ratio may increase. From 2022 to 2023, the Company encountered a decrease in demand in the economic environment, but due to the inability to reduce energy consumption of infrastructure facilities in proportion to production, energy intensity increased.

🌳 Energy Intensity

Energy Source	Revenue (NT\$ millions)	Production Output (thousand sheets)	Amount of Energy Used (GJ)	Sales Intensity (Energy consumption per NT\$ million)	Product Intensity (Energy consumption per thousand sheets)
Intensity				(Energy consumption per NT\$ million)	(Energy consumption per thousand sheets)
2021	10,694.70	8,322.62	225,276.5	21.06	27.07
2022	8,170.91	5,956.87	201,618.0	24.68	33.85
2023	7,561.85	4,867.48	185,659.7	24.55	38.14

Note: The data of 2021 and 2022 are revised and presented as shown in the table above.



TUC is a major greenhouse gas emitter listed by the Environmental Protection Agency, and therefore attaches great importance to the management of energy and greenhouse gases. Due to the current increase in production capacity year by year, electricity consumption has also increased. In order to use energy efficiently and avoid waste, TUC formulates energy-saving and green electricity carbon emission reduction plans every year, and achieves energy-saving and carbon-emission reduction goals in a planned manner. The result for the past three years was 3,161.54 MWh of electricity saved, which reduced 1,566.70 metric tons of CO2 emissions based on the latest carbon emission factors for electricity announced by the Bureau of Energy.

From 2021 to 2023, TUC implemented energy-saving and carbon-emission reduction measures primarily aimed at enhancing equipment efficiency. These measures included the addition of frequency converter to the cooling tower and ice water pumps at Plant 1, the installation of maglev chillers at Plant 2, and the replacement of high-efficiency air compressors. Green power generation measures were implemented, including the installation of solar power, where the first and second phases of electric power production have a capacity of 395 kWh and 336 kWh. These facilities began generating electricity in Q1 of 2022 and Q1 of 2023 respectively.

In 2022, TUC introduced ISO 14064-1 to more effectively target various sources of greenhouse gas emissions for carbon reduction measures. The Company plans to perform verification of our inventory on an annual basis and set reduction targets based on the results of a systematic inventory.

🌳 Energy Saving Investment and the Settlement Effect of the Current Year

Energy Saving Statistics	Amount of Electricity Saved/ Green Electricity (kWh)	Investment Funds (NT\$ thousands)	Electricity Carbon Emission Factor
2021	293.92	3,554.33	0.509
2022	492.62	55,100.00	0.495
2023	2,375.00	52,237.29	0.495

Note: The data for 2023 reflects the annual investment improvement results which include the amount of green electricity generated in 2023 using solar power in the previous year.

List of Recent Energy-Saving Projects

Year	Green Power/Energy Saving (Water Saving) Program	Energy Savings	Unit	Note
2021	◆ Replacement of C/T and cooling water pump motors for chillers at Plant 2 with IE3 (high-efficiency) ones	293,919	kWh	Electricity saving
	◆ Installation of smart water towers (CCL)	10,206	kWh	Water saving
	◆ Recycling and reuse of discharge water from the die temperature controller at Plant 1	2,659	kWh	Water saving
	Total	Amount of electricity saved/ generated: 293,919 kWh Amount of water saved: 12,865 kWh		
2022	◆ Installation of frequency converter for cooling water pumps at Plant 1	Completed in Q1 2023	kWh	Electricity saving
	◆ Installation of frequency converters for ice water pumps at Plant 1	Completed in Q1 2023	kWh	Electricity saving
	◆ Replacement of existing chillers with maglev chillers	Completed in Q1 2023	kWh	Electricity saving
	◆ Replacement of existing compressors with centrifugal water-cooled compressor systems	Completed in Q1 2023	kWh	Electricity saving
	◆ Installation of Phase 1 solar panels (roof of Plant 3)	492,624	kWh	Electricity generation
	Total	Amount of electricity saved/ generated: 492,624 kWh		

Year	Green Power/Energy Saving (Water Saving) Program	Energy Savings	Unit	Note
2023	◆ Installation of frequency converter for cooling water pump (P7) at Plant 1	216,284	kWh	Electricity saving
	◆ Installation of frequency converter for ice water pump (P12) at Plant 1	77,817	kWh	Electricity saving
	◆ Installation of high-efficiency maglev chiller at Plant 2	448,123	kWh	Electricity saving
	◆ Installation of centrifugal water-cooled compressor at Plant 3	344,222	kWh	Electricity saving
	◆ Replacement of cooling water pump for ice machines at Plant 1 (P7) and Plant 2 (P20) with IE3 (high-efficiency) ones	216,415	kWh	Electricity saving
	◆ Replacement of cooling water tower at Plant 1	263,722	kWh	Electricity saving
	◆ Connection of water discharge pipelines at Plant 1 and Plant 2	14,600	kWh	Water saving
	◆ Electricity generation of Phase 1 solar panels	530,048	kWh	Electricity generation
	◆ Installation of Phase 2 solar panels	278,376	kWh	Electricity generation
	Total	Amount of electricity saved/ generated: 2,375,007 kWh Amount of water saved: 14,600 kWh		

Phase 1 solar panels



Phase 2 solar panels



4.3 Waste Management

In terms of waste output, the Company upholds the principles of waste recycling and maximum utilization. By improving process design, we have reduced the amount of general waste output, resource waste, and cleaning costs as much as possible. Our waste treatment approach is based on resource recovery and reuse, supplemented by final disposal, to provide a comfortable, safe, and sanitary environment. This approach also allows us to create green products that meet the needs of our employees and customers. In terms of control measures, TUC implements waste classification to prevent arbitrary disposal of waste and avoid disposal problems. Waste is also controlled at its source, and the waste generated in the process is classified according to its nature, such as waste wood, copper sulfate crystals, wood pulp board, copper chloride, waste paper, and waste metal. This is done to promote recycling and strengthen separation management. The Company advocates reducing paper waste by printing documents on both sides or reusing the blank side of scrapped documents whenever possible.

TUC's entrusted waste disposal methods include chemical treatment, incineration, physical treatment, and recycling. The Company inspects over three hazardous industrial waste treatment plants annually to ensure legal disposal, and all waste removal agencies we work with are legal. TUC conducted on-site audits with regards to the waste disposal operations of three waste disposal vendors in 2023.

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> ◆ Responsible Department: Occupational Safety Division ◆ Grievance Mechanism: <ul style="list-style-type: none"> ➢ Occupational Safety Division (+886-3-555-1103 ext. 150; Eric.Fang@tuc.com.tw)
Management Mechanism	<ul style="list-style-type: none"> ◆ Policy: <ul style="list-style-type: none"> ➢ TUC effectively controls the amount of waste produced in compliance with the ISO 14001 management procedures. Adhering to the concept of minimizing waste and maximizing recycling rate, TUC selects qualified waste disposal vendors according to these standards. ◆ Commitment: <ul style="list-style-type: none"> ➢ TUC conducts audits of our waste disposal vendors from time to time with the intention of not only confirming their compliance with the relevant laws and regulations, but also ensuring that all our waste is properly treated and reused, and that our waste is disposed of locally with no risk of harm to the environment, such as cross-border transportation. We also keep improving our production process to minimize the amount of waste we produce. ◆ Goals <ul style="list-style-type: none"> Short-term: <ul style="list-style-type: none"> ➢ Sort and recycle waste to reduce waste output; conduct early environmental assessment of new equipment to identify the type of waste produced by such equipment; and adopt eco-friendly manufacturing procedures. Medium to long-term: <ul style="list-style-type: none"> ➢ Purchase waste reduction equipment and carry out waste sorting or compression to reduce the amount of waste outsourced for subsequent treatment. ◆ Actions in 2023: <ul style="list-style-type: none"> ➢ TUC managed waste reduction at source, implemented waste sorting, and tracked the disposal of industrial waste produced during the operation of each unit on a routine basis. We also optimized manufacturing processes to improve the hazardous industrial waste process flow while enhancing waste reduction and other waste management solutions.
Effectiveness Assessment	<ul style="list-style-type: none"> ◆ Reduced hazardous industrial waste by 571 tons in 2023 compared to 2022. ◆ Reduced general industrial waste by 584 tons in 2023 compared to 2022.

🌳 Overview of Waste Categories and Amount of Waste in Recent Years

Unit: metric tons

Waste Category	Waste	2021	2022	2023	Recycling and Reuse	Disposal and Treatment
General	Waste Wood	545	447	396		V
	Waste Plastic	318	245	213	V	
	Height Density Fiberboard	509	336	285	V	
	Copper Frame	207	140	99	V	
	Waste Paper	1,153	909	817	V	
	Waste Metal	104	76	55	V	
	Copper Trimming Material	451	344	281	V	
	Waste Substrate (Under 1 Inch)	36	32	28	V	
	General Waste	673	390	199		V
	Copper Dust	90	79	62	V	
Hazardous	Scrap Copper Foil	140	100	79	V	
	Scrap Prepreg	287	241	343		V
	Inner Layer Stripping Wastes	134	106	63		V
	Copper Sulfate Crystals	77	53	39	V	
	Copper Chloride	2,668	1,931	1,315	V	
Total		7,392	5,429	4,274		

🌳 Types of Waste and Treatment in Recent Years

unit: metric tons

Total Waste Output	Reuse		Incineration		Burial Disposal		Total		
	General	Hazardous	General	Hazardous	General	Hazardous	General	Hazardous	Subtotal
2021	3,008	2,745	1,218	421	/	/	4,226	3,166	7,392
2022	2,261	1,984	837	347	/	/	3,098	2,331	5,429
2023	1,919	1,354	595	406	/	/	2,514	1,760	4,274

Note 1.General industrial waste: The calculation is based on the actual weight of off-site disposal, which includes domestic waste generated from the office.

Note 2.Hazardous industrial waste: The final treatment options for disposal include incineration, chemical treatment, and reuse.

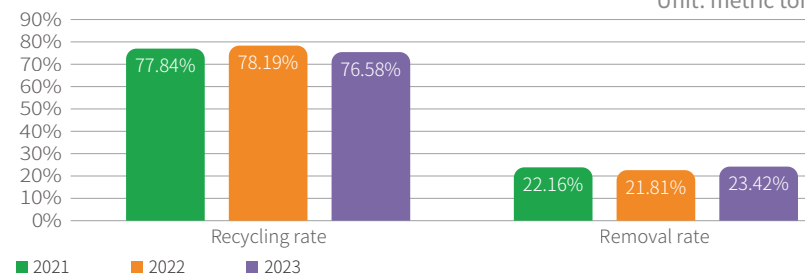
🌳 Waste Recycling and Removal Rate

Unit: metric tons

	Amount of Waste Recycled	Amount of Waste Removed	Recycling Rate	Removal Rate
2021	5,753	1,639	77.84%	22.16%
2022	4,245	1,184	78.19%	21.81%
2023	3,273	1,001	76.58%	23.42%

Waste Recycling Rate

Unit: metric tons



4.4 Sustainable Supply Chain

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> Responsible Department: Quality Assurance Department and Procurement Department Grievance Mechanism: <ul style="list-style-type: none"> Quality Assurance Department (+886-3-555-1103 ext. 251; Money.Wang@tuc.com.tw) Procurement Department (+886-3-555-1103 ext. 165; Alan.Hsu@tuc.com.tw)
Management Mechanism	<ul style="list-style-type: none"> Policy: <ul style="list-style-type: none"> The Company conducts supplier evaluation, selection, and monitoring in accordance with supplier management regulations to uphold honesty, openness, and fairness. In addition to assessing suppliers based on price, quality, and delivery time, we also incorporate supplier risk management into our regulations. This ensures that suppliers meet the requirements of sustainable management. Any suppliers which shall continue to track have to respond to the audit deficiency improvement reports. Commitment: <ul style="list-style-type: none"> With the goal of emphasizing environmental protection, social responsibility, labor human rights, safety, health, and sustainable business development, the Company aims to enhance the sustainability of its suppliers. It ensures that TUC's products and supply chain do not contain conflict minerals from conflict areas. Additionally, the Company assists upstream and downstream manufacturers in enhancing their green competitiveness, fulfilling their social responsibility, and creating sustainable business opportunities. Goals <ul style="list-style-type: none"> Short-term goals: <ul style="list-style-type: none"> Annual supplier scoring according to the evaluation mechanism (product safety, environmental regulations, quality, delivery, management system certification), with all suppliers achieving Grade B or above. Add supplier scoring for assessment mechanism with Sustainability Evaluation Questionnaire (HR and EHS questionnaires). For suppliers with lower evaluation scores, we will take measures to reduce the procurement volume or cancel the qualification of qualified suppliers. Medium to long-term: <ul style="list-style-type: none"> Continue to counsel suppliers to comply with the standards, including environmental regulations, labor rights, and other requirements. Actions and achievements in 2023: <ul style="list-style-type: none"> Grade suppliers based on supplier evaluation results, and counsel suppliers to meet the Company's requirements. Promote TUC's supplier policy through supplier meetings and education and communication periodically.
Effectiveness Assessment	<ul style="list-style-type: none"> Supplier Appraisal Review

Supply chain management is a significant concern in corporate sustainability. Suppliers are selected and managed in accordance with the Company's Supplier Evaluation and Management Practices. Annually, relevant units conduct on-site audits of major raw material suppliers based on the risk-ranking audit plan. Non-major raw material suppliers are evaluated based on the quality of product, and document or on-site audits are conducted.

TUC Supplier Evaluation Audits

Item	Target	Frequency	Evaluation Item
Quarterly Assessment	Major Raw Material Suppliers	Every Quarter	Quality, procurement and technical support
Annual Audit	Major Raw Material Suppliers or as required by the manager (Audit plan scheduled according to risks → "Annual Audit Plan" to be executed in December each year)	<ul style="list-style-type: none"> Every year Irregular audits: When there is a major deficiency in the quality of goods delivered by qualified supplier 	<ul style="list-style-type: none"> Quality management system Management responsibility Resource management and SA8000 Social Responsibility System Product implementation Measurement, analysis, and improvement HSF System Evaluation Form

TUC classifies its suppliers into four different levels, A, B, C, and D, according to the criteria of quality, procurement, and technical support during the quarterly assessment. Suppliers classified as Grade C and D are required to propose improvement plans within a specified period and regularly track the effectiveness of those plans. Suppliers who receive a D grade in two consecutive quarterly assessments will be removed from the Supplier List and barred from reapplying for evaluation for a period of six months.

In addition to regular evaluations, new and qualified suppliers are required to sign relevant documents in accordance with the general classification of raw material supply to ensure compliance with the Company's environmental, quality, and occupational safety management requirements. After investigation, the Company has found that none of the suppliers has had a negative impact on the environment or society in the past three years.

TUC follows the United Nation's "Universal Declaration of Human Rights" and attaches great importance to human rights issues for its suppliers. In addition, TUC also requires its suppliers to have a good record of compliance with environmental protection laws and regulations and occupational safety regulations. TUC has established the "Supplier Evaluation and Management Practices" to conduct due diligence investigations on new and qualified suppliers, including their environmental protection, labor and human rights, and occupational safety, etc. The documents shall be provided by the supplier include the Suppliers' Corporate Social Responsibility Commitment, Integrity Statement, and Supplier Sustainability Evaluation Questionnaire.

The documents shall be provided by new and qualified suppliers are as follows:

- ❖ Suppliers' Corporate Social Responsibility Commitment
- ❖ Supplier Declaration of Prohibited Substances
- ❖ Test Report on Prohibited Substances (ICP Test Report)
- ❖ ISO 9001 Certification
- ❖ Integrity Statement
- ❖ Safety Data Sheet (SDS)
- ❖ Supplier PCN Management Agreement
- ❖ Supplier Sustainability Evaluation Questionnaire

	Number of Existing Suppliers (Raw Materials)	Ratio of Suppliers Signing Human Rights and Environmental Declaration	Number of New Suppliers (Raw Materials)	Ratio of Suppliers Signing Human Rights and Environmental Declaration
2021	62	93.55%	3	100.00%
2022	65	93.85%	3	100.00%
2023	68	94.12%	7	100.00%

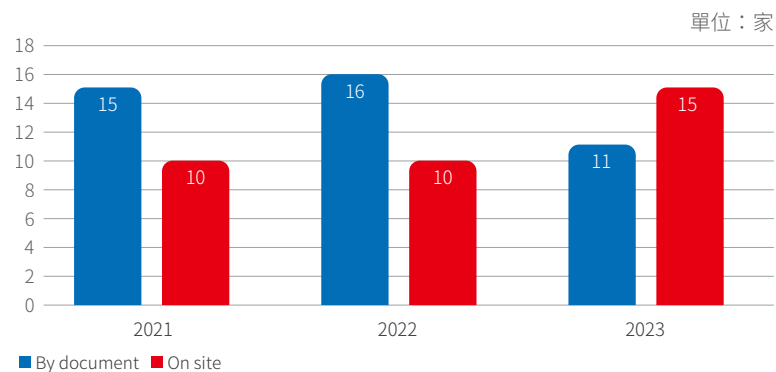
	Number of Existing Suppliers (Raw Materials)	Ratio of Suppliers Signing the Supplier Sustainability Evaluation Questionnaire	Number of New Suppliers (Raw Materials)	Ratio of Suppliers Signing the Supplier Sustainability Evaluation Questionnaire
2021	62	98.39%	3	66.67%
2022	65	96.92%	3	100.00%
2023	68	97.06%	7	85.71%

TUC currently does not have a supplier screening system for environmental and social criteria, but mainly focuses on quality-related requirements. However, environmental and social requirements are included in the audited items in the annual supplier audit. With room for improvement in this project, TUC is also actively considering about the future, such as adjusting the supplier screening criteria for environmental and social factors in order to achieve more comprehensive management.

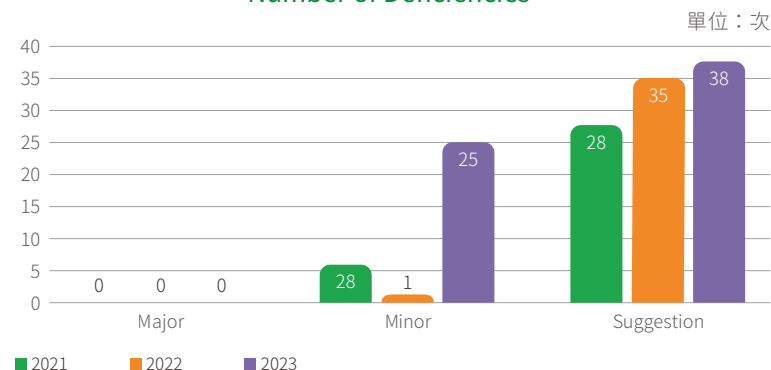
Counseling practice for Grade C suppliers: A supplier in the Grade C category (whose quality score is less than 40 points) is required to submit a written quality improvement report to TUC within 14 days after the end of the grade notice. The SQM unit of TUC's Quality Assurance Department provides counseling based on the quality improvement plan provided by the supplier, and then conducts audits and subsequent verification of the effectiveness of the proposed improvements according to the planned dates. In the event that any anomaly is identified during the improvement process, the supplier will be asked to provide further explanation on the proposed improvements. If the supplier is given Grade C for more than two consecutive quarters because of its failure to meet quality standards, an on-site review will be carried out to improve the implementation and effectiveness of the proposed improvements.

After conducting an audit, TUC had one Grade C supplier in 2023. The Company has not only asked the supplier to provide an improvement schedule and receive counseling, but also convened regular (monthly) meetings to discuss the supplier's improvement progress. Thereafter, the supplier has been upgraded to a Grade B supplier in the following quarter.

Number of Annual Audits



Number of Deficiencies



Note: raw material supplier audit

Supplier Audit Results from 2021 to 2023

Year	Number of Suppliers Participating in Quarterly Assessment (Average)	Quarterly Assessment Results (Number of suppliers)	Annual Audit (Number of suppliers)	Audit Results (Number of suppliers)
2021	17/Quarter	A: 25	25	A: 4
		B: 42		B: 21
		C: 1		C: 0
		D: 0		D: 0
2022	17/Quarter	A: 21	26	A: 10
		B: 47		B: 16
		C: 0		C: 0
		D: 0		D: 0
2023	17/Quarter	A: 16	26	A: 11
		B: 51		B: 15
		C: 1		C: 0
		D: 0		D: 0

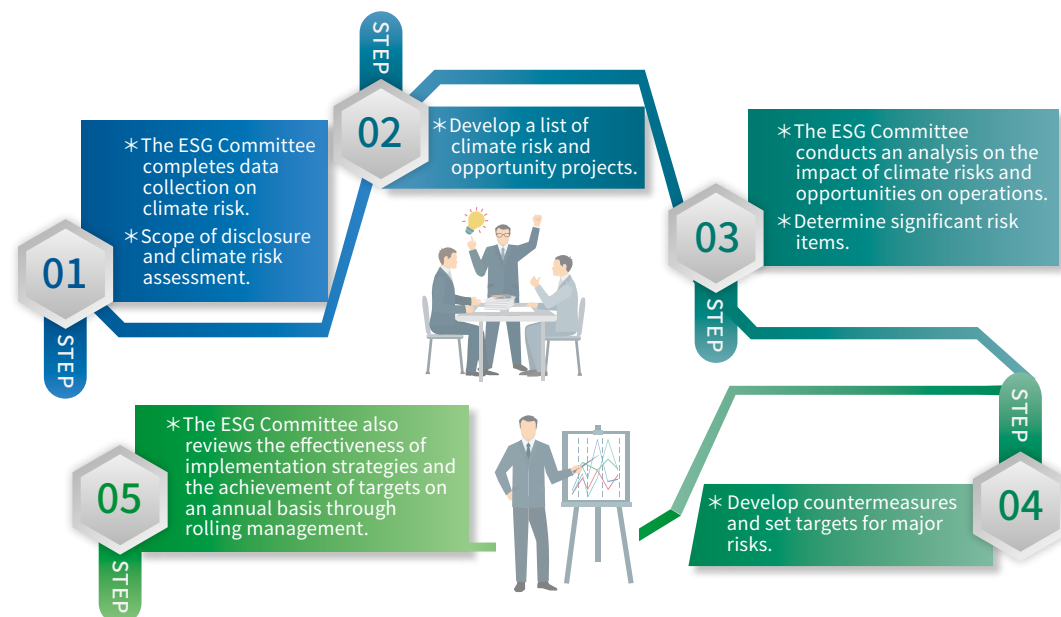
Note: The data of 2022 is revised and presented as shown in the table above.



4.5 Climate-related Financial Disclosures

Climate change is leading to increasingly extreme weather patterns, and as global awareness of the climate crisis grows, it is having a direct or indirect impact on enterprise operations and consumer behavior. To address this, we are adopting the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD), which include governance, strategy, risk management, and metrics and targets. This report manages and presents the four core indicators. It is expected that stakeholders will comprehend the influence of climate change risks and opportunities on TUC, as well as the actions we undertake to mitigate such risks.

TCFD Risk Management Process



4.5.1 Climate Change Management Framework

Governance	The ESG Committee discusses and evaluates TUC's climate risk management, and subsequently reports climate change-related resolutions to management. The Committee Chair also provides recommendations for improvement. During the first quarter of each year, the Board convenes to report on the implementation results of the previous year and present the work plan for the current year. The Board also welcomes feedback from the Directors and makes necessary amendments accordingly. This pertains to concerns regarding climate change risks and their corresponding management objectives.
Strategy	TUC utilizes TCFD's climate-related scenario analysis, employing both quantitative and qualitative methods to address climate-related risks and opportunities that impact the Company's strategies and planning. The definition of short, medium, and long term intervals discussed in the ESG Committee meeting with reference to the 2 scenarios (2DS). We set "1-3 years" as the short term, "3-5 years" as the medium term, and "6-10 years" as the long term, and conducted climate risk and opportunity assessments accordingly. The climate-related risks are divided into two major categories: (1) risks related to the transition to a lower-carbon economy and (2) risks related to the physical impacts of climate change. Those are further classified into policy and legal risks, technology risks, market risks, reputation risks, and acute and chronic risks. Opportunities can be classified into five distinct categories, namely resource efficiency, energy sources, products and services, markets, and resilience. Risk Management TUC has concluded the risk identification process during the TCFD
Risk Management	TUC has concluded the risk identification process during the TCFD meeting held by the ESG Committee. The meeting involved a discussion of the Company's operational, transitional, and physical risks and opportunities, based on the climate change factors provided by departments.
Metrics and Targets	<ul style="list-style-type: none"> ◆ TUC has made significant investments in various environmental indicators, including energy conservation and carbon emission reduction, water efficiency, pollution prevention and control, and hazardous substance management. These efforts are aimed at achieving sustainable development and minimizing the impact on the surrounding environment during our operations. ◆ Completed greenhouse gas inventory

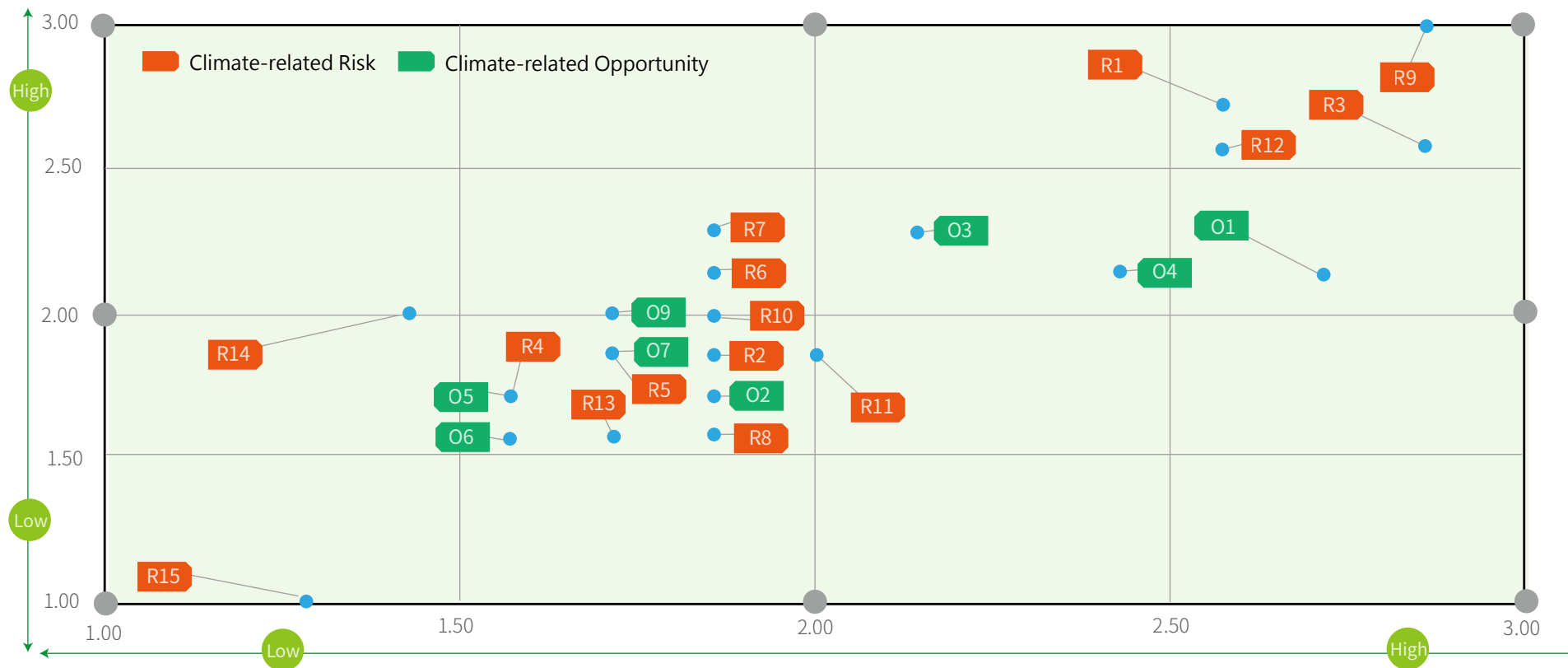
4.5.2 Climate- related Risks and Opportunities

Climate-related Risk	Risk Level	Impact Period	Climate-related Opportunity	Opportunity Level	Impact Period
R1 Increased pricing of greenhouse gas emissions	High	Short-term and medium-term	O1 Use of more efficient modes of transport	High	Short-term and medium-term
R2 Mandates on and regulation of existing products and services	Low	Short-term	O2 Adoption of more efficient production and distribution processes	Low	Short-term
R3 Exposure to litigation risk	High	Short-term and medium-term	O3 Recycling and reuse	High	Short-term and medium-term
R4 Substitution of existing products and services with lower emissions options	Low	Medium-term	O4 Switch to more efficient buildings	High	Short-term, medium-term, and long-term
R5 Unsuccessful investment in new technologies	Low	Short-term	O5 Reduced water usage and consumption	Low	Medium-term
R6 Costs of transition to low emissions technologies	Low	Short-term	O6 Use lower-emission sources of energy	Low	Medium-term and long-term
R7 Changing customer behavior	Low	Short-term and medium-term	O7 Use of supportive policy incentive	Low	Medium-term and long-term
R8 Uncertainty in market signals	Low	Medium-term and long-term	O8 Use of new technologies	Low	Medium-term and long-term
R9 Increased cost of raw materials	High	Short-term and medium-term	O9 Participation in the carbon market	Low	Medium-term and long-term
R10 Shifts in consumer preferences – tarnishing of industry reputation	Low	Short-term and medium-term			
R11 Increased stakeholder concern or negative stakeholder feedback	Low	Short-term			
R12 Increased severity of extreme weather events such as typhoons and water supply crises	High	Short-term, medium-term, and long-term			
R13 Changes in precipitation patterns and extreme variability in climate patterns	Low	Short-term, medium-term, and long-term			
R14 Rising mean temperatures	Low	Medium-term and long-term			
R15 Rising sea levels	Low	Long-term			

4.1 Water Resource Management 4.2 Energy Conservation and Carbon Emissions Reduction
4.3 Waste Management 4.4 Sustainable Supply Chain 4.5 Climate-related Financial Disclosures

4.5.1 Climate Change Management Framework 4.5.2 Climate-related Risks and Opportunities 4.5.3 Climate-related Risk Identification

🌲 Risk and Opportunity Distribution Chart



4.5.3 Climate-related Risk Identification

Climate-related risks and their potential outcomes are multifaceted, constantly evolving, and highly uncertain and have long-term implications and the difficulty in quantifying. To comprehend the extent of risks confronting TUC, the Committee Chair and team members convened to consolidate the Company's climate change risks. The objective was to devise an efficient management strategy that would prevent, mitigate, or transfer risks while continually monitoring the strategy's effectiveness and target achievement rate through rolling management. In 2023, the Company identified three transition risks, one physical risk, and three opportunities, as well as provided responses and explanation on these risks and opportunities. All the aforesaid are presented as follows:

Risks and Opportunities	Item No.	Issues	Potential Financial Impacts	Risk Response and Future Planning
Transition Risks	Policies and Regulations	Carbon Tax	<ul style="list-style-type: none"> Increased operating costs (such as higher compliance costs and increased premiums) Write-offs, asset impairment, and early retirement of existing assets due to policy changes Increased costs and/or reduced demand for products and services due to fines and judgments 	<ul style="list-style-type: none"> To alleviate the impacts of the government's carbon tax on the Company's operational costs, the Company persists in advocating for diverse energy-efficient and carbon-reducing initiatives. These endeavors aim to minimize the impacts of the carbon tax or other environmental taxes.
		Exposure to fines and litigation risks		<ul style="list-style-type: none"> To mitigate the potential risks of fines or litigation, the Occupational Safety Division conducts routine regulatory inspections to ensure adherence to laws and regulations. This allows for timely awareness of newly promulgated or revised laws and regulations, enabling early response to minimize the risk of violations and associated penalties.
Transition Risks	Market	Increased cost of raw materials	<ul style="list-style-type: none"> Reduced demand for goods and services due to shift in consumer preferences Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatment) Abrupt and unexpected shifts in energy costs Change in revenue mix and sources Re-pricing of assets (e.g., fossil fuel reserves, land valuation, securities valuation) 	<ul style="list-style-type: none"> Get close to the customer and pay attention to market demand; introduce new designs, new technology, new materials, increase the substitution and diversity of raw materials, enhance customer trust, and change the Company's customer service model. Record, inventory, and analyze the energy and resource demands of facilities, as well as usage patterns; promote various energy-saving measures, online education and training; evaluate investments in energy conservation, water conservation, energy monitoring equipment, and green energy. Upgrade existing plant equipment, improve energy efficiency and reduce operating costs; optimize product life cycle to improve resource utilization and production efficiency. Stay abreast of market trends, control reasonable costs, and ensure revenue and profitability; formulate codes of conduct for suppliers and implement audits. With the Company's policy planning, identify the risk factors of the customer's industry or financing targets, and link asset quality with sustainability risks.
Physical Risks	Immediate	Increased severity of extreme weather events such as typhoons and floods	<ul style="list-style-type: none"> Decreased or disrupted production capacity (e.g., shutdowns, transport difficulties, supply chain interruptions) Negative impacts on workforce (e.g., health, safety, and absenteeism) Write-offs and early retirement of existing assets (e.g., damage to property and assets in "high risk" locations) 	<ul style="list-style-type: none"> Due to Taiwan's location in a typhoon-prone area, the Company has experienced the impacts of typhoons and floods. To mitigate the effects of extreme weather, the Company advocates for regular operational risk identification to assess the type, content, and degree of potential risks. Additionally, the Company develops emergency response plans, secures insurance coverage, identifies backup suppliers and alternative materials, partially outsources, and plans for off-site production backup. These strategies are implemented to prevent an increase in the risk level.

4.1 Water Resource Management 4.2 Energy Conservation and Carbon Emissions Reduction
4.3 Waste Management 4.4 Sustainable Supply Chain 4.5 Climate-related Financial Disclosures

4.5.1 Climate Change Management Framework 4.5.2 Climate-related Risks and Opportunities 4.5.3 Climate-related Risk Identification

Risks and Opportunities	Item No.	Issues	Potential Financial Impacts	Risk Response and Future Planning
Opportunities	Resource Efficiency	Use of more efficient modes of transport		<ul style="list-style-type: none"> ◆ If products are transported to subsidiaries via air, various material numbers are consolidated and shipped on a single pallet. Additionally, a centralized shipping day is established on a weekly basis. ◆ Shipping products by sea is the preferred method for exporting. In cases where air freight is necessary, an application must be submitted to save shipping costs. ◆ Domestic delivery routes, including Guishan and Zhongli in Taoyuan, should be planned in advance. Consolidating shipments along the same route will enhance the efficiency.
		Recycling and reuse		<ul style="list-style-type: none"> ◆ Connection of pipelines between cooling towers at Plant 1 and Plant 2 and reduction of conductivity <ul style="list-style-type: none"> ➢ In the summer, when the cooling water temperature of Plants 1 and 2 rises, excess water is drained to lower the temperature. This results in increased water consumption and the cost of waste water treatment. To address this issue, the cooling tower pipes of both plants were connected in 2023. TUC plans to complete the removal of calcium and magnesium ions from cooling water in 2024 in order to reduce the amount of electricity used and the frequency of water change, as well as assess the implementation of water recycling and reuse in wet manufacturing process at Plant 2.
		Switch to more efficient buildings	<ul style="list-style-type: none"> ◆ Reduced operating costs (e.g., through efficiency gains and cost reductions) ◆ Increased production capacity, resulting in increased revenues ◆ Increased the value of fixed assets (e.g., highly rated energy-efficient buildings) ◆ Benefits to workforce management and planning (e.g., improved health and safety, employee satisfaction), resulting in lower costs 	<ul style="list-style-type: none"> ◆ Installation of variable frequency power-saving system or replacement of existing motors with high-efficiency motors for water pumps <ul style="list-style-type: none"> ➢ In 2023, we installed frequency converters on cooling water pumps and ice water pumps at Plant 1, where the system regulates the operating frequency of the pumps based on pressure, thereby reducing power consumption during operation. We plan to keep installing additional or high-efficiency energy-saving motors and automatic fan start/stop devices to save electricity in 2024. ◆ Installations of additional solar panels <ul style="list-style-type: none"> ➢ In 2023, the Phase 2 solar panels were installed in the rear section of the plant, specifically in the material and waste storage area, with the aim of boosting revenue from green electricity and cutting carbon emissions. We also plan to complete the installation of Phase 3 solar panels in 2024. ◆ Installation of centrifugal water-cooled compressor systems <ul style="list-style-type: none"> ➢ The air compressor room in Plant 1 is experiencing a suboptimal environment, characterized by poor heat dissipation and high ambient temperature. Consequently, the air-cooled compressors are underperforming. In 2023, we installed high-efficiency centrifugal water-cooled air compressors in the air compressor room at Plant 3 in order to provide supply to the air compressor system at Plant 1 via a support pipeline, with the intention of reducing the number of air compressors required and cutting power consumption during operation. ◆ Installation of maglev chillers <ul style="list-style-type: none"> ➢ Existing chillers at Plant 2 are outdated and ineffective. In 2023, we replaced one of these chillers with a high-efficiency maglev chiller, which is not only more efficient than the current screw type chiller, but also able to replace 1.5 units of existing chillers, thereby reducing power consumption during operation. ◆ Plant 3 has been awarded the Green Building Label.



CH5

Social Care

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TUC values the labor rights of our employees, fosters a safe and positive workplace environment, offers equal work opportunities to all colleagues, implements gender equality policies, and cultivates an atmosphere of mutual respect. The Company offers a competitive compensation package to foster employee loyalty, reduce turnover, and promote steady growth. TUC boasts a comprehensive education and training system, offering periodic courses to enhance employee professionalism and workplace competitiveness. The Company also provides a transparent promotion channel, allowing employees to anticipate future career development opportunities. The Company maintains a positive and interactive relationship with our employees. During labor-management meetings, employees are encouraged to express their opinions freely, and the Company responds in good faith to reach mutual consensus. In 2009, TUC was awarded the OHSAS 18001 Occupational Safety and Health Management System certification in recognition of the importance of employee safety and health. To further enhance our commitment to safety and health, we migrated to ISO 45001 in 2020. This new international standard for occupational health and safety management will enable us to establish a secure and healthy workplace environment by identifying and assessing potential hazards in the workplace, controlling risks, and preventing incidents before they occur. Last but not least, TUC has not only achieved a record-breaking revenue performance but has also actively participated in public welfare activities in accordance with the Group's policy to fulfill social responsibility.

5.1 Employee Overview

TUC ensures equal treatment of our employees and implements affirmative measures to eliminate any labor conditions that may lead to inequality in the workplace. Additionally, the Company is committed to protecting the labor rights of our employees.

5.1.1 Human Rights Protection

TUC values the rights of our employees and strives to create a welcoming environment that protects human rights. The Company's human rights policy is formulated in accordance with the principles outlined in various human rights conventions, including the United Nations' "Universal Declaration of Human Rights", "Global Compact", and "Guiding Principles on Business and Human Rights", as well as the International Labor Organization's "Declaration on Fundamental Principles and Rights at Work". TUC recognizes internationally recognized basic human rights, including but not limited to respecting employees' freedom of association, prohibiting child and forced labor, eliminating all forms of discrimination and human rights violations, ensuring substantive gender equality, and treating all employees fairly.

TUC's remuneration policy safeguards employees against payroll discrepancies arising from factors such as gender, age, race, religion, and political affiliation. TUC has integrated the Responsible Business Alliance (RBA) Code of Conduct into our business belief. This commitment ensures that the workplace meets occupational health and safety requirements, fulfills our responsibility for environmental protection, and fosters a corporate culture in which employees feel respected. The Company includes human rights clauses in the business documents of our trading partners, with the intention of encouraging greater collaboration on human rights issues.

Comply with local laws and regulations, as well as adhere to the RBA Code of Conduct.

Actively roll out and implement environmental and occupational safety and health management systems.

Actively reduce carbon emissions, measure carbon footprint, and set reduction targets.

Do not engage in illegal acts including employment of child labor, discrimination and inhumane treatment, slavery, and human trafficking.

Engage in ethical business management, refrain from illicit gains, and safeguard business partners' intellectual property rights and customer information.

Do not support or use "conflict minerals", which include gold, tantalum, tin, tungsten, cobalt, mica, etc.

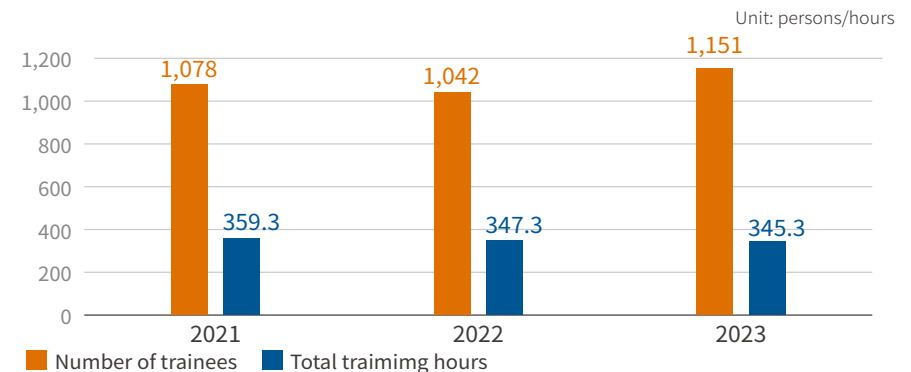
Promote a workplace diversity policy that emphasizes no difference in recruitment, salary and promotion based on various factors such as age, gender, race, and nationality, thereby realizing equal pay and incentives for equal work and equal opportunities for promotion for both men and women.

Actively promote a gender equality policy to eradicate any form of sexual harassment.

Commitment to Human Rights

Furthermore, the Company adheres to labor and human rights laws in all operating locations and educates new employees and current employees on the importance of human rights protection and labor rights. Over the past three years, the Company has provided internal human rights training, resulting in a 100% training rate for employees. TUC conducts regular reviews of the management system by holding routine meetings for each management system. This is done to ensure the effectiveness of the human rights policy and RBA. There were no significant deficiencies found in any areas of RBA during customer audits conducted in 2023.

🌳 Human Rights Training



Channel for reporting human rights violations	Number of cases received in 2023	Reason	Number of cases investigated	Number of cases closed	Investigation details
HR Manager's mailbox or Corporate Governance Officer's mailbox	2	Workplace bullying	2	2	<ul style="list-style-type: none"> While one case was not substantiated after investigation, the other case was substantiated after investigation, and the Company proceeded to penalize the offender. Subsequent improvement measures: Aside from requiring the accused personnel of the department to attend human rights training courses, the Company also conducted awareness sessions on such human rights violations cases after de-identifying the personal data of the parties involved in these cases.

5.1.2 Employee Statistics

In recent years, TUC, a prominent producer of copper clad laminate and prepreg, has improved our production efficiency, resulting in increased revenue growth and a greater need for human resources. The Company has consistently provided nearly 1,000 job opportunities with competitive compensation to attract skilled individuals to join our workforce.

TUC operates in the electronic components industry and employs full-time staff (whose working hours per week meet the maximum number of working hours stipulated in the relevant laws and regulations), with approximately 21.55% being female and 71.9% holding indefinite contracts. The Company offers a stable and enduring work environment for the majority of our employees, enabling them to focus on their duties without concern and safeguarding their financial well-being.

Secondly, employees can be categorized as direct or indirect. Direct employees are predominantly male, as their work is primarily focused on production line operations. Indirect employees, who are mainly involved in R&D, quality assurance, and sales, are also predominantly male. In terms of age distribution, the majority of our employees, both direct and indirect, are under 50 years old. However, approximately 27.78% of our indirect employees over 50 years old hold managerial positions. This indicates that TUC is primarily comprised of middle-aged employees, with experienced managers leading the young team with practical expertise. On the other hand, approximately half of our direct employees possess a college degree or less than a high school degree, while indirect employees with a graduate degree or above account for approximately 37.15%, with those with a college degree making up the remaining 60.07%. This distribution trend can be attributed to the Company's high-end R&D requirements. Upon examining the distribution of nationalities, it has been determined that the proportion of direct employees who are nationals compared to foreign nationals is approximately 6 to 4. Furthermore, nearly 99% of indirect employees are nationals.

At TUC, the majority of new employees are below the age of 30, whereas departing employees are primarily composed of employees aged 30 to 50. The Company will conduct exit interviews with departing employees to better understand the reasons for their departure and enhance the working environment. The Company's workforce has remained stable in recent years, with no indication of any potential shortage of personnel.

TUC's operating locations in Taiwan currently employ 52 senior managers, 100% of which are local talents, which demonstrates the Company's commitment to identify and attract exceptional talent in collaboration with local communities, thereby earning recognition and contributing to the local economy. On top of that, female senior managers make up 7.69% of all senior managers across the Company. In consideration of workplace diversity and efforts to promote gender equality policy, the Company is also evaluating how to improve the gap situation.

Statistics/Year		2021		2022		2023	
Total number of employees ^(Note 1)		1,077		1,016		993	
Employment contract ^(Note 2)		Indefinite contract	Fixed-term	Indefinite contract	Fixed-term	Indefinite contract	Fixed-term
Gender	Male	589	266	563	234	540	239
	Female	178	44	181	38	174	40
Nationality	Taiwanese	760	0	729	8	709	4
	Foreign	7	310	6	273	5	275
Type of employment ^(Note 3)		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Gender	Male	855	0	797	0	779	0
	Female	222	0	219	0	214	0

Note 1. The year-end total number of employees serves as the foundation for statistical analysis.

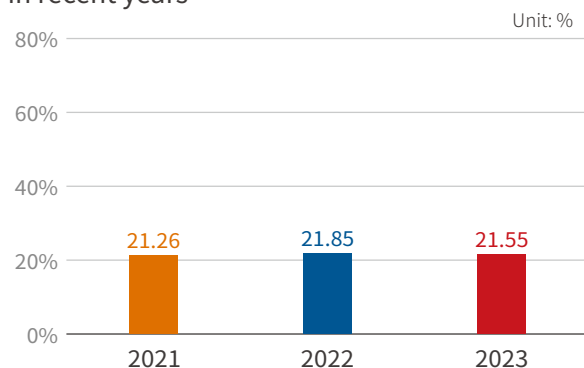
Note 2. Employment contracts are categorized as either indefinite contracts or fixed-term contracts for short-term, seasonal, and specific project periods. In cases where an employee is on maternity/ parental leave, the Company employs another employee to act as an agent for the position until the employee on maternity/ parental leave returns to work.

Note 3. Type of employment are categorized into: full-time employees, who work the maximum statutory weekly hours, and part-time employees, who work fewer hours and are typically students or paid hourly.

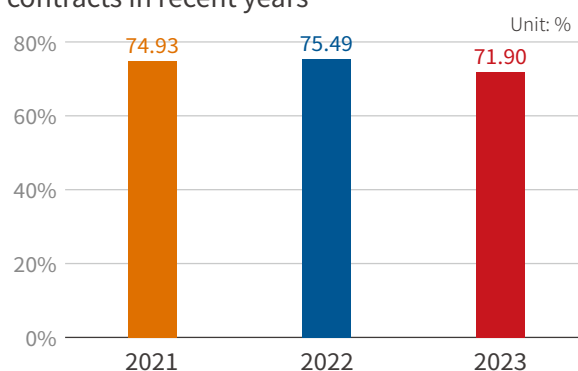
5.1 Employee Overview 5.2 The Right Talent for the Right Job
5.3 Occupational Safety and Health 5.4 Charity Involvement

5.1.1 Human Rights Protection 5.1.2 Employee Statistics

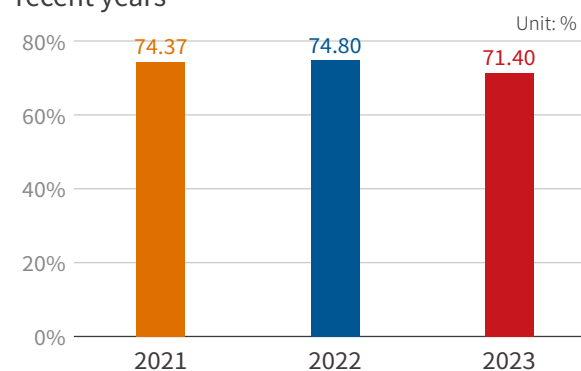
Percentage of female employees in recent years



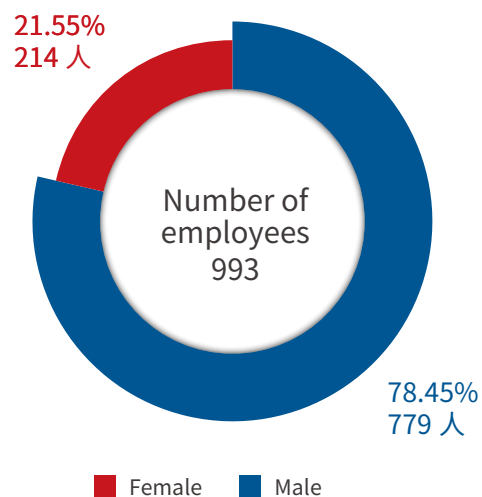
Percentage of employees with indefinite contracts in recent years



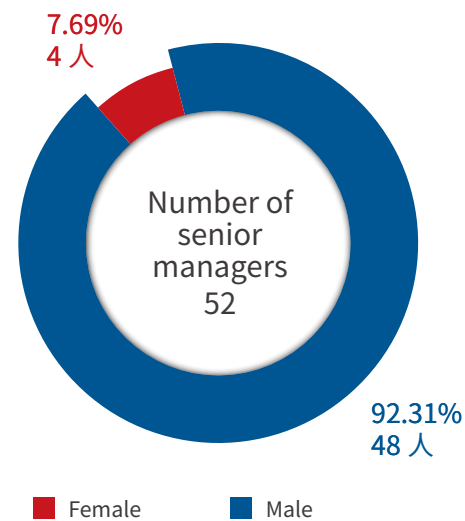
Percentage of local employees in recent years



Percentage of employees by gender in 2023



Gender ratio for senior management in 2023



Note: Senior managers refer to managerial positions at the managerial level (and above).

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5.1.1 Human Rights Protection 5.1.2 Employee Statistics

Diversity Statistics/ Year			2021		2022		2023			
			Number of people	Percentage	Number of people	Percentage	Number of people	Percentage		
Directors			Gender	Male	6	85.71%	6	85.71%	6	85.71%
				Female	1	14.29%	1	14.29%	1	14.29%
			Age	Under 50 years old	0	0	0	0	0	0
				50 years old and above	7	100%	7	100%	7	100%
			Academic background	Graduate School	7	100%	7	100%	7	100%
Employee	Direct	Gender	Male	667	83.38%	609	82.63%	586	83.12%	
			Female	133	16.63%	128	17.37%	119	16.88%	
		Age	Under 30 years old	149	18.63%	112	15.20%	110	15.60%	
			30 to 49 years old	584	73.00%	549	74.49%	511	72.48%	
			50 years old and above	67	8.38%	76	10.31%	84	11.91%	
		Academic background	Graduate School	3	0.38%	2	0.27%	3	0.43%	
			College/ University	416	52.00%	380	51.56%	365	51.77%	
			Below High School	381	47.63%	355	48.17%	337	47.80%	
		Nationality	Taiwanese	488	61.00%	462	62.69%	428	60.71%	
			Foreign	312	39.00%	275	37.31%	277	39.29%	
	Indirect	Gender	Male	188	67.87%	188	67.38%	193	67.01%	
			Female	89	32.13%	91	32.62%	95	32.99%	
		Age	Under 30 years old	20	7.22%	17	6.09%	19	6.60%	
			30 to 49 years old	195	70.40%	184	65.95%	189	65.63%	
			50 years old and above	62	22.38%	78	27.96%	80	27.78%	
		Academic background	Graduate School	93	33.57%	93	33.33%	107	37.15%	
			College/ University	175	63.18%	177	63.44%	173	60.07%	
			Below High School	9	3.25%	9	3.23%	8	2.78%	
		Nationality	Taiwanese	272	98.19%	275	98.57%	285	98.96%	
			Foreign	5	1.81%	4	1.43%	3	1.04%	

Note: The percentage of direct employees under the age of 30 is (total number of direct employees under the age of 30 at the end of the year/ total number of direct employees at the end of the year)* 100%.

The percentage of indirect employees with a graduate degree is (total number of indirect employees with a graduate degree at the end of the year/Total number of indirect employees at the end of the year)* 100%.

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5.1.1 Human Rights Protection 5.1.2 Employee Statistics

Statistics on new employees and employee turnover/Year		2021		2022		2023	
		Total number of people	Percentage ^(Note 2)	Total number of people	Percentage	Total number of people	Percentage
Total number of employees for the year ^(Note 1)		1077	-	1016	-	993	-
New employees							
Age	Under 30 years old	57	33.73%	65	50.39%	55	42.64%
	30 to 49 years old	123	15.79%	91	12.41%	38	5.43%
	50 years old and above	2	1.55%	4	2.60%	4	2.44%
Gender	Male	144	16.84%	128	16.06%	80	10.27%
	Female	38	17.12%	32	14.61%	17	7.94%
Academic background	Graduate School	16	16.67%	16	16.84%	17	15.45%
	College/ University	65	11.00%	78	14.00%	51	9.48%
	Below High School	101	25.90%	66	18.13%	29	8.41%
Nationality	Taiwanese	141	18.38%	136	18.28%	47	6.59%
	Foreign	41	13.23%	24	8.82%	50	17.86%
Former employees							
Age	Under 30 years old	62	36.69%	62	48.06%	37	28.68%
	30 to 49 years old	138	17.72%	144	19.65%	113	16.14%
	50 years old and above	16	12.40%	10	6.49%	16	9.76%
Gender	Male	171	20.00%	182	22.84%	134	17.20%
	Female	45	20.27%	34	15.53%	32	14.95%
Academic background	Graduate School	26	27.08%	17	17.89%	7	6.36%
	College/ University	109	18.44%	109	19.57%	81	15.06%
	Below High School	81	20.77%	90	24.73%	78	22.61%
Nationality	Taiwanese	180	23.47%	154	20.70%	116	16.27%
	Foreign	36	11.61%	62	22.79%	50	17.86%

Note 1. Based on the total number of employees at the end of the year.

Note 2. New employees rate is (Total number of new employees in that particular category for the year/ Total number of employees in that particular category at the end of the year) * 100%.

For example: new female employee rate is (total number of new female employees in the year/ total number of female employees at the end of the year) * 100%.

Turnover rate is (Total number of employees who resigned in the year in that particular category/Total number of employees in that particular category at the end of the year) * 100%.

For example: the rate of employees under 30 years old resigning from the Company is (total number of employees under 30 years old resigning from the Company for the year/ total number of employees under 30 years old at the end of the year) * 100%.

TUC engages non-employee workers to enhance the Company's operations. These workers fall into two categories: senior technical personnel appointed by the Company and other contracted labor services. The majority of senior technical personnel are male, while the ratio of male to female workers in other labor services is 5 to 4.

Statistics/Year		2021		2022		2023	
Total number of non-employee workers		23		23		23	
Contract category		Appointment	Contracting	Appointment	Contracting	Appointment	Contracting
Gender	Male	4	11	4	10	4	10
	Female	1	7	1	8	1	8
Region	Taiwan	5	18	5	18	5	18
Type of work		Senior technicians	Other labor contractors	Senior technicians	Other labor contractors	Senior technicians	Other labor contractors
Gender	Male	4	11	4	10	4	10
	Female	1	7	1	8	1	8
Region	Taiwan	5	18	5	18	5	18

Note: Senior technical personnel include consultants and occupational physicians; whereas other labor contracts include security and cleaning personnel.



5.2 The Right Talent for the Right Job

Sound human resources are key to TUC's sustainable operation. To attract outstanding talent, the Company provides market-competitive remuneration and benefits to reward employees who create performance and make long-term contributions. We uphold the concept of treating employees equally and organize a transparent appraisal and reward system to create a positive atmosphere of fair competition among employees. We are committed to improving our work performance and shaping TUC's corporate culture to attract and retain talent. As a result, our employees are more committed to the Company and actively participate in company affairs. Secondly, regarding promotion channels, transparent and open promotion information provides opportunities for high-performing employees, motivating them to learn from the benchmarking culture and enabling the Company to cultivate more outstanding talent. Additionally, the Company arranges education and training programs for employees to continue their professional development and realize their full potential. TUC offers various communication channels for employees to express their opinions promptly. This enables the Company to respond with goodwill, fostering a harmonious relationship of trust and interaction between employers and employees.

5.2.1 Salary and Benefits

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> ◆ Responsible Department: Human Resources Department ◆ Grievance Mechanism <ul style="list-style-type: none"> ➢ Human Resources Department (+886-3-555-1103 ext. 316; tenchi.hsieh@tuc.com.tw) ➢ Labor-Management Meetings/ Grievance Mailbox
Management Mechanism	<ul style="list-style-type: none"> ◆ Policy: <ul style="list-style-type: none"> ➢ The Company's most valuable asset is our employees, and TUC aims to guarantee that each employee can work with a sense of security and a willingness to perform at their best. TUC effectively provides the human resources necessary for the sustainable development of the Company by implementing policies that align with the Company's organizational growth. ◆ Commitment: <ul style="list-style-type: none"> ➢ The Company has developed a remuneration system that rewards employees based on their abilities and performance. To ensure that our employees are fairly compensated, we regularly participate in industry-wide remuneration surveys and make adjustments as needed. ◆ Goals: <ul style="list-style-type: none"> Short-term: <ul style="list-style-type: none"> ➢ Based on the Company's successful attainment of annual operating targets and profit performance, we offer our employees a remuneration package that exceeds local legal requirements and is competitive within the market. ➢ Employees' work performance can be accurately reflected in their personal remuneration, and all employees undergo regular assessments for performance and career development. Medium to long-term: <ul style="list-style-type: none"> ➢ The assessment results will be taken into account when considering employees' career advancement and development. This will enable employees with technical expertise to progress into professional roles within their field through their own efforts. Similarly, employees with management capabilities and leadership potential will have the opportunity to advance into management positions, providing ample room for career growth. ◆ Achievements in 2023: <ul style="list-style-type: none"> ➢ Recruitment and appointment: To effectively provide or utilize manpower in accordance with annual manpower planning objectives to meet the manpower needs of each department and to provide high quality manpower. ➢ Salary and benefits: We have established a competitive and equitable remuneration and benefits system, taking into account market remuneration and job evaluation. The Company distributes our profits among our employees through various means, including employee remuneration and year-end bonuses. Additionally, the Company adjusts remuneration based on operating conditions, domestic economic growth rates, price indices, and the increase in pay given by the same industry. ➢ Education and training: As per the annual education and training plan, we aim to enhance the capabilities of our employees and facilitate their growth to align with the Company's development objectives. ➢ Encouraging sufficient communication with employees: To safeguard the rights and interests of our employees, enhance their labor status, improve work efficiency, and promote cooperative production, we hold quarterly labor-management meetings and engage in two-way communication with employee representatives.
Evaluation Mechanism	<ul style="list-style-type: none"> ◆ Direct employees were paid at least double the local minimum wage regardless of gender. ◆ The reinstatement and retention rates among employees who have taken unpaid parental leave for the current year were higher than those in the previous year. ◆ TUC received a score of 4.8 under Remuneration Policy in the Corporate Governance Evaluation.

TUC offers a competitive compensation system and comprehensive employee benefits to attract exceptional talent. Additionally, we foster a sense of unity among our employees, encouraging them to grow alongside the Company and achieve mutual success.

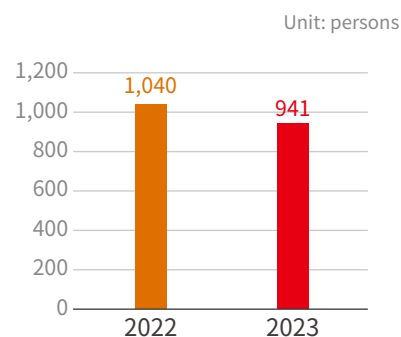
Annually, TUC determines employee remuneration based on the achievement of operating targets and the Company's profit performance. Our remuneration packages exceed local laws and regulations and are competitive with the market. To ensure that our employees' performance is reflected in their personal remuneration, we conduct regular performance and career development assessments. The assessment results are taken into consideration for career promotion and development. This allows employees with technical expertise to grow into professionals in their field and those with management ability and leadership potential to grow into management positions, providing ample room for career development. TUC compensates our employees based on their years of service, academic qualifications, and professional competence, without any discrimination based on physical or psychological differences. As employees gain more experience and knowledge in TUC, the Company rewards them by sharing our profits. This enables employees to focus on contributing their expertise to the Company and managing their personal finances without any concerns, thereby strengthening their sense of loyalty to the Company.

Secondly, TUC's employees are divided into direct and indirect employees. The gap between the basic salary and overall salary of male and female direct employees in our Taiwanese operating locations has become even smaller and is approaching a ratio of 1 to 1. The gap in basic and overall salary between genders among indirect employees is due to the fact that male senior managers make up 92.31% of all senior managers at TUC, in addition to a huge disparity in the ratio of men to women across all positions. On top of that, men are predominantly involved in research and development and sales, while women are primarily engaged in administrative tasks. Differences in seniority also contribute to the gap. However, in the spirit of gender equality, TUC's compensation policy sets out that an employee's salary is determined based on his/her individual performance without taking gender into consideration. TUC pays our direct employees a standard salary that is at least double the local basic salary for junior employees, regardless of gender, with the intention of attracting top talents and ensuring that the Company remains competitive in the market.

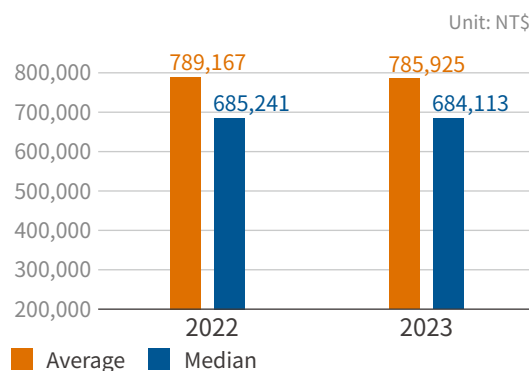
TUC attaches great importance to employee welfare and benefits. In an effort to develop a comprehensive compensation and benefit system, TUC provides employees with a multitude of benefits and a comfortable office environment. In addition, the Employee Welfare Committee also offers a variety of allowances and subsidies, organizes recreational activities from time to time, and sets up leisure facilities, so that employees can not only relieve stress at work, but also maintain good interaction with each other. The Company hopes that our employees can maintain a balance between work and quality of life while relieving stress at work by having an appropriate amount of leisure time to achieve balanced development of both body and mind.

Furthermore, the Company runs a labor pension program for employees as required by law, to which both the old and new pension systems are applicable, while encouraging employees to make voluntary contributions to their pension funds and plan their retirement life in advance. A total of seven TUC employees retired in 2023.

Number of full-time employees
in non-managerial positions



Annual salary of full-time employees
in non-managerial positions



Ratio of basic salary and remuneration			Percentage					
			2021		2022		2023	
Important operating location	Employee category	Item	Male	Female	Male	Female	Male	Female
Taiwan	Direct	Basic salary ^(Note 1)	1.06	1	1.04	1	1.05	1
		Remuneration ^(Note 2)	1.06	1	1.04	1	1.08	1
	Indirect	Basic salary	1.54	1	1.55	1	1.53	1
		Remuneration	1.66	1	1.71	1	1.65	1

Note 1. The term "basic salary" pertains to the regular compensation, which includes transportation allowance and performance bonus, as defined by the Labor Standards Act.

Note 2. Remuneration encompasses an employee's base salary in addition to supplementary compensation, which comprises seniority allowances, bonuses (both cash and equity), benefits, overtime, leave pay, and any other subsidies (such as cost-of-living allowances and childcare subsidies).

Employee Category	Gender	Standard salary/ Local minimum wage
Direct Employees in Taiwan	Male	2.20
	Female	2.00

Note: Junior employees are considered direct employees of TUC and receive a standard salary within the range of the monthly recurring salary provided to direct employees.

Benefits for Full-Time Employees	Description
Group accident insurance	Target Group: All employees (including foreign employees) Coverage: Term insurance, critical illness, accidental injury, accidental medical, hospitalization and cancer health insurance, etc.
Marriage/ Funeral subsidies	Marriage: NT\$3,000 Funerals: NT\$50,000 for the death of an employee; NT\$3,000 for the death of employee's immediate relatives, spouses and his/ her spouse's immediate relatives.
Childbirth subsidies	NT\$10,000 per child for each employee and his/ her spouse
Holiday bonus	Based on the Company's annual operating performance and individual performance
Year-end Bonus	2 months of fixed salary
Regular health check-ups	Once a year. The Company arranges a full-body checkup every two years for executives above Grade 9 (inclusive) to ensure the physical health of senior managers is taken care of.
Trips	Employees can apply for an annual domestic or overseas travel subsidy of \$15,000.

Parental Leave	Gender	Year		
		2021	2022	2023
Number of employees eligible for unpaid parental leave	Male	46	39	15
	Female	16	13	3
Number of employees applying for unpaid parental leave	Male	1	7	3
	Female	2	2	3
Number of employees who should be reinstated after their unpaid parental leave (A)	Male	2	4	4
	Female	1	2	4
Number of employees reinstated after their unpaid parental leave (B) (Including early reinstatement)	Male	0	1	3
	Female	0	1	3
Reinstatement rate (B/A)	Male	0%	25%	75%
	Female	0%	50%	75%
Number of employees who have completed their parental leave and are still employed 12 months after reinstatement (C)	Male	1	0	1
	Female	2	0	1
Retention rate (current year C/previous year B)	Male	100%	0%	100%
	Female	66.67%	0%	100%

Note 1. The number of employees eligible for parental leave is based on the number of male and female employees who have applied for maternity leave, paternity leave, and prenatal checkups in the past 3 years.

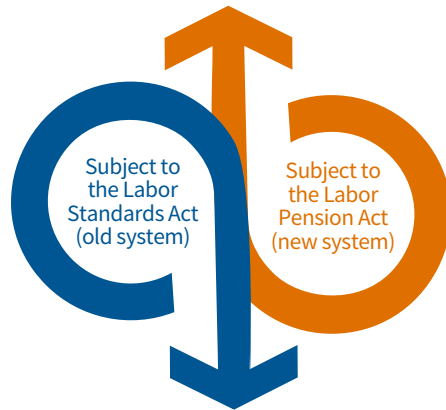
Note 2. Reinstatement rate is (total number of employees reinstated in the year/ total number of employees should be reinstated in the year) * 100%.

Note 3. Retention rate is (total number of employees who are still working 12 months after reinstatement in the previous year/ actual number of reinstatement in the previous year) * 100%.

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5.2.1 Salary and Benefits 5.2.2 Talent Development 5.2.3 Labor-Management Communication

A monthly pension contribution of 6% is allocated to the employees' personal pension accounts with the Bureau of Labor Insurance according to the level of insurance.



At present, there are 195 employees who have seniority under the old system. The Company conducts quarterly labor retirement committee meetings and adheres to regulations by making monthly contributions to the Central Trust of China. Additionally, actuaries are hired to ensure that the pension contributions are adequate.



◆ Office Environment ◆



◆ Employee Cafeteria ◆



◆ Employee Dormitory ◆



◆ Breastfeeding Room ◆



5.2.2 Talent Development

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> ◆ Responsible Department: Human Resources Department ◆ Grievance Mechanism <ul style="list-style-type: none"> ➢ Human Resources Department (+886-3-555-1103 ext. 316; tenchi.hsieh@tuc.com.tw)
Management Mechanism	<ul style="list-style-type: none"> ◆ Policy/ Commitment: <ul style="list-style-type: none"> ➢ The Company has established specialized organizations and units to offer training and learning resources to employees and managers at different levels and positions, aiding them in their job functions and career growth. ◆ Goals: <ul style="list-style-type: none"> Short-term: <ul style="list-style-type: none"> ➢ Conduct internal or external training courses in consideration of the annual training needs proposed by each department head based on competency development, job item analysis, and KPIs. ➢ Conduct safety education-related courses on a regular basis, aimed at enhancing safety awareness among all employees, owing to our emphasis on basic safety education. Medium to long-term: <ul style="list-style-type: none"> ➢ Continue organizing advanced technology forums and courses to promote employees' innovative thinking and competitiveness. ➢ Enhance quality awareness among employees and supervisors for the sustainable development of the Company. ➢ Plan activities for senior managers such as consensus camp to reach a consensus within the Company and work towards common goals. ◆ Achievements in 2023: <ul style="list-style-type: none"> ➢ We set up a dedicated learning area for new employees and recorded a total of eight online courses, so that new employees can quickly master information about the Company and become more integrated into the TUC family. ➢ In an effort to enhance quality awareness, we have appointed the Head of the Quality Assurance Department or designated employees as instructors for internal quality courses. A total of nine related courses were held throughout the year. ➢ We conducted a total of 44 basic Thai language courses within the Company based on the Group's new plant construction in Thailand, so that employees who are sent to support operations or are stationed for the long term at our Thai subsidiary can quickly integrate into the local culture and lifestyle in the future. ➢ With a commitment to implementing communication and performance interviews for managers and supervisors, we engaged internal or external instructors to conduct a three-part course for group-wide supervisors (encompassing performance interview and communication, recruitment interview, and interviewing skills), with the aim of providing them with communication skills and tools so as to facilitate the operation of the organization and two-way communication within the organization. ➢ In 2023, 167 employees underwent external training for 2,760 hours in total, while the Company spent a total of NT\$500,770 on external training, which accounted for 52.3% of the Company's total training expenses. These programs yielded 21 certificates of completion and 23 certifications/ licenses in return.
Evaluation Mechanism	<ul style="list-style-type: none"> ◆ Course certification or learning reports ◆ Observation and Evaluation of Management Behavior ◆ Rate of course attendance

For TUC, the sustainable operation and growth of the Company depend on employees fully utilizing their professional and management talents. The Company continuously enhances the competitiveness of our employees and managers in the workplace through various levels of training and career development mechanisms, making TUC a leader in base materials and professional lamination services. High-quality employees are the most valuable asset of the Company. Education and training are crucial to ensure that human capital continues to increase in value. Therefore, TUC has always prioritized employee training. Based on the Company's development plan and functional needs, we conduct regular manpower and function analyses and formulate personnel training plans. These plans are then incorporated into a comprehensive training system that begins from the moment employees start their job. We use various stages of employee performance evaluation and functional needs as indicators to enhance professional skills and education in core sectors. This is supplemented by a transparent and open auditing system that encourages employees to fully demonstrate their personal competitiveness and become a driving force for company growth.

TUC develops annual training plans to improve the professional skills of our employees based on the Company's development needs. This enables our employees to advance their careers and allows the Company to share in their growth and progress. We provide internal training to relevant departments to pass on our skills and experience, helping our employees develop their learning direction and establish career plans.

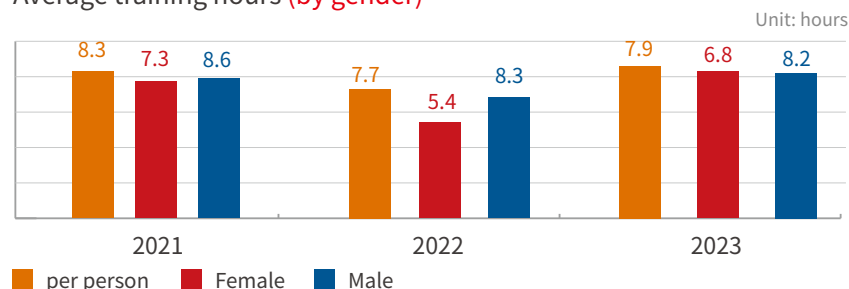
Upon reporting for duty, new employees will receive instruction on the Company's internal rules and regulations, as well as occupational safety-related knowledge. Following this, their respective departments will provide them with specialized training. Upon arrival, new employees are guided by senior employees and provided with courses on environmental awareness, safety instructions, and basic training to facilitate their integration into the working environment.

TUC actively encourages our employees to pursue professional courses within the business scope. The Company provides multiple learning channels to help employees develop their professionalism and achieve self-fulfillment, with continuous growth as the main focus.

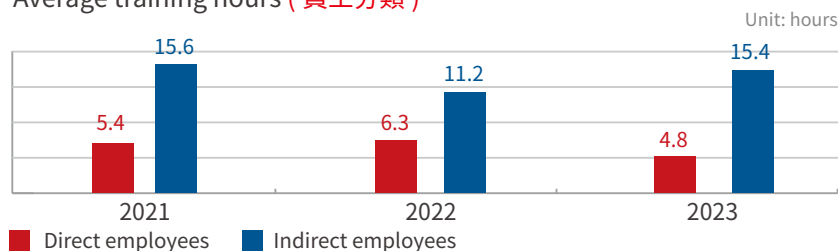
Direct employees are required to complete safety education, compliance, basic quality control, and general knowledge courses. Indirect employees, on the other hand, are provided with professional and technical courses (both internal and external) based on their job responsibilities and the Company's development needs to enhance their knowledge and skills. As a result, there is a discrepancy in the number of training hours between the two groups.

TUC's cross-strait production centers and global business layout facilitate functional development. Each year, TUC engages in direct communication with managers through an open performance appraisal system to discuss the effectiveness and formulation of work goals. Additionally, individual performance evaluations are conducted and used as a reference for salary adjustments, bonus payments, and promotions. In 2023, all employees, except for new employees who have been employed for less than three months, have undergone a performance appraisal.

Average training hours (by gender)



Average training hours (員工分類)



Note: The average number of training hours per employee = Total number of training hours for all employees in the year/ Total number of employees at the end of the year.

The average number of hours of training per female employee = Total number of hours of training for female employees in the year/ Total number of female employees at the end of the year.

The average number of hours of training for each category of employees = Total number of hours of training for that category of employees in the year/ Total number of employees in that category at the end of the year.

Performance appraisal ratings among employees in 2023

Employees undergoing performance appraisals on a regular basis		Total number of employees	Number of employees undergoing performance appraisal	Rating
Gender	Male	779	775	99.5%
	Female	214	212	99.1%
Employee category	Direct	705	703	99.7%
	Indirect	288	284	98.6%

Note: New employees who have served for less than three months are not included in the appraisal.

5.2.3 Labor-management Communication

Facilitating effective communication between labor and management promotes cooperation and enables employees to understand the Company's production plan, business overview, and market conditions. Simultaneously, it allows the Company's management to stay informed about labor conditions and create a welcoming workplace that meets the needs of employees. TUC complies with all laws and regulations, and ensures that its internal personnel administration adheres to local labor laws at each operating location. At least one labor-management meeting is convened each quarter as required by law, with the President serving as the chair of the meeting and the Vice President of the Finance Department serving as the highest-level representative of the Company. Such meetings are aimed at facilitating labor-management cooperation through regular communication and dialogue between both parties, so that employees can express their opinions and fight for better labor conditions from the Company, thereby elevating the status of labor rights.

TUC has established various communication channels to facilitate two-way communication, enabling employees to express their opinions fully. The Company will respond promptly and translate their suggestions into policies for implementation. In recent years, TUC has maintained harmonious labor relations with no reported disputes. Furthermore, in compliance with local labor laws and employment contracts, the Company adheres to proper procedures when adjusting or changing employee duties, resulting in no instances of mass layoffs in recent years.

5.3 Occupational Safety and Health

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> Responsible Department: Occupational Safety Division Grievance Mechanism <ul style="list-style-type: none"> Occupational Safety Division (+886-3-555-1103 ext. 150; Eric.Fang@tuc.com.tw)
Management Mechanism	<ul style="list-style-type: none"> Policy: <ul style="list-style-type: none"> The Occupational Safety and Health Policy is formulated in accordance with ISO 45001:2018 Occupational Safety and Health Management System. Its key objectives and spirit are "Compliance with Regulations, Risk Assessment, Full Employee Participation, Enhanced Communication, Continuous Improvement, and Zero Hazards". The Occupational Safety Division, along with specialized personnel from each department, implements the policy. Follow-up audits are conducted annually to ensure the system operates effectively, and system verification is obtained. Commitment: <ul style="list-style-type: none"> In order to comply with environmental safety and health regulations and other requirements, we implement various processes and controls to ensure a comfortable, safe, and hygienic environment through design and process improvement. Additionally, we prioritize hazard prevention and risk control in our operating environment, striving to reduce accidents and continuously improve to provide a safe operating environment. Our ultimate goal is to improve environmental safety and health performance for our employees. Goals: <ul style="list-style-type: none"> Short-term: <ul style="list-style-type: none"> Promote disaster prevention plans to reduce the occurrence of accidents with minor or slight injuries Organize health promotion programs to avoid occupational injuries or diseases Medium to long-term: <ul style="list-style-type: none"> The Disabling Injury Frequency Rate (FR) and Disabling Injury Severity Rate (SR) have improved from past averages, having decreased by 25% compared to 2022. Continuous promotion of health promotion programs Achievements in 2023 <ul style="list-style-type: none"> Two accidents with minor or slight injuries were reported at TUC in 2023. The Disabling Injury Frequency Rate, Severity Rate, and Frequency-severity Index in 2023 were lower than those in the past two years. Continue to promote the four major plans and four health promotion programs in 2023.
Effectiveness Assessment	<ul style="list-style-type: none"> The Occupational Safety and Health Committee convenes on a monthly basis to evaluate, appraise, and confirm the needs of employees and the outcomes of safety and health advocacy.

5.3.1 Occupational Safety and Health Management System

Placing an emphasis on employee safety and health at the production stage, TUC has passed the ISO 45001 management system verification, with the aim of creating a safe and healthy workplace environment as well as identifying and assessing potential hazards in the workplace, thereby controlling risks and preventing them right from the beginning. Not only are TUC employees subject to management systems regulations, but TUC's contractors working in our factories are also required to comply with the operational safety regulations promulgated by TUC.

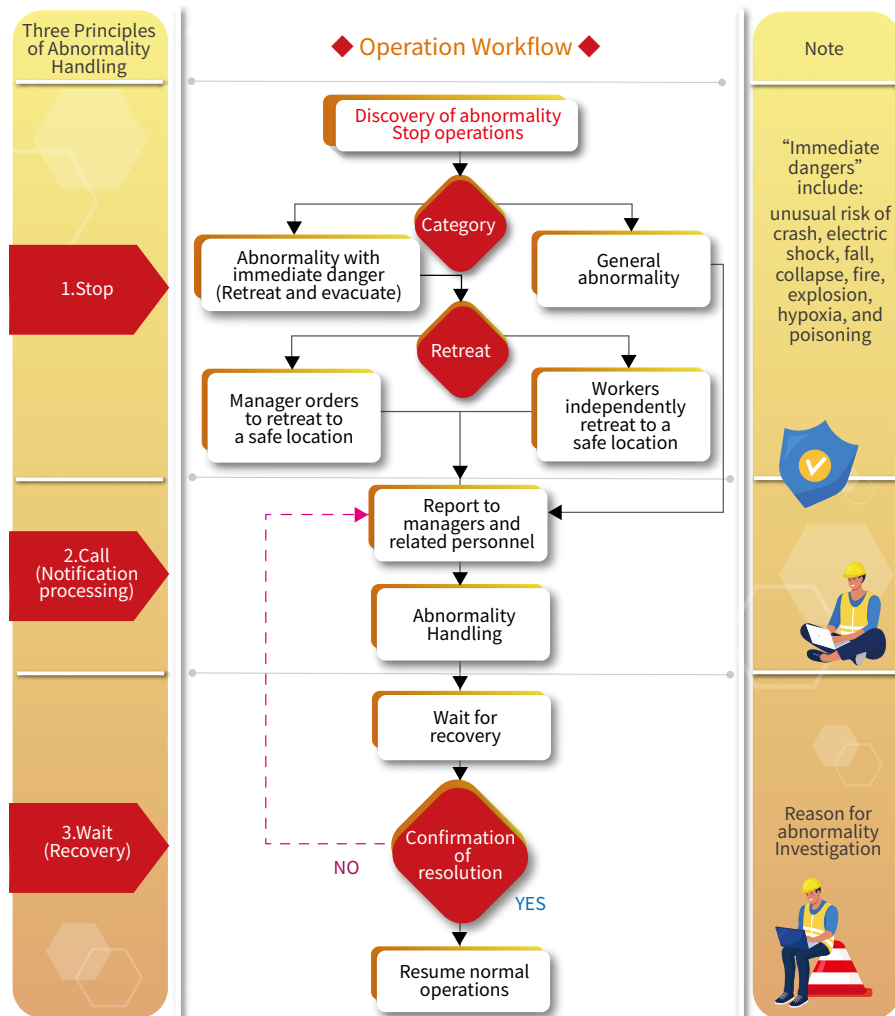
- The ISO 45001:2018 Certificate (valid from September 14, 2023 to March 14, 2024)



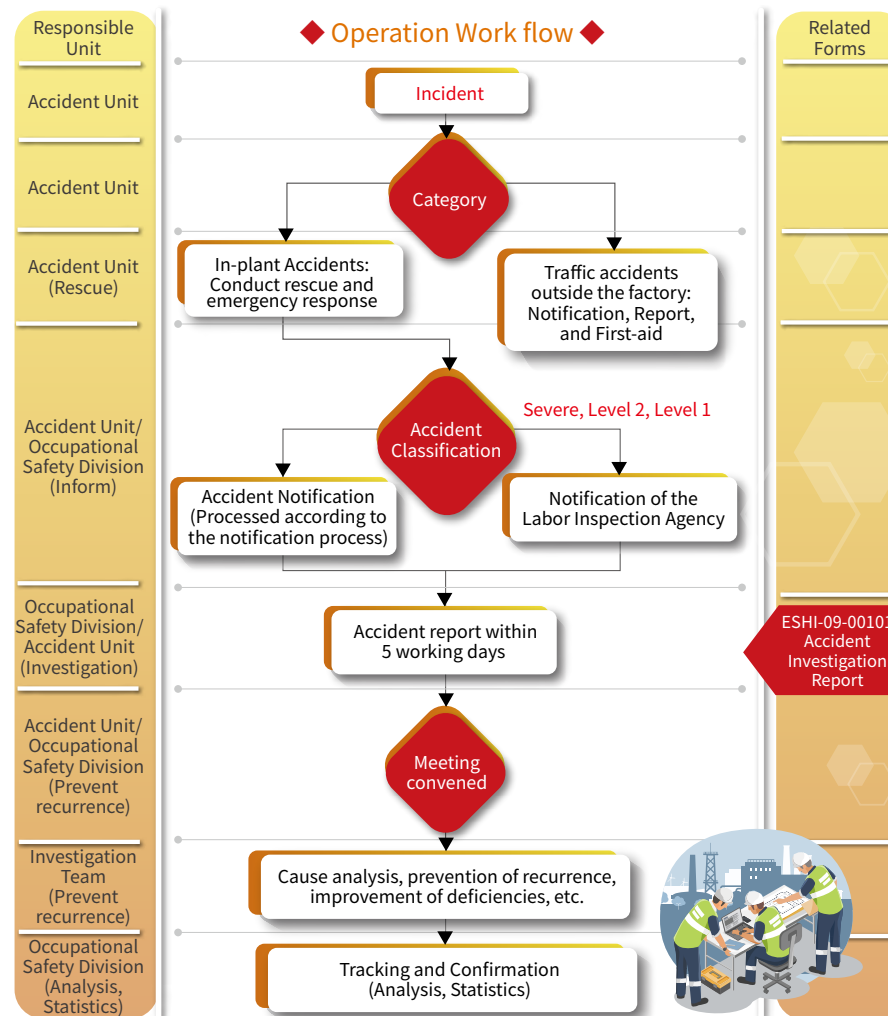
5.3.2 Hazard Identification, Risk Assessment, Principles of Anomaly Handling and Incident Investigation

TUC identifies potential sources or conditions that may cause injury or illness to employees or stakeholders, as well as damage to property or damage to facilities and equipment in the work environment during various production, service, and product provision operations and activities, and classifies the existence and characteristics of hazards. A "Hazard Identification and Risk Assessment Management Procedure" is in place to continuously identify hazards, assess risks, and determine necessary control methods. During occupational safety and health training for both new and current employees, TUC instructs them on the "Three Principles of Abnormality Handling" to avoid accidents when abnormalities are found in the factory's process equipment. Additionally, the "Occupational Disaster Management and Incident Investigation Procedures" have been established to address property loss or disasters/ accidents involving process equipment or employees in the factory area. These procedures ensure that necessary first aid and disaster rescue can be taken and the cause of the accident investigated, analyzed, and documented, with effective countermeasures taken to prevent similar accidents from happening again.

Three Principles of Abnormality Handling



Occupational Accident Investigation Process



🌲 Statistics on Disability Injury

Statistics on occupational injury and occupational disease (cases)					
Category/ Year		2021	2022	2023	Hazards and Instructions for improvement
Type of Occupational Injury	Inappropriate actions	1	0	0	<ul style="list-style-type: none">◆ Compliance with the SOP.◆ Promotion of education and training.
	Cut, slashed, and scraped	4	1	0	<p>Violation of regulations by employees resulting in injury</p> <ul style="list-style-type: none">◆ Re-introduce education and training on cutter changing and wearing cut-resistant gloves when handling and changing cutters.◆ Use jigs and stoppers that prevent cutters from falling off during cutter changes.◆ Modification of the SOP for cutter changes.◆ Post hazard warning notifications.
	Clamped and rolled	6	1	1	<p>Injury due to a finger being clamped when picking a cleaning tool fell onto the conveyor belt without shutdown during machine cleaning</p> <ul style="list-style-type: none">◆ Publicizing violation case.◆ Placing warning labels on the machine to remind employees to pay attention.◆ Placing warning labels on the machine’s danger zone regarding possible rolling and clamping injuries.◆ Standardize methods for machine cleaning and promote education and training to avoid recurrence.◆ Add safety light gate protection at the danger zone for possible rolling and clamping injuries.◆ Add manual mode button and a collating sensor for cleaning.
	Trip	1	0	1	<ul style="list-style-type: none">◆ Publicize ban on running inside the factory◆ Use handrails to go up and down stairs◆ Change to better-fitting and non-slip slip-ons◆ Post reminders in stairwells
	Contact with hazardous materials	1	0	0	<ul style="list-style-type: none">◆ Compliance with SOP and wearing personal protective equipment◆ Necessary protective equipment should be worn throughout the operations when handling liquid agents, and education and training should be implemented.◆ Use protective stoppers or appliances to reduce damage caused by loose pipes or pipes bursting.
	Traffic accidents	9	9	12	<ul style="list-style-type: none">◆ Promote departmental education and training◆ Promote training at OSHC meetings and various conferences

🌲 Disabling Injury Index

Year	Disabling Injury Frequency Rate (FR)	Disabling Injury Severity Rate (SR)	Total Injury Index
2021	2.18	43	0.31
2022	0.9	22	0.14
2023	1.02	11	0.11

Note: FR = (total number of disabling injuries * 106)/ total working hours; SR = (total number of days lost due to disabling injuries × 106)/ total working hours; Total injury index = $\sqrt{(FR \times SR / 1000)}$

5.3.3 Occupational Safety and Health Committee and Education and Training

The Occupational Safety and Health Committee (OSHC) at TUC is led by the President and comprises occupational safety and health personnel, department managers, engineering and technical personnel, medical personnel, and labor representatives, who make up over one-third of the total employee count.

The OSHC convenes monthly to review the occupational safety and health management plan, monitor the operating environment, promote health management, conduct automatic inspections and safety and health audits, assess hazards associated with machinery, equipment, and raw materials, investigate occupational disasters, manage contractors, evaluate external audit results, and review safety and health education and training proposals. These reviews aim to continuously improve the environmental safety and health management performance of our factories.

The responsible departments of TUC evaluate employees' need for training based on their respective business attributes. TUC offers a dual-track system of internal and external training. For internal training, external qualified lecturers or engineers from the Occupational Safety Division are invited to teach in the department. For external training, employees are enrolled in occupational safety courses offered by professional organizations. In 2023, a total of 60 occupational safety training courses were conducted, involving a total of 70.83 hours of lectures, which saw the participation of 1,322 people undergoing 1,651.83 hours of training in total. On top of that, TUC regularly invites external medical professionals to conduct health education and awareness programs on-site, covering topics such as tuberculosis and latent tuberculosis, AIDS prevention, food and health hygiene, and tobacco and betel nut resistance.

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5.3.1 Occupational Safety and Health Management System 5.3.2 Hazard Identification, Risk Assessment, Principles of Anomaly Handling and Incident Investigation
5.3.3 Occupational Safety and Health Committee and Education and Training 5.3.4 Employee Health Management and Promotion 5.3.5 Improvement of the Working Environment and Operational Methods

◆ General Safety and Health Education and Training ◆



◆ Refresher training course on CPR Certification ◆



◆ Course on Respiratory Protective Device ◆

請正確配戴防毒面罩



Dust Zone



Noise Zone



Toxic Chemical Zone



5.3.4 Employee Health Management and Promotion

TUC has engaged two nurses specializing in labor health services and on-site physicians to conduct routine on-site visits and provide employees with health consultations three times a month in compliance with the Labor Health Protection Regulations. Adequate first aid kits, AED, and other emergency equipment are provided in all factory areas based on the level of hazard risk. Trained personnel are responsible for stocktaking, managing, and regularly updating and restocking the first aid kits.

TUC's employees are entitled to receive regular annual general and occupational health checkups. The nurses and on-site physicians will then conduct follow-up health tracking and management planning based on the results of these checkups.

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5.3.3 Occupational Safety and Health Committee and Education and Training 5.3.4 Employee Health Management and Promotion 5.3.5 Improvement of the Working Environment and Operational Methods

Annual Planning of Health Checkup and Health Promotion Activities (Canceled in 2021 due to the COVID-19 outbreak)

Year	2018	2019	2020	2022	2023
Program title	Liver Protection Program	Thyroid Prevention	Metabolic Syndrome Prevention	Two-in-One Prevention	Three Highs Prevention


Criteria for the five anomaly levels and follow-up tracking after general health checkup

2023						
Level	Level 1	Level 2	Level 3	Level 4	Level 5	Significant Anomaly
Criteria	No anomaly	Slight anomaly	Slightly high values in certain indicators	High values in certain indicators	Extremely high values in certain indicators	Immediate tracking required
Number of people	43	331	230	61	49	14
Measures implemented	NA	Health awareness campaigns	Arrange health consultation according to employee's wish	Arrange health consultation	Arrange health consultation	Arrange follow-up examination or appointment immediately

Health check for special operations over the past three years - Analysis by level

Level	2021			2022			2023		
Year	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Noise	99	77	21	59	79	16	94	79	1
DMF	67	18	9	70	23	0	100	20	1
Dust	46	10	0	46	10	0	45	2	0
Chromium acid	—	—	—	—	—	—	4	0	0
Manganese	—	—	—	—	—	—	8	0	0
Mercury	—	—	—	—	—	—	2	2	0

On-site doctor visits three times per month: Two general practitioners and one occupational physician



On-site Doctor Consultation Services

為了關心同仁健康，特聘請新竹台大醫院家醫科、職業專科醫師每月至公司臨場諮詢3次，若您有任何關於自己或家人的醫療問題歡迎踴躍預約諮詢服務！

醫師臨場服務時間

醫師	顏育民醫師	劉敏芝醫師	張哲瑞醫師
日期	1/16、2/6(二)	1/18(四)、2/23(二)	1/24(三)、2/27(二)
時間	9:00-12:00	13:30-16:30	14:00-17:00

服務內容：健康醫療預防、預防接種、職業病預防、孕婦健康評估、旅遊/出差傳染病預防

諮詢地點：2樓醫務室

醫師簡介

簡介	顏育民醫師	劉敏芝醫師	張哲瑞醫師
學	台灣醫藥大學	台灣醫藥大學	台灣醫藥大學
歷	職業醫學與工業衛生碩士	台灣大學醫學系	公共衛生學院環境所博士班
現	台北慈濟醫院職業醫學科主任	台大新竹分院家醫科醫師	台北台大醫院家醫科醫師
歷	大林慈濟醫院預防醫學中心主任	南門醫院家醫科醫師	台大新竹分院家醫科醫師
		擅長乳房檢查	擅治性病/產科/婦產科

預約專線： 職員 Garfi #153

工安部關心您

2023年	諮詢人數
1月	9人
2月	10人
3月	12人
4月	8人
5月	18人
6月	26人
7月	30人
8月	36人
9月	20人
10月	12人
11月	73人
12月	7人
總人數	261人



5.1 Employee Overview 5.2 The Right Talent for the Right Job
5.3 Occupational Safety and Health 5.4 Charity Involvement

5.3.1 Occupational Safety and Health Management System 5.3.2 Hazard Identification, Risk Assessment, Principles of Anomaly Handling and Incident Investigation
5.3.3 Occupational Safety and Health Committee and Education and Training 5.3.4 Employee Health Management and Promotion 5.3.5 Improvement of the Working Environment and Operational Methods

◆ Health Consultation ◆



Maternity Protection Assessment



Notification on Reproductive Toxicity Hazards

◆ Work-related Injury Assessment/
Return-to-work Assessment ◆



Doctor's Visit to Injured Employee's Home



Confirmation of Employee's Injury



Return-to-work Assessment



Work-related Injury Assessment

5.1 Employee Overview 5.2 The Right Talent for the Right Job 5.3 Occupational Safety and Health 5.4 Charity Involvement

5.3.1 Occupational Safety and Health Management System 5.3.2 Hazard Identification, Risk Assessment, Principles of Anomaly Handling and Incident Investigation
5.3.3 Occupational Safety and Health Committee and Education and Training 5.3.4 Employee Health Management and Promotion 5.3.5 Improvement of the Working Environment and Operational Methods

TUC has developed and implemented a Maternity Protection Program to protect the health and safety of female workers in the workplace during pregnancy and up to one year after delivery as part of our efforts to care for the physical and mental health of our employees. An Overload Prevention Program is in place to prevent cardiovascular diseases caused by shift work, night shifts, and long working hours. The Unlawful Assault Notification and Disposal Program protects employees from the risk of harassment and bullying. The Human Factor Causing Accidents is designed to prevent musculoskeletal disorders caused by repetitive movements in the workplace. We regularly implement improvement measures based on evaluation results and the situation on the ground. In addition, the Company has organized health promotion activities to support employee health. We also conduct monthly health promotion, covering topics such on health, weight loss, smoking cessation, mental health, infectious disease prevention and control, and diseases education.

Monthly dissemination of health information to promote the correct medical concepts among employees

tuc 健康資訊 2023.12
冬至湯圓，健康吃

每年冬天令人期待的「冬至」即將到來，冬至吃湯圓象徵團圓、圓滿，你知道如何健康地吃湯圓嗎？

- 湯圓主成分為糯米(較黏)，對腸胃負擔較大，食用時應細嚼慢嚥、控制食用量，避免腸胃不適
- 小孩、老人或有吞嚥障礙者，不宜食用湯圓，以免發生噎咳或噎到，若無法忌口，應分切成小塊細嚼慢嚥並小口吃
- 糖尿病、痛風、高血脂、腎臟病患者宜控制份量

學會湯圓的聰明吃法✓不怕胖

甜湯圓 當下午茶點心吃
包餡湯圓單純吃最好
甜湯少點糖，放些龍眼乾增風味

鹹湯圓 當成正餐吃
湯頭宜清淡、少油
多加點茼蒿等青菜

貼心提醒
宜：適量食用 宜：細嚼慢嚥 宜：與親友分享

資料來源：國民健康署、余朱青營養師、彰化基督教醫院 工安部關心您

2023 Theme

January	Home cleaning and disinfection
February	Don't say "No" to health during the chilly winter season
March	Developing a healthy sleeping habit for a LOHAS life
April	What is glycated hemoglobin?
May	Diet before, during and after exercise
June	Tips for protecting yourself against the summer heat
July	Common pest and insects during the summer season
August	Health tips for prolonged standing
September	Expanded application of the COVID-19 notification system
October	2023 Vaccination Q&A
November	6 important tips when enjoying hot spring baths in winter Attention! Get yourself protected against mycoplasma pneumoniae
December	Enjoy tangyuan healthily on Winter Solstice

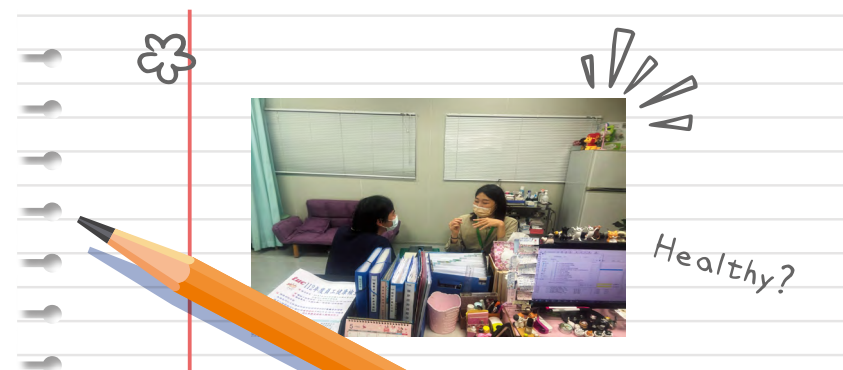
Health promotion flyers posted at the health center and cafeteria, as well as the bulletin board of each production line



🌲 Announcements regarding health promotion activities on the Company's intranet



🌳 Health Promotion Activities - One-on-one consultation with nutritionist



🌲 Health Promotion Activities - Body fat and muscle mass tests



🌳 Health Promotion Activities – Results of weight loss

Year	Weight Loss Reward	Lecture fee	Others	Total	Applied Grant	Note
2021	33,000	44,000	150,000	227,000	16,884	Ministry of Labor
2022	32,800	30,000	-	62,800	21,000	Ministry of Labor
2023	35,600	58,000	-	93,600	64,050	Ministry of Labor and Public Health Bureau of Hsinchu County

Year	Number of participants	Results					
		Total weight loss (kg)	Total loss of waist circumference	Total loss of body fat	Average weight loss (kg)	Average loss of waist circumference	Average loss of body fat
2021	64	190.6	150	135.4	3	2.3	2.1
2022	71	185	235	150	2.6	3.3	2.1
2023	73	208	278	116	2.8	3.8	1.6

Certificate of Accredited Healthy Workplace Mark awarded to TUC



5.3.5 Improvement of Working Environment and Operational Methods

Employees are the cornerstone of TUC's operations. To ensure their well-being, the Company distributes human factors questionnaires during employee health checkups, collects assessments from employees in each unit regarding their own conditions, compiles human factors hazards that employees may encounter during operations, and, with the help of physicians, identifies movements that may cause musculoskeletal pain for employees during operations and evaluates the more hazardous operations. The site manager, employees in charge of operations, occupational nurse and occupational safety personnel collaborate to plan and improve the operating environment. Employees who score highly on the human factor questionnaire survey will be scheduled for a consultation with a physician. Only one person needed follow-up health tracking after such consultations, and others were settled.

🌳 Results of the Human Factor Questionnaire: Comparison of pain spot scores

Year	Total number of people	Number of people without pain spots	Number of people with pain spots	Number of people with a score of 3 points and above	Percentage of people with pain spots
2021	537	442	95	8	17.6%
2022	703	584	119	12	16.9%
2023	719	613	106	10	14.7%

🌲 Comparison of Pain Spot Scores between Computer Operators and Production Line Operators

Analysis of pain spot scores among computer operators								
Location of pain sport	Lower back	Neck	Right shoulder	Right wrist	Left wrist	Left shoulder	Upper back	Left leg
2021	6	0	0	4	3	0	0	0
2022	14	0	4	0	0	0	3	7
2023	7	10	3	0	3	4	3	0
Analysis of pain spot scores among production line operators								
Location of pain sport	Lower back	Left knee	Right shoulder	Left shoulder	Upper back	Neck	Left ankle	Right elbow
2021	9	0	0	0	0	3	0	0
2022	9	0	0	0	3	0	3	0
2023	6	3	0	0	0	0	8	3

🌲 Health Promotion Activities for Human Factors Improvement - The Gyrokinesis Course

2023年健康促進系列活動
陀旋律動瑜珈 GYROKINESIS
 日期：4/11、6/13 週二
 時間：17:10-18:10
 地點：B1F有氧教室/訓練教室

體驗最新的陀旋律動瑜珈，坐在一張椅子上開始的運動，可以活化脊椎與全身關節，強化核心力量同時舒緩痠痛緊繃的肌肉，想要塑身、舒壓、緩解痠痛的同仁~趕快報名



講師介紹 黃嘉玲教練
 新竹市體育發展協會有氧舞蹈委員會主任委員
 浪斯邦尼運動教室班主任
 體適能教學22年

請穿著輕便服裝、攜帶毛巾、水瓶
 工安部關心您



5.4 Charity Involvement

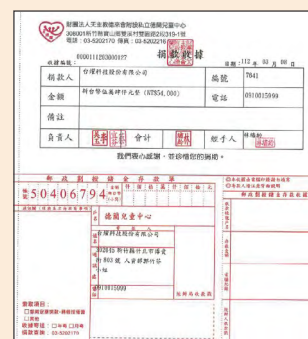
As a community member, TUC recognizes our interdependence with investors, employees, local communities, and other stakeholders. TUC has played an influential role in fulfilling our corporate social responsibility by collaborating with local organizations at all of our operations to ensure that resources are available to those in genuine need. In addition to our own charitable efforts, TUC encourages our employees to contribute to charitable causes by combining their resources and maximizing their impact on society.

TUC's Engagement In Social Welfare Activities Throughout 2023

- ◆ TUC took part in the inaugural “Jhu22 Charity Ultra Marathon” event, where 62 of our employees and their dependents participated enthusiastically in the event with concrete action while the Company donated NT\$54,000 to the event.
- ◆ TUC continues to sponsor the TPCF Environment Foundation for organizing the “ECO Masters Campus Sharing Event.”
- ◆ TUC spends a fixed monthly cleaning and maintenance fee of NT\$11,200 for adopting a neighboring park (Gongshiliu Park), a road (Bo-ai Street), and an air quality purification area (located behind the Hsinchu County Women's and Children's Center) where the Company is responsible for maintenance and cleaning. TUC has also been named “Outstanding Organization for Adopting Air Quality Purification Area.”
- ◆ TUC spends a fixed monthly maintenance fee of NT\$8,600 for adopting the International Environmental Education Park to carry out cleaning and maintenance of green space in the park.
- ◆ TUC rolls out and implements a wide range of environmental protection measures and activities, as well as runs a resource and material sharing and exchange platform to conserve resources in line with the registry set up by the Environmental Protection Bureau of the Hsinchu County Government.
- ◆ TUC sponsored a total of NT\$20,000 for self-improvement activities organized by residents of Taihe Village in Jhupei City.
- ◆ TUC donated five second-hand computer monitors to the Hsinchu County Government, which were provided in coordination with the Education Bureau to schools in rural areas for use as educational resources.
- ◆ TUC took part in a social welfare event organized by Syin-Lu Social Welfare Foundation, which saw the participation of 11 volunteers from the Company, as the Company donated NT\$10,000 to the event.
- ◆ TUC collaborated with Children Are Us Foundation on organizing social welfare activities during the National Tsing Hua University Campus Recruitment, in which six TUC employees served as volunteers, as the Company donated NT\$12,000 to these activities.
- ◆ A total of 47 TUC employees participated in a blood donation program by donating 71 bags of blood to help alleviate the blood shortage crisis while playing their part in social welfare.
- ◆ With the intention of integrating ESG and art and cultural activities, TUC booked an event venue for a documentary film in an effort to show support for local art and cultural activities with concrete actions, which involved an art and culture expenditure of NT\$21,300,

🌳 Participating in the inaugural Jhu22 Charity Ultra Marathon

A total of 62 TUC employees and their dependents participated enthusiastically in the event with concrete action while the Company donated NT\$54,000 to the event.



🌳 Sponsoring the TPCF Environment Foundation

TUC continues to sponsor the TPCF Environment Foundation for organizing the “Eco Masters Campus Sharing Event,” with the aim of providing free environmental education opportunities for elementary and junior high schools in Taiwan, setting up a stage for environmental educators where they belong, and passing on the idea behind high-quality environmental education lesson plans, so as to inculcate various green and sustainability concepts into the next generation.



Supporting the Boccia social welfare volunteer program hosted by Syin-Lu Social Welfare Foundation

TUC donated a total of NT\$10,000 to Syin-Lu Social Welfare Foundation to assist them in organizing a rehabilitation tournament for children with disabilities undergoing early intervention while mobilizing 11 volunteers to help out in venue cleaning and serve as moderators of fun activities in the tournament, so that these children can release the energy of life through Boccia and lead a happy life every day.



Integrating ESG and Art and Cultural Activities

In an effort to show support for local art and cultural activities with concrete actions, TUC booked an event venue for an ecological documentary titled "Good Morni MIT," in which 40 employees were invited to participate.



Collaborating with Children Are Us Foundation on organizing a social welfare event during the National Tsing Hua University Campus Recruitment

TUC collaborated with Children Are Us Foundation on organizing social welfare activities during the National Tsing Hua University Campus Recruitment, in which six TUC employees served as volunteers, as the Company donated NT\$12,000 to these activities.



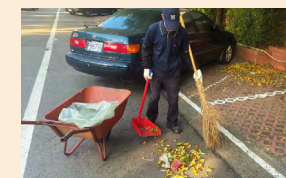
TUC was awarded "Outstanding Organization for Adopting Air Quality Purification Area" in 2023



In order for more companies and community groups to adopt air quality purification areas set by local governments, the Ministry of Environment under the Executive Yuan has leveraged the power of the public to carry out routine maintenance work, which can not only help the government cut spending on its budget, but also drive public participation in maintaining the trend of environmental greening, so as to enhance the effectiveness of establishing air quality purification areas.



Adopting green spaces in neighboring parks (including Gongshiliu Park in Jhubei City and the International Environmental Education Park in Hsinchu County) to maintain a clean environment in these spaces



Adopting roads (Bo-ai Street in Zhubei City)

Appendix

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Appendix 1. GRI Standards Index

★ refers to material topics

Term of use	TUC has published this report whose content is valid for the period from January 1 to December 31, 2023 in accordance with the GRI Standards.
GRI 1 in use	GRI 1: Foundation 2021
Applicable GRI Industry Standards	There is currently no inapplicable GRI standards.

Topic	Disclosure	Description	Chapter	Page number	Reasons for omission/Necessary explanations	Reference number for disclosure item in the GRI Standards
GRI 2: General Disclosures 2021						
Organization and Reporting Practices	2-1	Organizational details	2.1 Company Profile	16-18		
	2-2	Entities included in the organization's sustainability reporting	Editorial Policies/ESG Information Disclosure	02		
	2-3	Reporting period, frequency and contact point	Editorial Policies/ESG Information Disclosure, Frequency of Publication, and Feedback	02		
	2-4	Restatements of information	Editorial Policies/ Report Preparation Basis and Information Verification Method	02		
	2-5	External assurance	Editorial Policies/ Report Preparation Basis and Information Verification Method	02		
Activities and Workers	2-6	Activities, value chain and other business relationships	2.1 Company Profile	16-18		
	2-7	Employees	5.1.2 Employee Statistics	62-66		
	2-8	Workers who are not employees	5.1.2 Employee Statistics	62-66		
Governance	2-9	Governance structure and composition	3.1 Governance Practices	23-29		
	2-10	Nomination and selection of the highest governance body	3.1.1 Board of Directors	24-25		
	2-11	Chair of the highest governance body	3.1.1 Board of Directors	24-25		
	2-12	Role of the highest governance body in overseeing the management of impacts	1.1 Sustainability Promotion Committee 1.3 Stakeholder Communication 3.1 Governance Practices	05-06 07-08 23-29		
	2-13	Delegation of responsibility for managing impacts	1.1 Sustainability Promotion Committee	05-06		
	2-14	Role of highest governance body in sustainability reporting	1.1 Sustainability Promotion Committee	05-06		
	2-15	Conflicts of interest	3.1.1 Board of Directors	24-25		

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Topic	Disclosure	Description	Chapter	Page number	Reasons for omission/Necessary explanations	Reference number for disclosure item in the GRI Standards
Governance	2-16	Communication of critical concerns	3.1 Governance Practices	23-29		
	2-17	Collective knowledge of the highest governance body	3.1.1 Board of Directors	24-25		
	2-18	Evaluation of the performance of the highest governance body	3.1.1 Board of Directors	24-25		
	2-19	Remuneration policies	3.1.2.2 Remuneration Committee	26		
	2-20	Process to determine remuneration	3.1.2.2 Remuneration Committee	26		
	2-21	Annual total compensation ratio	.		Confidentiality regulations/ Remuneration is within the scope of the Company's confidentiality	
Strategy, Policies, and Practice	2-22	Statement on sustainable development strategy	A Message from the Chairman	01		
	2-23	Policy commitments	3.1.4 Ethics and Integrity 4.4 Sustainable Supply Chain 5.1.1 Human Rights Protection	28-29 52-54 61		
	2-24	Embedding policy commitments	3.1.4 Ethics and Integrity 4.4 Sustainable Supply Chain 5.1.1 Human Rights Protection	28-29 52-54 61		
	2-25	Processes to remediate negative impacts	3.1 Governance Practices	23-29		
	2-26	Mechanisms for seeking advice and raising concerns	3.1 Governance Practices	23-29		
	2-27	Compliance with laws and regulations	3.1.5 Legal Compliance	29		
	2-28	Membership associations	2.4 Participation in External Associations	21		
Stakeholder Engagement	2-29	Approach to stakeholder engagement	1.3 Stakeholder Communication	07-08		
	2-30	Collective bargaining agreements	-		Not applicable/TUC has not signed any collective bargaining agreement with employees.	
GRI 3: Material Topics 2021						
Material Topics	3-1	Process to determine material topics	1.4 Identifying Material Topics	09-12		
	3-2	List of material topics	1.4 Identifying Material Topics	09-12		

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Topic	Disclosure	Description	Chapter	Page number	Reasons for omission/Necessary explanations	Reference number for disclosure item in the GRI Standards
Economic Aspect						
★ Economic Performance						
GRI 3: Material Topics 2021	3-3	Management of material topics	3.3 Operational Performance	35-36		
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed	3.3 Operational Performance	35-36		
	201-2	Financial implications and other risks and opportunities due to climate change	4.5 Climate related financial disclosures	55-59		
★ Market Presence						
GRI 202: Market Presence 2016	202-1	Ratios of standard entry-level wage by gender compared to local minimum wage	5.2.1 Salary and Benefits	67-70		
	202-2	Proportion of senior management hired from the local community	5.1.2 Employee Statistics	62-66		
★ Ethics and integrity						
Customized Topic	Integrity - 1	Number of integrity reports received in the current year	3.1.4 Ethics and Integrity	28-29		
Information Security						
Customized Topic	Information Security - 1	Number of information security incidents in the current year	3.4 Information Security	37-39		
★ Innovative R&D						
GRI 3: Material Topics 2021	3-3	Management of material topics	3.6.1 Innovative R&D	41-42		
Customized material topics	Innovative R&D - 1	Resources invested in R&D for the current year	3.6.1 Innovative R&D	41-42		
★ Customer Service						
GRI 3: Material Topics 2021	3-3	Management of material topics	3.6.2 Customer Service	43-44		
Customized material topics	Customer Service - 1	Customer satisfaction surveys in the current year	3.6.2 Customer Service	43-44		

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Environmental Aspect						
★ Energy						
GRI 3: Material Topics 2021	3-3	Management of material topics	4.2 Energy Conservation and Carbon Reduction	47-49		
GRI 302: Energy 2016	302-1	Energy consumption within the organization	4.2 Energy Conservation and Carbon Reduction	47-49		
	302-2	Energy consumption outside of the organization	.		Not applicable/ The Company does not currently account for external energy consumption.	
	302-3	Energy intensity	4.2 Energy Conservation and Carbon Reduction	47-49		
	302-4	Reduction of energy consumption	4.2 Energy Conservation and Carbon Reduction	47-49		
	302-5	Reductions in energy requirements of products and services	4.2 Energy Conservation and Carbon Reduction	47-49		
★ Water and Effluents						
GRI 303: Water and Effluents 2018 Management Approach	303-1	Interactions with water as a shared resource	4.1 Water Resource Management	46		
	303-2	Management of water discharge-related impacts	4.1 Water Resource Management	46		
GRI 303: Water and Effluents 2018	303-3	Amount of water extraction	4.1 Water Resource Management	46		
	303-4	Water discharge	4.1 Water Resource Management	46		
	303-5	Water consumption	4.1 Water Resource Management	46		
★ Emissions						
GRI 3: Material Topics 2021	3-3	Management of material topics	4.2 Energy Conservation and Carbon Reduction	47-49		
GRI 305: Emissions 2016	305-1	Direct (Scope 1) greenhouse gas emissions	4.2 Energy Conservation and Carbon Reduction	47-49		
	305-2	Energy indirect (Scope 2) greenhouse gas emissions	4.2 Energy Conservation and Carbon Reduction	47-49		
	305-3	Other indirect (Scope 3) greenhouse gas emissions	4.2 Energy Conservation and Carbon Reduction	47-49		
	305-4	Greenhouse gas emission intensity	4.2 Energy Conservation and Carbon Reduction	47-49		
	305-5	Reduction of greenhouse gas emissions	4.2 Energy Conservation and Carbon Reduction	47-49		

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GRI 305: Emissions 2016	305-6	Emissions of ozone-depleting substances	.		Not applicable/ The Company does not emit such substances.	
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant gas emissions	.		Not applicable/ The Company does not emit such substances.	
★ Waste						
GRI 3: Material Topics 2021	3-3	Management of material topics	4.3 Waste Management	50-51		
GRI 306: Waste 2020	306-1	Waste generation and significant waste-related impacts	4.3 Waste Management	50-51		
	306-2	Management of significant waste-related impacts	4.3 Waste Management	50-51		
	306-3	Waste generated	4.3 Waste Management	50-51		
	306-4	Waste diverted from disposal	4.3 Waste Management	50-51		
	306-5	Wasted directed to disposal	4.3 Waste Management	50-51		
★ Supplier Environmental Assessment						
GRI 3: Material Topics 2021	3-3	Management of material topics	4.4 Sustainable Supply Chain	52-54		
GRI: 308 Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	4.4 Sustainable Supply Chain	52-54		
	308-2	Negative environmental impacts in the supply chain and actions taken	4.4 Sustainable Supply Chain	52-54		
Social Aspect						
★ Employer-Employee Relations						
GRI 3: Material Topics 2021	3-3	Management of material topics	5.2.1 Salary and Benefits	67-70		
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	5.1.2 Employee Statistics	62-66		
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	5.2.1 Salary and Benefits	67-70		
	401-3	Parental leave	5.2.1 Salary and Benefits	67-70		

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Topic	Disclosure	Description	Chapter	Page number	Reasons for omission/Necessary explanations	Reference number for disclosure item in the GRI Standards
GRI 401: Employment 2016	Salary	The number of full-time employees in non-managerial positions, the average and median salaries of full-time employees in non-managerial positions, and the differences between the previous three items and in comparison to the previous year should be disclosed.	5.2.1 Salary and Benefits	67-70		
★ Labor/Management Relations						
GRI 402: Labor/Management Relations 2016	402-1	Minimum notice periods regarding operational changes	5.2.3 Labor-Management Communication	72		
★ Occupational Safety and Health						
GRI 3: Material Topics 2021	3-3	Management of material topics	5.3 Occupational Safety and Health	73-82		
GRI 403: Occupational Health and Safety 2018 Management Approach	403-1	Occupational safety and health management system	5.3.1 Occupational Safety and Health Management System	73		
	403-2	Hazard identification, risk assessment, and incident investigation	5.3.2 Hazard Identification, Risk Assessment, Principles of Anomaly Handling, and Incident Investigation	73-74		
	403-3	Occupational health services	5.3.4 Employee Health Management and Promotion	76-81		
	403-4	Worker participation, consultation, and communication on occupational health and safety	5.3.5 Improving the Working Environment and Operational Methods	81-82		
	403-5	Workers training on occupational health and safety	5.3.3 Occupational Safety and Health Committee and Education and Training	75-76		
	403-6	Promotion of worker health	5.3.4 Employee Health Management and Promotion	76-81		
GRI 403: Occupational Health and Safety 2018	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	5.3.3 Occupational Safety and Health Committee and Education and Training	75-76		
	403-8	Workers covered by an occupational health and safety management system	5.3 Occupational Safety and Health	73-82		
	403-9	Occupational injuries	5.3.2 Hazard Identification, Risk Assessment, Principles of Anomaly Handling, and Incident Investigation	73-74		
	403-10	Occupational disease	-		Not applicable/ No employee suffers from occupational disease at the Company	

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Topic	Disclosure	Description	Chapter	Page number	Reasons for omission/Necessary explanations	Reference number for disclosure item in the GRI Standards
★ Training and Education						
GRI 3: Material Topics 2021	3-3	Management of material topics	5.2.2 Talent Development	71-72		
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	5.2.2 Talent Development	71-72		
	404-2	Programs for upgrading employee skills and transition assistance programs	5.2.2 Talent Development	71-72		
	404-3	Percentage of employees receiving regular performance and career development reviews	5.2.2 Talent Development	71-72		
Employee Diversity and Equal Opportunity						
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	3.1.1 Board of Directors 5.1.2 Employee Statistics	24-25 62-66		
	405-2	Ratio of basic salary and remuneration of women to men	5.2.1 Salary and Benefits	67-70		
★ Supplier Social Assessment						
GRI 3: Material Topics 2021	3-3	Management of material topics	4.4 Sustainable Supply Chain	52-54		
GRI: 414 Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	4.4 Sustainable Supply Chain	52-54		
	414-2	Negative social impacts in the supply chain and actions taken	4.4 Sustainable Supply Chain	52-54		
★ Customer Privacy						
GRI 418: Customer Privacy 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	3.6.2 Customer Service	43-44		

Appendix II. Assurance Statement from Independent Third Party



Independent Assurance Statement Based on 2023 Sustainability Report of Taiwan Union Technology Corporation

Statement No.: 2405009

Taiwan Union Technology Corporation (hereinafter referred to as TUC) and GREAT International Certification Co., Ltd. (hereinafter referred to as GREAT) are independent companies and organizations. Except for the evaluation and verification of the company's 2023 sustainability report, GREAT has no financial relationship with TUC.

The purpose of this independent assurance statement (hereinafter referred to as the Statement) is only to serve as the conclusion of guaranteeing the relevant matters within the scope defined in the following relevant TUC's Sustainability Report, and not for other purposes. Except for the independent assurance statement for fact verification, GREAT does not bear any relevant legal or other responsibilities for the use of other purposes, or anyone who reads this independent assurance statement.

This independent assurance statement is based on the conclusions made by the relevant information verification provided by TUC to GREAT. Therefore, the scope of the review is based on and limited to the content of the information provided. GREAT believes that the information content is complete, accurate and precise. Any questions about the content of this independent assurance statement or related matters will be answered by TUC.

The Scope of Assurance

The verification scope of TUC and GREAT agreement includes:

- The contents of the entire sustainability report and all operating performance of TUC from January 1, 2023 to December 31, 2023;
- According to the type 1 of AA1000 Assurance Standard v3, evaluate the nature and degree of TUC's compliance with the AA1000 Accountability Principles (2018), excluding the verification of the reliability of the information/data disclosed in the report.
- This Statement is made in Chinese and translated into English for reference.

Verification Opinion

We summarize the content of TUC's sustainability report, and provide a fair standpoint of TUC's related operations and performance. We believe that the specific performance indicators of TUC in 2023, such as economy, society, environment and corporate governance, are presented correctly. The performance indicators disclosed in the report demonstrate TUC's expectations and efforts to identify and satisfy stakeholders.

Our verification work is carried out by a group of teams with verification capabilities according to the AA1000 Assurance Standard v3, as well as the planning and execution of this part of the work to obtain the necessary information data and instructions. We believe that the evidence provided by TUC is sufficient to show that its reporting method and self-declaration in accordance with the AA1000 Assurance Standard v3 and its 2018 appendix are in line with the GRI Sustainability Reporting Guidelines.

Verification method

To gather the evidence relevant to the conclusions, we performed the following:

- To conduct a senior management review of issues from external parties related to TUC's corporate policies to confirm the appropriateness of the statement in this report;
- To discuss with the managers of TUC about the way of stakeholder participations, and have no direct contact with external stakeholders;
- To interview with employees related to the preparation of the sustainability report and information provision;
- To audit the performance data of TUC on a sampling basis;
- To evidence supporting the claims made in the review report;
- To Review the management process of the principles of inclusivity, materiality, responsiveness, and impact described in the company report and its related AA1000 Accountability Principles (2018).

Conclusion

The results of a detailed review of the AA1000 Accountability Principles (2018) including inclusivity, materiality, responsiveness, impact and GRI sustainability reporting standards are as follows:

- Inclusivity

TUC has established a process of cooperation with major stakeholders, including shareholders/investors, customers, employees, suppliers, local communities and government agencies, etc.. In 2023, a series of stakeholder activities will be launched, covering a range of major themes such as the environment, people (including human rights) and the economy. In

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terms of our professional opinion, this report covers the inclusivity issues of TUC.

- Materiality

The report has stated that TUC focuses on Economic, Environment and Society topics, and identified 9 major topics including operating performance, innovation and R&D, customer service, energy saving and carbon reduction, waste management, sustainable supply chain, occupational safety, talent education and salary and benefits. In terms of our professional opinion, this report appropriately covers the materiality issues of TUC.

- Responsiveness

TUC responds to requests and opinions from stakeholders. Implementation methods include stakeholder area of the company's official website, public information online reporting system, establish a spokesperson system, various grievance mechanism, customer satisfaction survey, customer complaint handling process, competent authority policy promotion meeting, employee service hotline, sexual harassment hotline and Email, those numerous internal and external stakeholder communication mechanisms, as an opportunity to provide further responses to stakeholders, and to promptly respond to stakeholder concerns. In terms of our professional opinion, this report covers the responsiveness issues of TUC.

- Impact

TUC has identified and fairly demonstrated its impact with balanced and effective measurement and disclosure. TUC has established a process for monitoring, measuring, evaluating and managing impacts, which helps to achieve more effective decision-making and results management within the organization. In terms of our professional opinion, this report covers the impact issues of TUC.

- GRI Guidelines

TUC provides the self-declaration of compliance with the GRI Sustainability Reporting Standards and relevant information. Based on the results of the review, we confirm that the report refers to the social responsibility and sustainability of the GRI Sustainability Reporting Standards. Relevant disclosure items for developments have been disclosed, partially disclosed, or omitted. In terms of our professional opinion, this self-declaration covers TUC's social responsibility and sustainability themes.

Assurance level

According to the AA1000 Assurance Standard v3 and its 2018 Appendix, we have verified that this Statement is a moderate level of assurance, as described in the scope and methods of this Statement.

Responsibility

The responsibility of the sustainability report, as stated in this Statement, is owned by the person in charge of TUC. The responsibility of GREAT is solely to provide professional opinions based on the scope and methods described, and to provide an independent assurance statement for the stakeholders.

Ability and Independence

GREAT is composed of experts in various management system fields. The verification team is composed of members with professional background, who have received training in a series of sustainable development, environmental and social management standards such as AA1000 AS v3, ISO 9001, ISO 14001 and ISO 45001, and are qualified as lead auditors.

On behalf of the assurance team JUN. 06th, 2024

GREAT International Certification Co., Ltd.

Taiwan, Republic of China

Signed by General Manager W. J. Chen



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Appendix 3. Climate-related Financial Disclosures of TPEX-listed Company

(Disclosed in accordance with Table 2 of the Rules Governing the Preparation and Filing of Sustainability Reports by TPEX-listed Companies)

1. Implementation status of climate-related information

Item	Implementation status
<ul style="list-style-type: none"> Describe the Board's and management's oversight and governance of climate related risks and opportunities. Describe how the identified climate risks and opportunities affect the business, strategy, and finance (short, medium, and long term) of the Company. Describe the financial impact of extreme climate events and transitional actions. Describe how the climate risk identification, assessment and management process is integrated into the overall risk management system. If a situational analysis is used to assess the resilience to climate change risks, the scenario, parameters, assumptions, analysis factors and key financial impacts used should be described. If there is a transition plan for managing climate-related risks, describe the contents of the plan and the indicators and targets used to identify and manage physical and transition risks. If internal carbon pricing is used as a planning tool, the basis for price setting should be stated. If climate related targets are set, the activities covered, the scope of greenhouse gas emissions, the planning period, the annual progress of achievement, and other information should be stated; if carbon offsets or renewable energy certificates (RECs) are used to achieve the relevant targets, the source and quantity of carbon credits to be offset or the quantity of RECs should be stated. 	<p>TUC's management approach to climate change risk is described in Section 4.5 Climate Change Related Financial Disclosures in this report.</p> <p>At present, TUC has yet to address climate change risks by means of scenario analysis. However, TUC is expected to adopt Representative Concentration Pathways (RCPs) as scenario assumptions in future sustainability reports based on the United Nations Intergovernmental Panel on Climate Change's Sixth Assessment Report (IPCC AR6) alongside the Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP).</p>
<ul style="list-style-type: none"> Greenhouse gas inventory and assurance status, as well as reduction targets, strategic, and specific action plans (to be filled in 1-1 and 1-2 separately) 	<p>TUC has not planned for carbon pricing, carbon credits, or renewable energy certificates at this stage, but has completed a greenhouse gas inventory for its parent company in 2022.</p> <p>At present, TUC has yet to complete our reduction plan, but anticipates to disclose our reduction strategies and targets in 2027.</p>
<p>Instructions for filling out the form:</p> <ol style="list-style-type: none"> The Company can conduct greenhouse gas inventory according to the following standards: (1) Greenhouse Gas Protocol (GHG Protocol). (2) ISO 14064-1 issued by International Organization for Standardization (ISO). The assurance institution shall comply with the relevant regulations on the confirmation of sustainability reports set by the TWSE and TPEX. Subsidiaries can report individually, collectively (for example, by country and region), or consolidated. The intensity of greenhouse gas emissions can be calculated per unit of product/ service or turnover. However, the data calculated based on turnover (NT\$ millions) shall be disclosed at the very least. The proportion of total emissions from operating sites or subsidiaries that are not included in the inventory calculation shall be no more than 5%. 	
<p>Basic company information</p> <p><input type="checkbox"/> Companies with capitalization of over NT\$10 billion, the steel industry, and the cement industry <input type="checkbox"/> Companies with capitalization over NT\$5 billion and less than NT\$10 billion</p> <p><input checked="" type="checkbox"/> Companies with a capital of less than NT\$5 billion</p>	
<p>According to the Sustainable Development Roadmap, at least the following should be disclosed</p> <p><input type="checkbox"/> Standalone inventory of the parent company <input type="checkbox"/> Inventory of subsidiaries in the consolidated financial statements <input type="checkbox"/> Assurance on the standalone inventory of the parent company</p> <p><input type="checkbox"/> Assurance on the inventory of subsidiaries in the consolidated financial statements</p>	

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1-1 TUC's greenhouse gas inventor and assurance status for the past two years

Year \ Item	2022		2023	
	Total emissions (tCO ₂ e per year)	Intensity (metric tons of CO ₂ e per NT\$ million)	Total emissions (tCO ₂ e per year)	Intensity (metric tons of CO ₂ e per NT\$ million)
Scope 1				
TUC (Parent company)	20,993.3650	2.5693	20,076.6907	2.6550
TUCC (Subsidiary in Changshu, Jiangsu Province)	7,214.1105	1.2678	7,110.6254	1.4892
TUCZ (Subsidiary in Zhongshan, Guangdong Province)	7,589.6900	1.3003	9,238.1690	1.8914
Subtotal	35,797.1655	1.9760	36,425.4851	2.1152
Scope 2				
TUC (Parent company)	27,722.4790	3.3928	25,476.6391	3.3691
TUCC (Subsidiary in Changshu, Jiangsu Province)	12,354.4688	2.1712	12,744.5453	2.6692
TUCZ (Subsidiary in Zhongshan, Guangdong Province)	12,147.8006	2.0812	8,932.9258	1.8289
Subtotal	52,224.7484	2.8828	47,154.1102	2.7382
Scope 3, 4, 5 and 6				
TUC (Parent company)	62,201.7332	7.6126	59,791.4568	7.9070
TUCC (Subsidiary in Changshu, Jiangsu Province)	71,319.5105	12.5338	59,152.2196	12.3887
TUCZ (Subsidiary in Zhongshan, Guangdong Province)	61,258.6975	10.4951	57,485.9147	11.7693
Subtotal	194,779.9412	10.7518	176,429.5911	10.2451
Total	282,801.8551	15.6106	260,009.1864	15.0985

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Description on assurance status:

The total greenhouse gas emissions in 2023 as disclosed by TUC includes:

Scope 1: 36,425.4851 metric tons of CO₂e (accounting for 14.01% of the total greenhouse gas emissions);

Scope 2: 47,154.1102 metric tons of CO₂e (accounting for 18.14% of the total greenhouse gas emissions);

Scope 3-6: 176,429.5911 metric tons of CO₂e (accounting for 67.85% of the total greenhouse gas emissions);

TUC expects to engage SGS Taiwan to conduct the assurance process on our greenhouse gas inventory data for 2023 in the second quarter of 2024 based on the ISO 14064-3 standards, with the assurance opinion to be reasonable assurance.

Note: The intensity of greenhouse gas emissions is calculated in terms of metric tons of CO₂e per unit of total emissions/consolidated turnover (unit: NT\$ million).

1-2 Greenhouse gas reduction targets, strategies, and specific action plans

1. Base year for greenhouse gas reduction: 2021

2. TUC's parent company only reduction targets:

Short-term: 2% reduction in carbon emissions by 2025 compared to 2021.

Medium-term: 10% reduction in carbon emissions by 2030 compared to 2021.

Long-term: 2% reduction in carbon emissions on an annual basis in 2031 and beyond.

4. Strategies and specific action plans: Please refer to Section 4.2 Energy Conservation and Carbon Emission Reduction in this report for more details.

5. Reduction target achievement status: Please refer to Section 4.2 Energy Conservation and Carbon Emission Reduction in this report for more details.

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Appendix 4. SASB Standards

SASB Industry Classification: Technology & Communications/ Hardware

Topic	Metric code	Disclosure	Nature	Chapter	Response
Product Safety	TC-HW-230a.1	Describe the risk identification and management methods for product information security	Discussion and Analysis	Product / Information Security	Please refer to Section 3.4 Information Security in this report.
Employee Diversity and Inclusion	TC-HW-330a.1	(1) Management (2) Technical personnel (3) Percentage of gender and race of other employees	Quantitative	Employer-Employee Relations	Please refer to Subsection 5.1.2 Employee Statistics in this report.
Product Life Cycle	TC-HW-410a.1	Percentage of annual revenue of products complying with IEC 62474 reportable controlled substances	Quantitative	Product Quality	Not applicable
	TC-HW-410a.2	Percentage of annual revenue from products meeting the EPEAT label or equivalent requirements	Quantitative	Product Quality	Not applicable
	TC-HW-410a.3	Percentage of annual revenue from products meeting the Energy Star or equivalent requirements	Quantitative	Product Quality	Not applicable
	TC-HW-410a.4	Total recycling volume of end-of-life products and electronic waste (tons), and percentage of total products sold (%)	Quantitative		Not applicable
Supply Chain Management	TC-HW-430a.1	Percentage of first-tier suppliers who validate their factories in accordance with the RBA verification audit process or equivalent standards (a) all suppliers (b) high risk suppliers	Quantitative	Supply Chain Management	Please refer to Section 4.4 Sustainability Supply Chain in this report.
	TC-HW-430a.2	First-tier suppliers (1) Percentage of audited suppliers that have not passed RBA or equivalent verification (2) Audit results of (a) major deficiencies (b) improvement rate of other deficiencies	Quantitative	Supply Chain Management	Please refer to Section 4.4 Sustainability Supply Chain in this report.
Raw material procurement	TC-HW-440a.1	Describe the risk management on the use of critical materials	Discussion and Analysis	Raw Material Management	TUC purchases critical materials that are not defined under the international definition

Activity metric		
Number of units produced by product category	TC-HW-000.A	Copper clad laminate: 4,338,000 sheets Prepreg: 10,330,000 meters Mass lamination service: 2,686,000 sq. ft.
Area occupied by production equipment	TC-HW-000.B	42,130.52 square meters
Percentage of self-owned production equipment	TC-HW-000.C	TUC's production equipment is all self-owned

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Appendix 5. Sustainability Disclosure Indicators for the Electronic Components Industry

(Table 1-12 of the Rules Governing the Preparation and Filing of Sustainability Reports by TPEx-listed Companies)

Number	Indicator	Type of indicator	Annual disclosure	Unit	Note
I	Total energy consumption, percentage of purchased electricity, and renewable energy usage	Quantitative	Please refer to Section 4.2 Energy Saving and Carbon Reduction in this report for more details on energy consumption. TUC uses purchased electricity from external sources, and no renewable energy is used.	gigajoule (GJ), percentage (%)	
II	Total water intake and total water consumption	Quantitative	Please refer to Section 4.1 Water Resource Management in this report.	thousand cubic meters (m ³)	
III	Weight of hazardous waste generated and percentage of recovery	Quantitative	Please refer to Section 4.3 Waste Management in this report.	metric tons (t), percentage (%)	
IV	Explain the type, number, and rate of occupational accidents	Quantitative	Please refer to Subsection 5.3.2 Hazard Identification, Risk Assessment, Principles of Anomaly Handling, and Incident Investigation in this report.	Percentage (%), quantity	
V	Disclosure of product life cycle management: Including the weight of end-of-life products and electronic waste and the percentage of recycling (Note 1)	Quantitative	This indicator is not applicable as TUC's products are not en-user products.	metric tons (t), percentage (%)	
VI	Describe the risk management for the use of critical materials	Qualitative Description	This indicator is not applicable as there are no critical materials in raw material procurement at TUC.	Not applicable	
VII	Total pecuniary loss resulting from legal proceedings related to the anti-competitive conduct ordinance	Quantitative	No related incidents were reported at TUC in 2022.	Reporting currency	
VIII	Production of major products by category	Quantitative	"Copper clad laminate: 4,338,000 sheets Prepreg: 10,330,000 meters Mass lamination service: 2,686,000 sq. ft."	Vary by product type	

Note 1: Including the sale of scraps or other recycling treatment, relevant instructions should be provided.



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