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Taiwan Union Technology Corporation(TUC)

2022

Sustainability Report

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A Message from the Chairman

Taiwan Union Technology Corporation (TUC) has released its 2022 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 our company and the coexistence and prosperity of our customers.

At the outset of 2022, there was a delay in overall demand attributable to various factors. These included the continued expansion of the Russian-Ukrainian War, the ongoing strategic conflict between the US and China, the raging COVID-19 pandemic, the easing of pandemic controls in China leading to the emergence of new virus variants, deteriorating ESG risks, and the 5G industry supply chain experiencing operational challenges. Despite the challenges posed by the pandemic, TUC has diligently enforced all relevant prevention measures and maintained normal operations across all of our plants. Thanks to the unwavering efforts of our dedicated employees, we were able to achieve an individual turnover of NT\$8,170,915 thousand and an individual net profit before tax of \$1,356,663 thousand in 2022.

In the realm of green sustainability, TUC has taken steps to not only comply with pertinent environmental laws and regulations, but also to introduce ISO 14064-1 in 2022. 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 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
Taiwan Union Technology Corporation **Hsin, Chung-Herng**



Editorial Policies

In pursuit of sustainable management and increased information transparency, TUC is pleased to present the 2022 ESG Report. The purpose of this 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 2022. To ensure comprehensive and consistent information disclosure, any sections addressing operating activities spanning multiple years will be distinctly indicated within the ESG Report.
Location of Operations	Taiwan Hsinchu Plant
Financial Statistics	TUC's Parent Company Only Financial Statements
Environmental Safety and Health Statistics	Taiwan Hsinchu Plant
Employee Statistics	
Performance of Public Welfare Activities	

Frequency of Publication

TUC has published its second 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.

- Current release date: June 2023.
- Next release date: June 2024.

[Download the ESG Report](#)



Feedback

If you have any questions or suggestions regarding the ESG Report, please contact us:

Corporate Governance Office Taiwan Union Technology Corporation

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Telephone: +886-3-555-1103 Ext. 116

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Report Preparation Basis and Information Verification Method

- This 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 this ESG Report includes the GRI Content Index, Task Force on Climate-related Financial Disclosures (TCFD), Sustainability Accounting Standards Board (SASB), 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. This ESG Report does not contain any recompiled information. TUC, however, adheres to the Rules' requirements and has established procedures for preparing and verifying sustainability reports. These procedures are integrated into the internal control system and are scheduled for submission to the Audit Committee and Board of Directors for approval and implementation in the first half of 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 II.

ESG Sustainability Performance

Aspect(s)	Sustainability Actions in 2022
Governance/ Economic Aspects	<ul style="list-style-type: none"> ◆ The Company is ranked in the 6% to 20% range of TWSE/TPEX listed companies according to The Corporate Governance Evaluation System. ◆ There are seven directors, four of whom are independent, comprising over 50% of the total seats. ◆ Each of the three independent directors is eligible to serve a maximum of three consecutive terms. ◆ The Board of Directors' internal self-assessment yielded an average score of 97, and the external expert evaluation rated their performance as excellent. ◆ The directors underwent professional training for a combined total of 42 hours, while the Corporate Governance Officer completed continuing professional education for a total of 12 hours. ◆ Two sessions of online integrity training courses were held, with a total of 1,043 participants. ◆ There were no breaches of integrity, corporate governance regulations, or significant shortcomings in internal control practices. ◆ There were no information security incidents that caused disruptions to the Company's operations, nor were there any incidents related to personal information. ◆ The information security specialist received a total of 48 hours of training from an external source. ◆ Individual revenue amounted to NT\$8,170,915 thousand, with a net operating income of NT\$178,419 thousand. ◆ Our high-speed products hold a market share of approximately 14% in Asia and roughly 4% globally. ◆ The customer satisfaction rate has exceeded 89 points.
Environmental Aspect	<ul style="list-style-type: none"> ◆ Ensured the ISO 14001:2015 environmental management system operated effectively. ◆ We have successfully introduced the ISO 14064-1:2018 greenhouse gas inventory standard and have passed third-party verification. ◆ A total of 23,198.4 tCO₂e were generated for the Greenhouse Gas Inventory Scope 1, while Scope 2 produced 28,506.5 tCO₂e. ◆ We are in compliance with RoHS and REACH hazardous substance management regulations, as well as customers' requirements for hazardous substance management. Additionally, our suppliers must sign a letter of commitment to ensure that no hazardous substances are used. ◆ There were no complaints regarding the management of hazardous substances, and no conflict minerals were procured. ◆ We passed the customer RBA audit with no significant deficiencies. ◆ We conducted environmental and social assessments and audits for our Tier 1 suppliers. We successfully completed 26 audits with a 100% pass rate. ◆ The frequency of environmental violations decreased by approximately 67%. ◆ In 2008, our major customer Sony awarded us with Green Partner certification, which we have since maintained. ◆ 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. ◆ Total waste generation decreased by 1,900 metric tons compared to the previous year.
Social Aspect	<ul style="list-style-type: none"> ◆ All our employees are categorized as working full-time in order to safeguard their employment rights. ◆ The average annual salary of a non-managerial employee was NT\$789,167; the median annual salary was NT\$685,241. ◆ About 85% of employees are under the age of 50. ◆ The turnover rate decreased by 25.66% compared with the previous year. ◆ New recruits and R&D teams underwent the fundamental intellectual property training, with a 100% completion rate. ◆ All employees have received human rights training, with a total of 347.3 hours of training. ◆ We maintained our record of no incidents of disasters or occupational injuries resulting in death, serious occupational injuries, or recordable occupational injuries among our employees. Additionally, there were no deaths caused by occupational diseases or recordable occupational diseases. ◆ The incidence of labor violations was reduced by about 50%. ◆ There were no labor disputes.

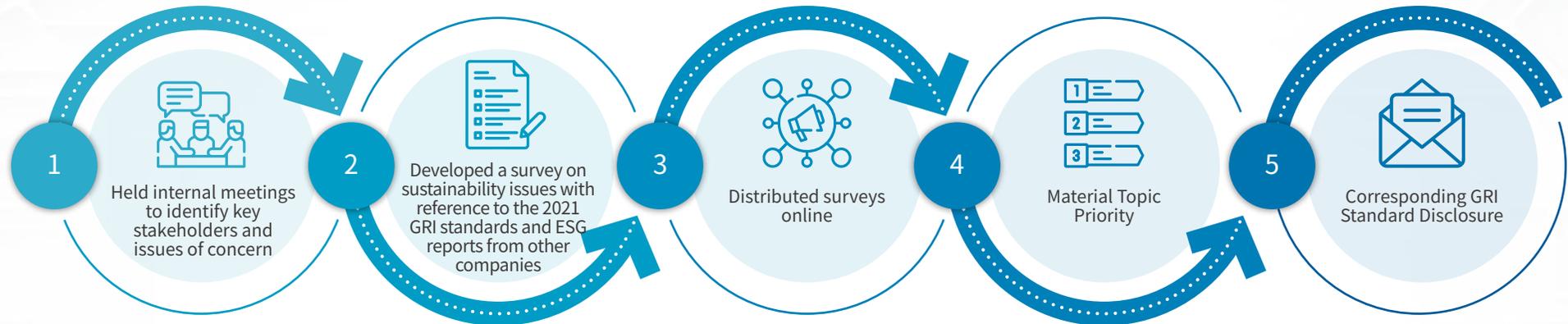


chapter | Stakeholder Engagement

1.1 Sustainable Promotion Committee | 1.2 Determine the Stakeholders | 1.3 Stakeholder Communication

1.4 Material Topics Identification | 1.5 Sustainable Development Goals

/The Stakeholder Engagement Process/



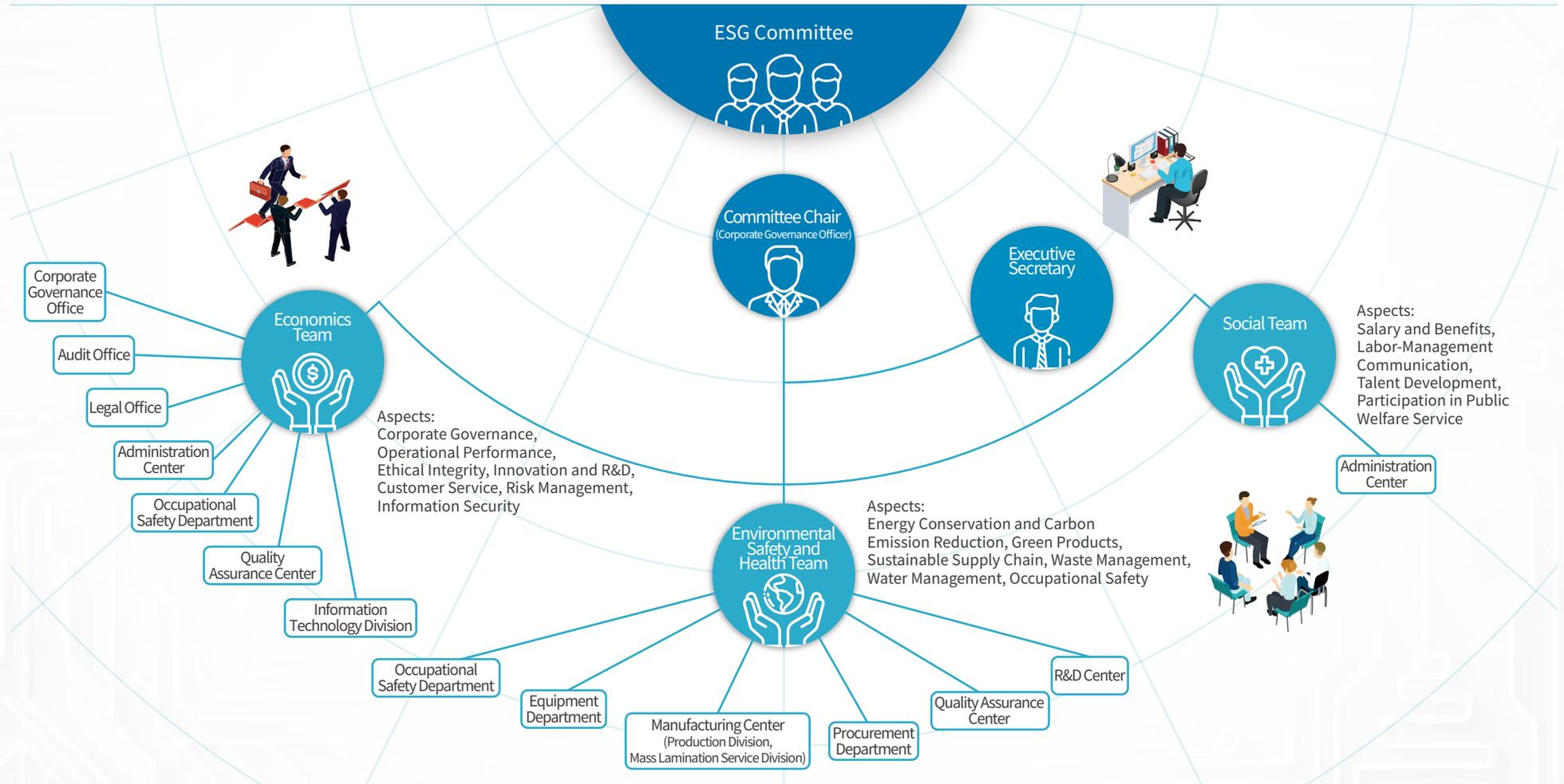
1.1 Sustainable Promotion Committee

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. 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 Department, and the Administration Center. The ESG Committee meets every six months, with the Corporate Governance Officer serving as the Committee Chair. 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 environmental, social, and corporate governance aspects of sustainable development. Additionally, we’ve set up a dedicated section for stakeholders on our company website to appropriately address their concerns about significant sustainability issues.

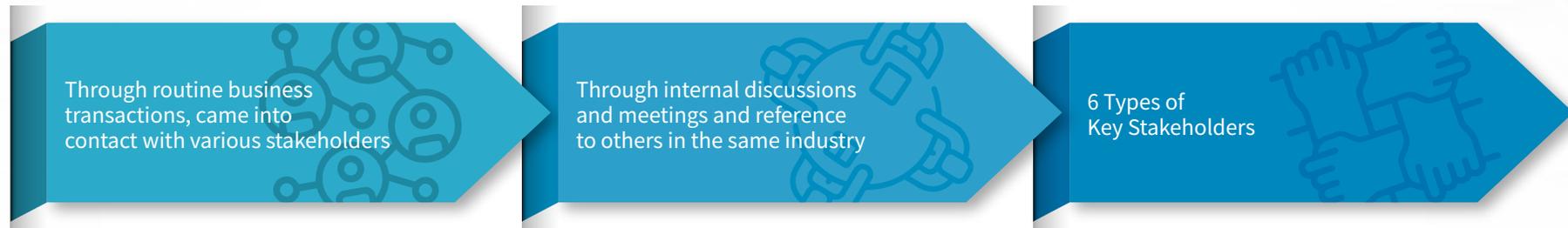
During the preparation of TUC’s ESG report, each team has worked diligently to communicate, collect ESG information, and plan future goals. This effort aims to help employees better understand the benefits of ESG implementation for long-term operations and encourage their participation in the ESG report’s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

To enhance the involvement of the Board of Directors in the Company's sustainable development, the Corporate Governance Office will submit a report to the Board of Directors in the first quarter of each year regarding the previous year's implementation of ESG and the promotion plan of greenhouse gas inventory. The Board of Directors will provide recommendations on the company's ESG outcomes and also consider the potential impact on TUC after the implementation of carbon trading in the future. TUC ensures effective and continuous operation of sustainable development strategies, ESG promotion plans, and implementation results through regular monitoring by the Board of Directors.



1.2 Determine the Stakeholders

/Determine 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. Following internal meetings and with reference to the same industry, six categories of essential stakeholders have been identified: 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 17 sustainability issues that encompass economic, environmental, and social aspects. This ensures that TUC’s sustainability information meets the GRI Standards’ requirements for integrity and diversity.

Key Stakeholders	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 updates 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 ◆ Environmental and Social Compliance ◆ Invest ◆ Employer-Employee Relations 	<ul style="list-style-type: none"> ◆ Supplier Environmental Assessment ◆ Products and Services Labeling ◆ Product Liability Compliance ◆ Privacy, Health, and Safety of Stakeholders 	<p>Contact Window: Corporate Governance Office TEL:03-5551103 #116</p> <ul style="list-style-type: none"> ◆ 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
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 ◆ Environmental Compliance ◆ Employer-Employee Relations ◆ Labor Assessments for Suppliers 	<ul style="list-style-type: none"> ◆ Non-discriminatory ◆ No Forced Labor ◆ Anti-corruption ◆ Social Compliance ◆ Social Impact Assessments for Suppliers ◆ Product Liability Compliance 	<p>Contact Window: Procurement Department TEL:03-5551103 #160</p> <ul style="list-style-type: none"> ◆ Conduct relevant operations in accordance with the supplier management policy set forth by the Company ◆ Sign the corporate social responsibility/environmental protection commitment pledges ◆ Annual audit of suppliers and contractors

Key Stakeholders	Key Responsibilities of the Company	Main Topic of Concern		Communication Channel/Frequency
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 ◆ Environmental and Social Compliance 	<ul style="list-style-type: none"> ◆ Corporate Social Responsibility and Environmental Assessment ◆ Privacy, Health, and Safety of Customers ◆ Products and Services Labeling ◆ Product Liability Compliance 	<p>Contact Window: Corporate Governance Office Tel.: +886-3-555-1103 Ext. 116</p> <ul style="list-style-type: none"> ◆ Established a business model that prioritizes customer satisfaction and fosters honest partnerships. Our commitment to innovation and research and development drives us to create advanced base materials for the global electronics industry ◆ Utilize premium raw materials and maintain a comprehensive network of dependable suppliers to fulfill customer orders through proficient production planning and inventory management ◆ Adhere to strict manufacturing management and implement a comprehensive testing system to ensure the development of 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
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 	<ul style="list-style-type: none"> ◆ Occupational Health and Safety ◆ Diversity and Equal Opportunities ◆ Social Compliance 	<p>Contact Window: Human Resources Department TEL:03-5551103 #310</p> <ul style="list-style-type: none"> ◆ 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"> ◆ Environmental Regulations Compliance ◆ Environmental Pollution Prevention ◆ Community Involvement and Feedback ◆ On-site support and assistance 	<ul style="list-style-type: none"> ◆ Waste Management ◆ Exhaust emissions and odors 	<ul style="list-style-type: none"> ◆ Waste water discharge and treatment ◆ Community Involvement in Development 	<p>Contact Window: Occupational Safety Department TEL:03-5551103 #150</p> <p>Contact Window: Division of General Affairs TEL:03-5551103 #308</p>
Government Agencies	<ul style="list-style-type: none"> ◆ Ensure compliance with the latest laws, regulations, and policy updates from competent authorities in order to satisfy regulatory requirements ◆ 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 	<ul style="list-style-type: none"> ◆ Occupational Health and Safety ◆ Labor Law Compliance ◆ Environmental Regulations Compliance 	<p>Contact Window: Occupational Safety Department TEL:03-5551103 #150</p> <p>Contact Window: Human Resources Department TEL:03-5551103 #310</p>

1.4 Material Topics Identification

/Material Topics Identification Process/



Aspect(s)	Sustainability Issues
Environmental Aspect	Raw material management, water resources management, energy conservation and carbon emission reduction, waste management, sustainable supply chain, and green products
Social Aspect	Salary and benefits, labor-management communication, occupational safety, talent development, human rights protection, participation in public welfare, and customer service
Economic Aspects	Ethics and integrity, operational performance, innovation and R&D, information security and trade secret protection

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

The ESG Committee of TUC has developed 17 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 environmental, social, and economic aspects, and the third highest score from the social aspect was chosen, resulting in a final selection of seven material topics. TUC's material topics under environmental, social, and economic aspects were identified and ranked based on their scores, which were: energy conservation and carbon emission reduction, ethics and integrity, sustainable supply chain, information security and trade secrets protection, salary and benefits, occupational safety, and customer service. During the year, TUC identified 7 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 can continue to grow and thrive towards sustainable operation.

In this 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.

Over the past two years, TUC has compared its material topics and taken measures to address the impact of climate change. The Company has implemented energy-saving and carbon-reducing initiatives to meet customer demands and contribute to the global effort to reduce global warming. TUC’s staff values honesty and trust in their interactions with business partners. To mitigate information security risks, the Company has strengthened its self-protection capabilities to safeguard its trade secrets and maintain long-term relationships with customers. Despite a challenging business environment, TUC remains profitable and shares its success with employees to ensure it has the sound human capital to face future challenges.

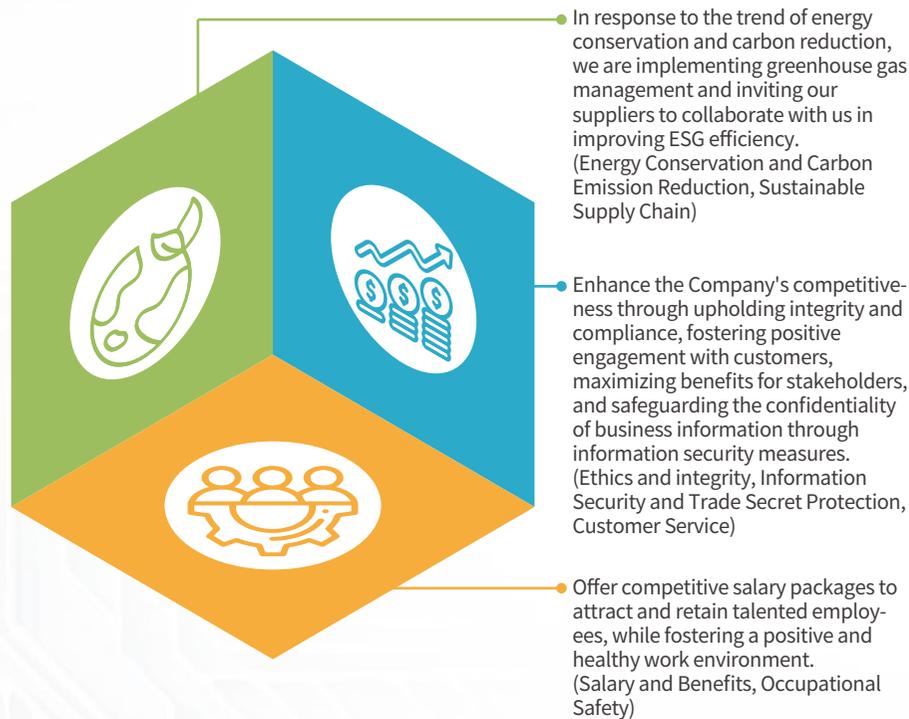
Material Topics Matrix



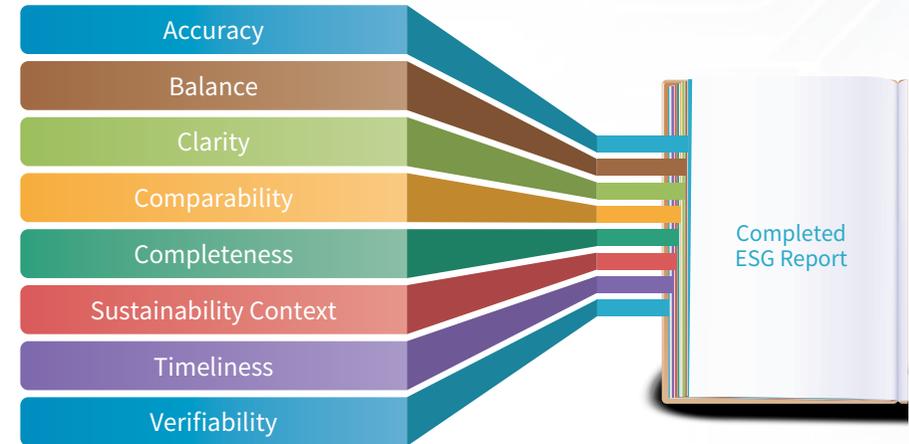
Priority	Material Topics in 2021	Material Topics in 2022	Comparison
1 st	Waste Management	Energy Conservation and Carbon Emission Reduction	Addition
2 nd	Occupational Health and Safety	Ethics and Integrity	Addition
3 rd	Supplier Management	Sustainable Supply Chain	-
4 th	Risk Management	Information Security and Trade Secret Protection	Addition
5 th	Operational Performance	Salary and Benefits	Addition
6 th	-	Occupational Safety	↓ 4
7 th	-	Customer Service	Addition

Note: In 2021, waste management, risk management, and operational performance were identified as material topics. However, in 2022, they were not included in the list of material topics. Nevertheless, these topics will still be disclosed in this ESG Report.

TUC has summarized the three ESG material themes for the year based on the seven material topics. These themes include enhancing the Company's competitiveness through integrity and compliance, fostering positive customer interactions, maximizing stakeholder benefits, and safeguarding confidentiality of business information through information security management practices. We also offer competitive compensation packages to attract and retain talented employees, while fostering a positive and healthy work environment. Furthermore, in response to the trend of energy conservation and carbon emission reduction, we are implementing greenhouse gas management and inviting our suppliers to collaborate with us in improving ESG efficiency.



/Principles of Report Publication/



TUC adheres to the GRI reporting principles when preparing ESG Reports. This ESG Report is based on the Sustainability Context Principle, which requires the Company to transparently disclose the measures it has taken to improve or reduce negative impacts on the economic, environmental, and social realities of its operations and surrounding areas. The principle of Completeness mandates that the information disclosed in the ESG Report should adequately reflect the Company's significant economic, environmental, and social 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(s)	Material Topic	Importance to TUC	Internal Boundaries	External Boundaries				Corresponding GRI Standard	Chapter
			Company	Shareholders/ Investors	Suppliers	Customers	Local Communities		
Environment	Energy Conservation and Carbon Emission Reduction	As the Company expands its operations, it 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-reduction measures for each emission cycle to comply with stakeholder requirements.	●	●	●	●	●	302: Energy 2016 (302-1、302-3 ~ 302-5) 305: Emissions 2016 (305-1 ~ 305-2、305-4 ~ 305-5)	4.2
Economy	Ethics and Integrity	The Company upholds honesty and integrity as core values, which are reinforced with employee training and the establishment of reporting channels. In all dealings with external counterparties, both parties are expected to adhere to the principles of integrity, which are explicitly outlined in the contract between them.	●	●		●		General Disclosures	3.1.4
Environment	Sustainable Supply Chain	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.	●	●	●	●		308: Supplier Environmental Assessment 2016 (308-1、308-2) 414: Supplier Social Assessment 2016 (414-1、414-2)	4.4
Economy	Information Security and Trade Secret Protection	To counter external security threats, the Company is bolstering both its hardware protection capabilities and its personnel's security awareness. This will help prevent any potential information security incidents from occurring.	●	●		●		Customized Topic	3.4
Social	Salary and Benefits	Offer competitive compensation packages to attract exceptional talent and ensure the Company has a robust workforce.	●	●				401: Employment 2016 (401-1 ~ 401-3)	5.1.2 5.2.1
Social	Occupational Safety	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.	●	●		●	●	403: Occupational Safety and Health 2018 (403-1~403-9)	5.3
Social	Customer Service	Meeting customers' needs and earning their trust are essential for the expansion of our business and the basis of our Company's sustainable management.	●	●		●		Customized Topic	3.6.2

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, and addressed environmental concerns such as reducing the discharge of wastewater. 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"> ◆ We provide our employees with market-competitive salary 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 salary moderately based on the Company's profitability and foster a sense of unity among colleagues towards the organization.
	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.	Arrange functional 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 unpaid care and domestic work through the provision of social protection policies.	<ul style="list-style-type: none"> ◆ Gender is not a determining factor in the appointment and promotion of employees. ◆ Grant all employees, irrespective of gender, the right to request parental leave.
	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"> ◆ The Company's recruitment, assessment, and promotion mechanism does not consider physical or psychological differences among employees as criteria for evaluation. ◆ The Company sets up 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.	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 report regularly to the Board of Directors.



chapter II About TUC

2.1 Company Profile | 2.2 Business Philosophy | 2.3 Honors and Management System over the Years

2.4 Participation in External Associations

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 in Taiwan OTC.

Since 2004, TUC has set up successively two production bases in Changshu City, Jiangsu Province and Zhongshan City, Guangdong Province 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 be developing 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.



TUC Milestones



news about TUC Thailand



Name of Company	Taiwan Union Technology Corporation
Location of Headquarters	Address: 803 Bo-ai St., Zhubei, Hsinchu County 302045, Taiwan
Industry	Domestic Industry Category: Over-the-Counter Electronic Components Industry SASB Industry Classification as Technology & Communications/Hardware
Makeup of Shareholding Structure	Domestic corporations 23.87%, domestic individuals 47.47%, foreign institutions and foreign individuals 28.66%
Capital (Unit: NT\$ thousands)	2,691,518
Number of Employees	1,016 people in Taiwan
Location of Operations	Hsinchu, Taiwan; Changshu, Jiangsu; Zhongshan, Guangdong
Primary Products and Services	Hsinchu: Copper clad laminate, Prepreg, mass lamination service Changshu: Copper clad laminate, Prepreg Zhongshan: Copper clad laminate, Prepreg
Product Sales (Unit: thousand)	Copper Clad Laminate: 4,999,000 sheets Prepreg: 11,413,000 meters Mass Lamination Service: 3,774,000 sq. ft.
Individual revenue for the year (Unit: NT\$ thousands)	8,170,915



Product Types and Application

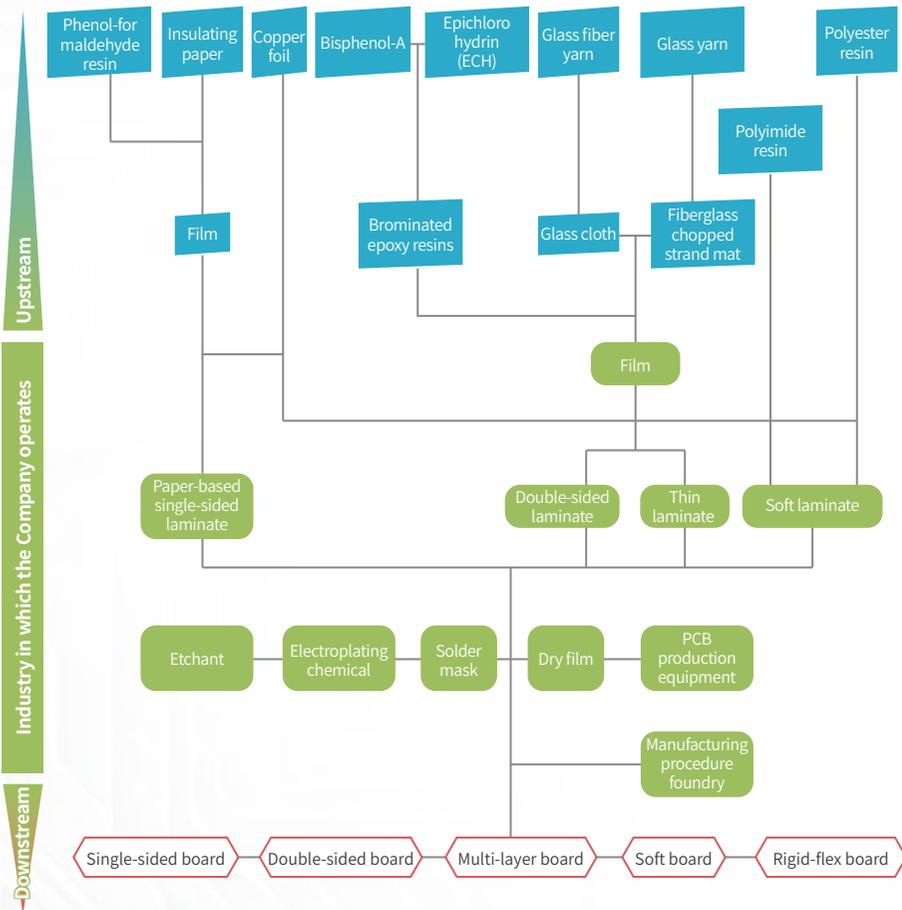


Note1: Data collected up to the end of 2022.

Note2: Please refer to the 2022 Annual Report/Reference and Corporate Governance Report for the percentages of TUC's top 10 shareholders.

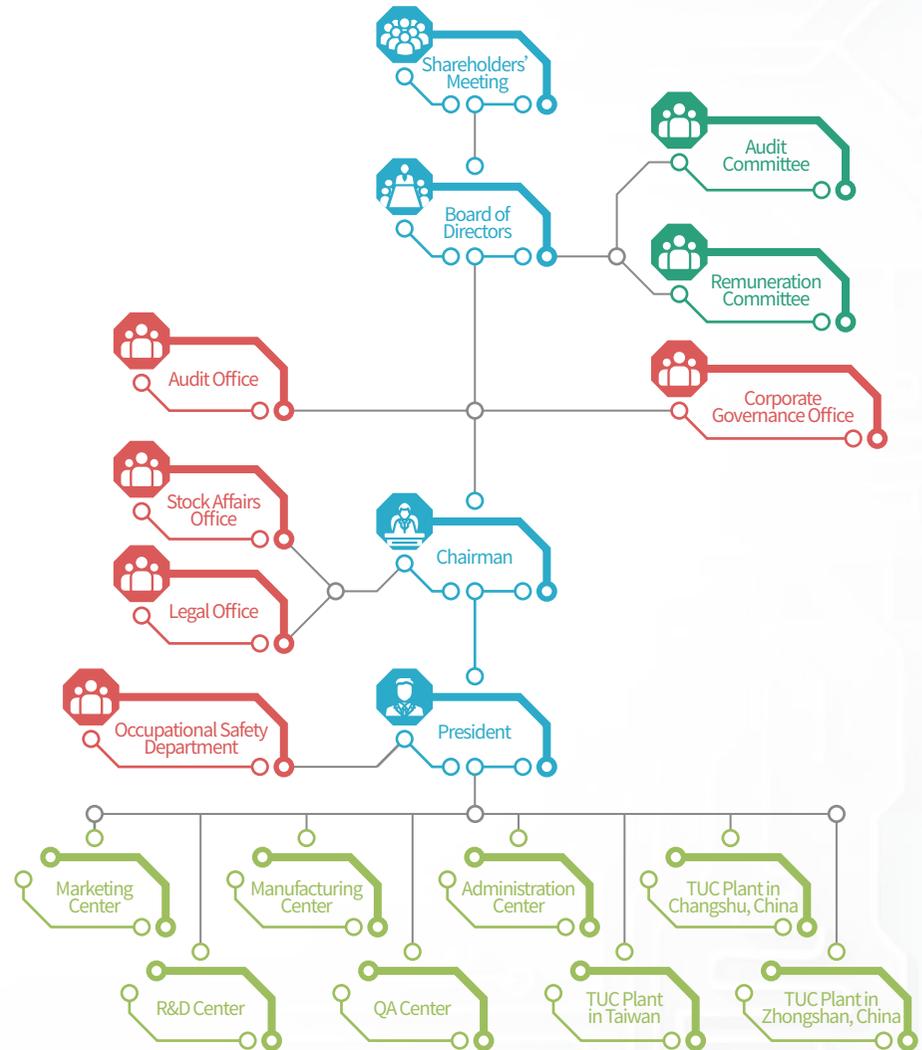
Value Chain

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



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.



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.

Focus on innovation and creating new value for customers

2.3 Honors and Management System Over the Years

TUC persists in enhancing and innovating its processes, products, and services to fulfill the demand for non-hazardous products, thereby delivering the most competitive and valuable solutions to its 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, to address the recent demand for greenhouse gas emission control in recent years, the Company also conducted its 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. Furthermore, TUC has implemented the Taiwan Intellectual Property Management System (TIPS) to enhance the quality of corporate governance, and has passed the certification ahead of its competitors in 2022. 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.

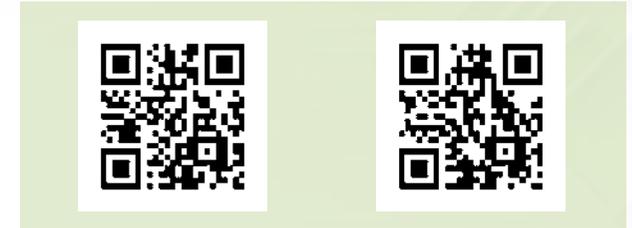


↑ The certificate of TIPS



↑ TUC's President attended the "2023 Annual TIPS Certification and IP Management Forum"

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	-



Awards and Management System Verification

Awards and Management System Verification



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.

IPC 4103 Certification



In 2017, TUC achieved its 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.

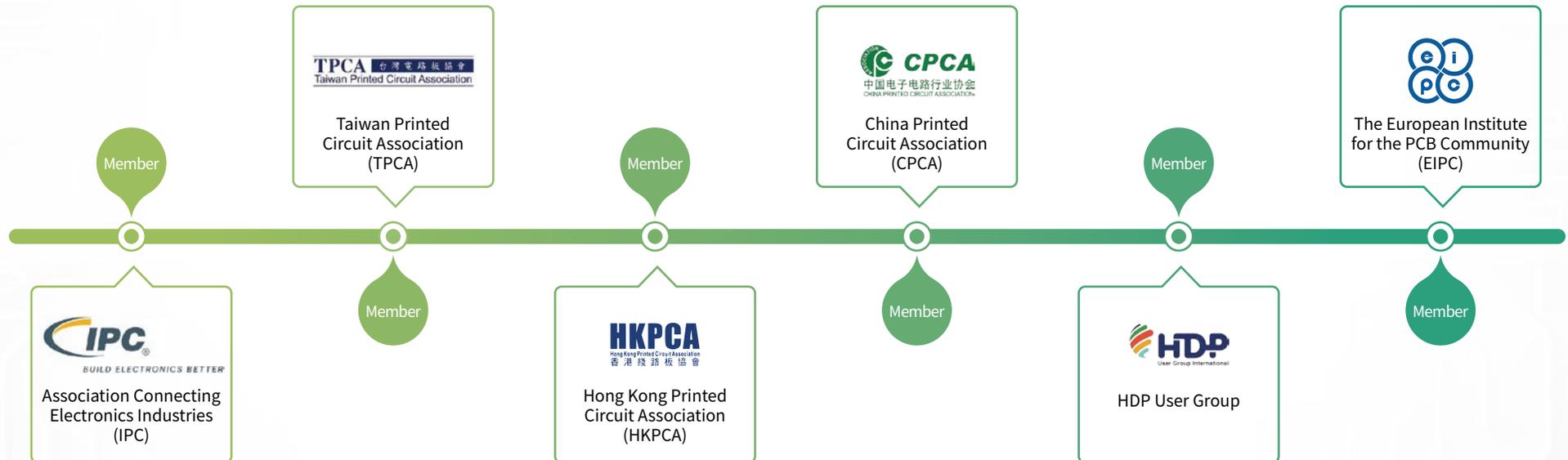
Pass Recertification Under IPC-4101 Qualified Products Listing



The trophy awarded by TUC's 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.





chapter III Integrity Governance

3.1 Governance Practices | 3.2 Risk Management | 3.3 Operational Performance | 3.4 Information Security

3.6 Products and Services | 3.5 Personal Data Protection

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 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 has also approved the “Procedures for Handling Material Insider Information”, which prohibits insiders, including directors, managerial officers, 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 its operations, finances, board of directors, and shareholders’ meetings on its 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 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. The results of the 9th corporate governance evaluation for TUC in 2022 yielded the range of 6% to 20%, signifying 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 Best Practice Principles](#)



Corporate Governance Officer's Performance Results in 2022

- Completed up to 12 hours of professional courses related to corporate governance.
- 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 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.
- Provided information on advanced training courses for independent directors and other directors, as well as assistance in completing the training program for directors.
- Completed the 2021 Sustainability Report.
- Conducted greenhouse gas inventory in 2021 and passed the certification in October 2022.
- In the first quarter of every year, the Officer presents an annual report to the Board of Directors, detailing the execution of sustainable development initiatives in the preceding year.

Strengthen the corporate governance evaluation projects	Implementation	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.	Set up 4 independent directors, accounting for more than half of the total director seats, reaching 57%.	✓
At least 2 independent directors shall serve no more than 3 consecutive terms.	3 independent directors have not served for more than 3 consecutive terms.	✓
All directors have completed advanced training in accordance with the regulations.	Complete at least 3 hours of advance training per year.	✓

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, operations, 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 2022, there were no potential events with negative material impact between TUC and its stakeholders, and therefore, no such record was reported to the Board of Directors.

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.

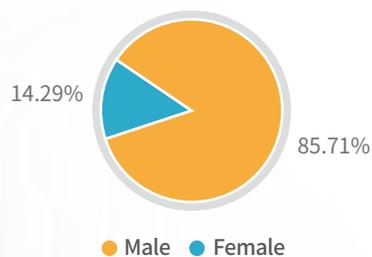
3.1.1 Board of Directors

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 2022, the Board held five meetings, with all directors achieving a 100% attendance rate.

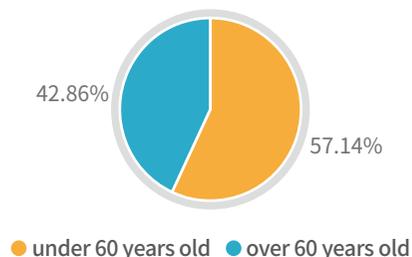


Note: For the major experience (academic) and concurrent positions held by TUC’s board members, please refer to the 2022 Annual Report of Shareholders’ Meeting/ Chapter 3. Corporate Governance Report/ II. Information on Directors, Supervisors, President, Vice President, Assistant Vice President, and Managers of Department and Branches/ (I) Directors and Supervisors/ 1. Information on Directors and Supervisors

Gender Ratio of Directors



Age Ratio of Directors



Diversity Objectives for Board Membership	Implementation	Goals Achieved
With at least one female director	One seat for female director	✓
Diversified areas of expertise: technology, finance, legal, and others, each accounting for more than 13%	Technology: 58%; Finance: 14%; Legal: 14%; Other: 14%	✓

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." Annually, the Board of Directors conducts an internal evaluation of its own performance of the Board of Directors and that of functional committees. Members receive self-evaluation in the form of questionnaires, and results of the self-assessment are reported to the Remuneration Committee and the Board of Directors in Q1 of the following year. Additionally, an external expert conducts an assessment every three years. The outcomes of the Board's performance assessment can serve as a basis for the future director selection or nomination. Furthermore, the results of individual directors' performance evaluations of directors can be utilized as a reference for determining their respective compensation.

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 2022, four Audit Committee meetings were conducted with a 100% attendance rate.

Independent directors maintain regular communication with the internal audit officer to oversee audit operations. They schedule face-to-face meetings with the internal audit officer at least once a quarter and provide monthly written reports. In 2022, the independent directors held five meetings with the internal audit officer 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 2022 Audit Committee meetings, please refer to the Annual Report of the 2022 Annual Shareholder's Meeting / Chapter 3. Corporate Governance Report/ IV. Corporate Governance/ (II) Operation of Audit Committee.

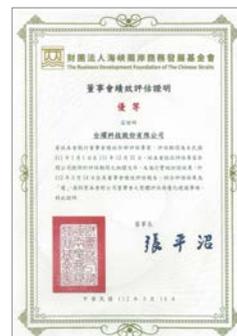


Board of Directors' Performance Evaluation Mechanism

- Annual self-assessment questionnaire
- External expert assessment every 3 years



The certificate of BOARD performance evaluation released by the Business Development Foundation of the Chinese Straits



To enhance risk management and encourage professionals to serve as directors, TUC has procured liability insurance for its 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 its 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 2022, all directors accomplished a total of 42 hours of training, with 43% of the training focused on sustainable management. 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.

3.1.2.2 Remuneration Committee

To enhance the compensation system for directors and managerial officers, and assess their operational performance of directors and the equity and rationality of their remuneration they receive, TUC’s Board of Directors has sanctioned 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 three meetings were conducted in 2022 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 initiate discussions once it has achieved maturity in ESG implementation.

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 2022 Remuneration Committee meetings, please refer to the Annual Report of the 2022 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 its 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 officer and approved by the Chairman.

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 2022, the Audit Office performed 34 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	Responsible Departments: Corporate Governance Office, Human Resources Department	Grievance Mechanism: Corporate Governance Office (+886-3-555-1103 Ext. 116; lan.Huang@tuc.com.tw) Human Resources Department (+886-3-555-1103 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. 	<ul style="list-style-type: none"> ◆ 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 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. ◆ A total of 2 online sessions of ethical training courses were offered within the year, reaching a total of 1,043 participants. 	<ul style="list-style-type: none"> ◆ No complaints/ reports were received during the year. ◆ No deficiencies were found during the internal audit.

TUC establishes its 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 its ethical regulations on its 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 managerial officers 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 2022, TUC provided two online ethical training courses to a total of 1,043 trainees. The Company also required suppliers to sign a Statement of Integrity 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.



Ethical Management Procedures

Internal Material Information and Prevention of Insider Trading Management Operations

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 2022.

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.

3.1.5 Legal Compliance

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 its corporate image, and ensure sustainable operation and development. Additionally, TUC has formulated a code of conduct for management and employees 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, establish a corporate culture of compliance, and cultivate a reputation worthy of trust and respect.

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 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.

Reason for Violation	Fine(s) (Unit NT\$ thousands)	Improvement Measures
<ul style="list-style-type: none"> ◆ Violation of Paragraph 1, Article 6 of “Occupational Safety and Health Act” and Paragraph 1, Article 57 of “Occupational Safety and Health Facilities Regulations”. ◆ The personnel responsible for cleaning the conveyor belt violated operational rules, resulting in cleaning tools being rolled into the conveyor belt. When addressing the issue, they failed to halt machine operation and instead inserted their hands directly into the gap of the conveyor belt, leading to a clamping injury of the left ring finger. 	280	<ul style="list-style-type: none"> ◆ The conveyor belt cleaning process has been modified to manual mode, and the conventional protocol for the process has been updated. Additionally, education and training initiatives are being implemented. ◆ The warning labels have been affixed to conveyor belt machines, and set red marks have been placed in the danger zone as a visual management measure. ◆ The conveyor belt is equipped with a manual mode button and a collating sensor for cleaning.
<ul style="list-style-type: none"> ◆ Violation of Paragraph 2, Article 24 of the “Air Pollution Control Act”. ◆ Air pollution control equipment #3RTO regulates the fresh air intake, while the windmill controls the static pressure gauge. However, due to the deviation of the pressure value, the RTO inlet experiences positive pressure (usually negative pressure), resulting in VOCx leakage. 	100	<ul style="list-style-type: none"> ◆ The PV value of the static pressure meter has been rectified and returned to the state of negative pressure control state. ◆ Install a comparator gauge, conduct routine inspections, and promptly rectify any deviations to ensure the RTOs are deployed in parallel.

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 its operations and collaborates with relevant business-related units to evaluate the likelihood and severity of such risks. Subsequently, the Company promptly adjusts its 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, while an ESG Committee has been formed. 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, social, and governance issues, which are under the actual responsibility of each functional group.

TUC’s Risk Management Framework

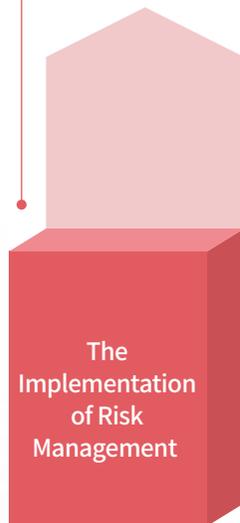
Responsible Department	Rights and Responsibilities
Board of Directors	The highest unit of risk management, responsible for approving, reviewing, and monitoring the Company's risk management policy.
Corporate Governance Office	Responsible for the monitoring, measuring, and evaluation of corporate risks 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.
Department Managers	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 Operational Practices

- 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.

- 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. This process screens risk management areas, and monitors potential risks, allowing for the implementation of preventive measures in line with the latest internal audit developments and standard requirements. Risk management policies are formulated for each risk, covering mechanisms such as management objectives, organizational structure, attribution of authority and responsibility, and risk management procedures. These policies are then implemented to control each risk arising from business activities to an acceptable extent.

- Hold at least 2 risk-management team meetings every year and arrange for the Corporate Governance Officer to report to the Board of Directors on the operation of risk management once a year.
- The Risk Management Team was established and held its inaugural meeting in November, 2022.
- In December 2022, TUC's risk management team assessed the risks, encompassing the risk landscape, risk management priorities, risk appraisal, and response strategies.
- The Corporate Governance Officer is slated to present a report to the Board of Directors in March 2023 regarding the extent of risk assessment, the risk landscape, the implemented risk control measures, and the efficacy of risk management operations.
- In 2023, the Company intends to incorporate significant risks, along with preventive and contingency measures, into employee education and training materials. This initiative aims to enhance the awareness and recognition of the Company's risk culture.



3.2.4 Identifying Risks

Risk Category	Explanation of Risks	Feedback on Risks
Sustainable Environment	Greenhouse gas emissions continue to increase	<ul style="list-style-type: none"> ◆ In 2021, the Company invested over NT\$16 million in the initial phase of Green Power solar power generation. The first phase yielded 395kw/hr of electricity and commenced generating power in Q1 of 2022. In 2022, we allocated more than NT\$15 million towards the second phase of Green Power solar power generation. The second phase generated 336kw/hr of electricity and construction commenced in Q4 of 2022. It is anticipated to be completed in Q1 of 2023, reaching the total power generation objective of the first phase, which exceeded 665kw/hr. ◆ Set reduction or control targets, annual inventory of greenhouse gas emissions, review the achievement of targets, and make reviews and corrections when targets are not met. ◆ Continuously maintain the ISO 14001 environmental management system and apply for the Green Factory Label of Cleaner Production Assessment System certification.
	Unable to save energy efficiently	Formulate and implement an energy-saving plan annually.
	Waste water emissions continue to increase	Daily monitoring and recording of wastewater discharge and quality, and comparison with production capacity to control abnormalities.
	Increased waste disposal/ Decreased recycling rates	Promote waste reduction, formulate waste classification standards, and require waste to be collected according to this standard to increase recycling rates and reduce total waste.
	Water and electricity shortage	Water conservation and power limitation emergency response measures are proposed and implemented accordingly.
	Typhoons, floods	Develop contingency plans for typhoon and flood, and conduct regular drills to ensure preparedness.
Employee Care	Occupational accidents	<ul style="list-style-type: none"> ◆ The implementation of the occupational safety and health system follows the PDCA framework, as per ISO 45001. ◆ In light of the pandemic and external environmental factors, we have developed contingency Standard Operating Procedures (SOPs) or Business Continuity Plans (BCPs) and are executing 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). ◆ Enhance the education and training of on-site personnel and conduct periodic fire safety drills. ◆ Conduct thorough accident investigations and analyses in the event of occupational accidents occur, and enhance countermeasures to address the root causes of such incidents.
	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 6 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).

Risk Category	Explanation of Risks	Feedback on Risks
Employee Care	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.
Corporate governance/ Operational performance	Lack of competitiveness in the market	<ul style="list-style-type: none"> ◆ Develop high-frequency/ high-speed/ RF/ mmWave products, such as PegaClad Sereis, Heavy Copper Foil material, low-earth orbit satellite (LEO) materials, provide customers with high-quality and high-stability products in order to create more value. ◆ Develop European/Indian communication OEMs to explore emerging markets.
	Ethics violations by staff	<ul style="list-style-type: none"> ◆ 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. ◆ Ethical Management Procedures was formulated and resolved 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. ◆ Through an effectively functioning accounting system and an internal control system, the Audit Office audits the actual implementation on a monthly basis in accordance with the annual audit plan and issues reports to the Board of Directors and independent directors.
	Non-conformance of product quality with customer requirements	<ul style="list-style-type: none"> ◆ Monitoring: Customer satisfaction survey, filling out 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: Based on the nature of customer complaints, the Quality Assurance Department will identify the accountable department and coordinate with relevant units to conduct a thorough review and provide a response for enhancement.
	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 BS7799 standards, tailored to meet the specific needs of TUC. ◆ In 2013, a 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. ◆ Annually implement the notification of information security incident 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.

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.
		<p>Medium and 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. ◆ 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 of suppliers to ensure effective risk control. ◆ 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.



3.3 Operational Performance

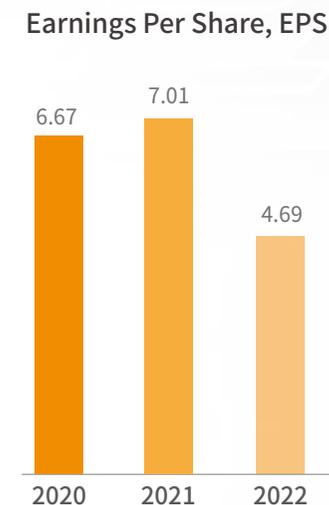
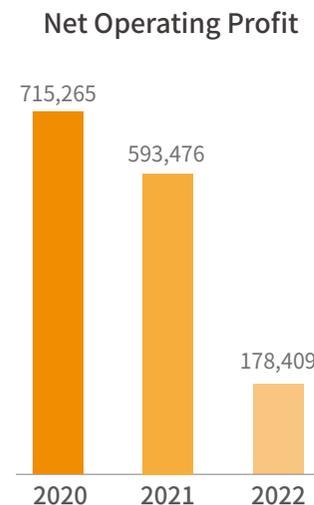
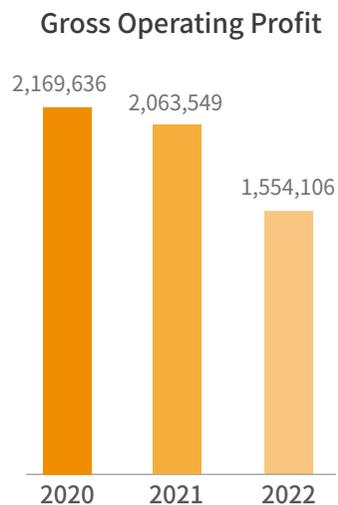
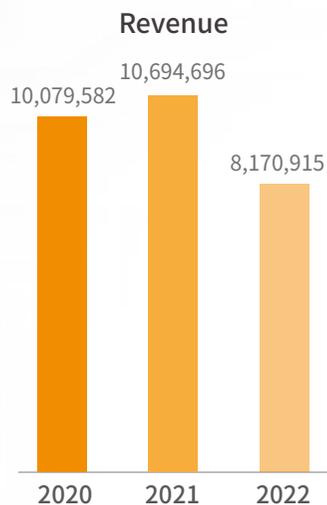
TUC’s objective is to deliver top-notch, high-value-added advanced materials and professional services to meet the needs of the global electronics industry. As of early 2022, the Russian-Ukrainian conflict and the U.S.-China international strategic dispute persisted, while the COVID-19 pandemic continued to wreak havoc worldwide. These factors have disrupted the 5G supply chain, resulting in a delay in overall industry demand. However, despite the difficult business environment, TUC still generated NT\$8,170,915,000 in individual revenue and NT\$178,409,000 in individual operating income in 2022.

In 2022, TUC continued its investment in the server market to boost the market share of Super/ Ultra Loss Server motherboards, in line with Intel/ AMD’s CPU data transfer speed enhancement (Eagle Stream/ Genoa platform). Additionally, TUC has been increasing its market share of very/ low loss base station (5G/6G) and high-end communication and networking products (100G/400G/800G) in order to strengthen its 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 its products to emerging markets such as India, Thailand, Malaysia, and Vietnam.

Responsible Department/ Grievance Mechanism	<ul style="list-style-type: none"> ◆ Responsible Department: Marketing Center, R&D Center ◆ Grievance Mechanism: TUC’s official website/ Contact Us
Management Mechanism	<p>Policy/ Commitment</p> <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. <p>Goals</p> <ul style="list-style-type: none"> ◆ Short-term: TUC is dedicated to practical management, improving its 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 its 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 selling approximately 23.43 million sheets of CCL, and reaching a turnover of approximately NT\$1.428 billion from mass lamination service. ◆ Medium- to long-term: (1) continuing to obtain certification and mass production of new 800G high-end products from end customers; (2) adjusting the product structure to increase the proportion of automotive boards by 10%; (3) adjusting the product structure to increase the proportion of HDI boards by 15%; (4) actively securing orders for HSD and HLC boards for the new generation of server platforms; (5) focusing on new products with environmentally friendly (Halogen free) feature in the future; (6) focus on automotive radar board usage survey and actively obtain customers’ certification and mass production of material for RF and Antenna substrates; (7) actively improve product quality and reliability, and brand image. <p>Current Year Outputs</p> <ul style="list-style-type: none"> ◆ Development and testing of 800G low-loss high-dielectric substrate material. ◆ mSAP process materials with the property of CTE-x,y less than 10PPM. ◆ Development of M9 grade new material. ◆ Development and evaluation of materials for automotive mmWave Radar applications. ◆ Testing and evaluation of 224 Gbps high-speed communication application. ◆ New advanced materials for Low-earth orbit satellite applications. ◆ Materials for module signal transmission for the optical communication use.
Evaluation Mechanism	<ul style="list-style-type: none"> ◆ Successfully expanded TUC’s products to emerging markets such as India, Thailand, Malaysia, and Vietnam. ◆ High-speed products have a market share of about 14% in Asia and about 4% worldwide. ◆ Achievement rate of KPIs for operational performance: 73% for total sales and 79% for strategic products. ◆ There was no record of complaints received from stakeholders regarding operational performance during the year.

Unit: NT\$1,000



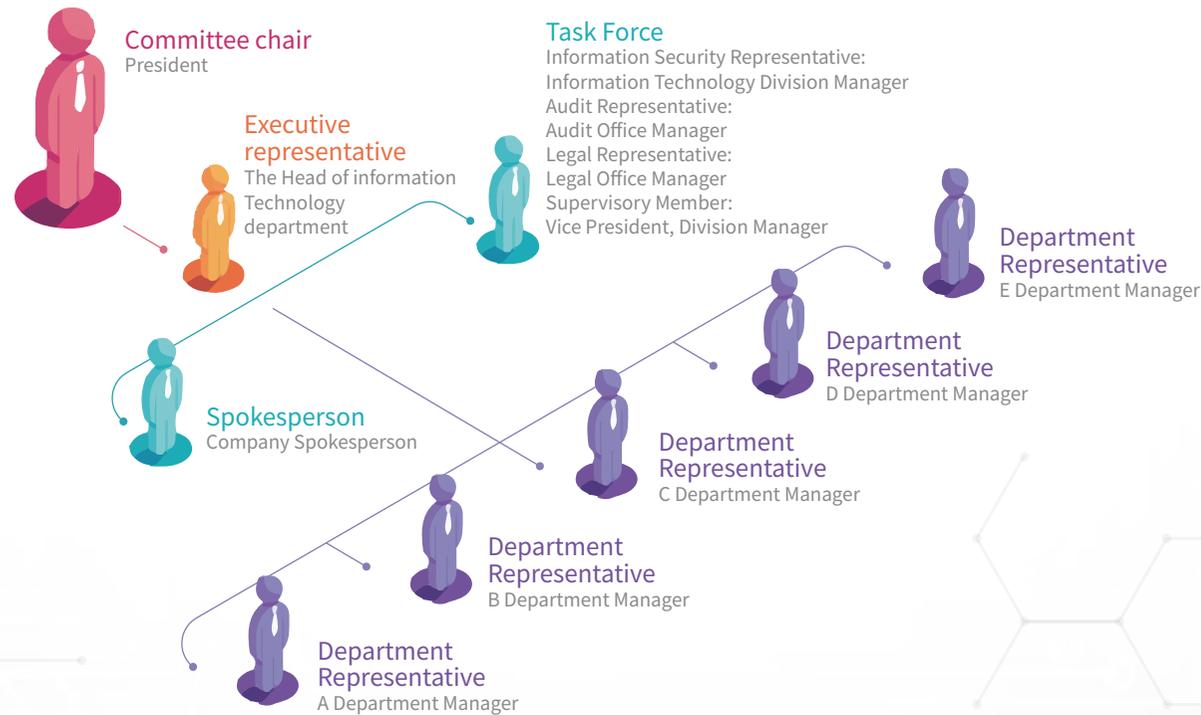
Note: The above table only discloses TUC's individual data; for detailed financial data for 2022, please refer to the 2022 Annual Report of the Shareholders' Meeting/ VI. Financial Overview.

3.4 Information Security

<p>Responsible Department/ Grievance Mechanism</p>	<p>Responsible Department/ Information Technology Department Grievance Mechanism: Corporate Governance Office (+886-35551103 Ext. 116; Ian.Huang@tuc.com.tw)</p>
<p>Management Mechanism</p>	<p>Policy</p> <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. <p>Commitment</p> <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 specifications and clear operating procedures to allow information security management to operate systematically. ◆ Adopt PDCA cycle management to ensure the achievement of goals and continuous improvement. <p>Future Goals</p> <ul style="list-style-type: none"> ◆ Short- and medium-term goals (2023-2025): (1) Zero major information security incidents; (2) Key service-level agreement (SLA) reaches 99.99%; (3) More than 20 hours of advanced trainings for information security specialist per year; (4) Build an information security monitoring center Lv.1 (Log Management); (5) Conduct regular social engineering exercises and vulnerability scans; (6) Build protection against DDOS attack. ◆ Long-term goals (post-2025): (1) Build an information security control center Lv.2 (SIEM/SOC); (2) Insure information security insurance to transfer information security risks; (3) Implement ISO 27001 information security management system. <p>Information Security Management</p> <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 detection of intrusion; (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.
<p>Effectiveness Assessment</p>	<ul style="list-style-type: none"> ◆ Disaster recovery drills are regularly conducted every year to ensure uninterrupted business operations. ◆ 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 current year's internal audits.

TUC holds a significant position in the global PCB supply chain. The Company maintains its commitment to delivering exceptional CCL manufacturing services to its worldwide clientele while fostering enduring and mutually advantageous relationships with them. Additionally, TUC is proactively enhancing its information security and confidential information protection measures to preserve its market competitiveness and safeguard the interests of its customers and partners. The Company recognized the increasing significance of information security concerns in the industry and established an Information Security Promotion Committee in 2016. The President serves as the committee chair, and the head of Information Technology Department acts as the executive representative. The task force comprises representatives of information security division, legal office, and audit office, and a supervisory member, each with specific authority and responsibility. Furthermore, we appoint a member from each department to promote information security within the department and enhance employees' awareness of information security. The Committee convenes annually and may hold interim meetings as required. The agenda encompasses 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.

/Organizational Structure of the Information Security Promotion Committee/



Member	Rights and Responsibilities
Committee Chair	Approval of information security management practices
Executive Representative	<ul style="list-style-type: none"> ◆ Convening and presiding over meetings, consolidating and approving business in accordance with the approval authority ◆ Formulating information security management operation manuals ◆ Supervising the implementation and effectiveness of information security management, and regularly reporting performance to the President
Task Force	<p>Information Security Representative</p> <ul style="list-style-type: none"> ◆ Implementing information security policies and coordinating and integrating information security activities among departments ◆ Building, using and managing an Emergency Response Information Security Management System ◆ Implementation of Information Security Management System (ISMS): information asset management, risk management, information personnel security management and training, physical and environmental security management, network communication and operation management, access control, information system acquisition/ development/ maintenance, and information security incident drill and reporting ◆ Compiling meeting minutes
	<p>Legal Representative</p> <ul style="list-style-type: none"> ◆ Planning and reminders for legal compliance of information security ◆ Writing information security-related operational documents and legal reviews
	<p>Audit Representative</p> <ul style="list-style-type: none"> ◆ Regular internal audits ◆ Overseeing departmental compliance with the resolutions of the Information Security Promotion Committee and the implementation of relevant systems
	<p>Supervisory Members</p> <ul style="list-style-type: none"> ◆ Overseeing the staff to enforce the resolutions of the Information Security Promotion Committee and regulatory obligations ◆ Participating in and supervising the operation of the Committee
Information Security Promotion Members	<ul style="list-style-type: none"> ◆ 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 ◆ 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 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 employees of the department

Specific information security actions in 2022

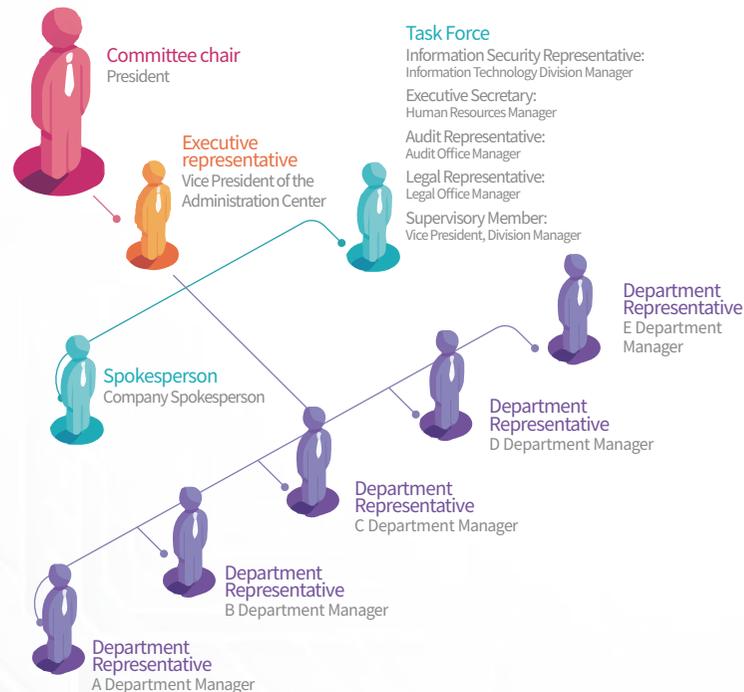
- 🔒 Perform daily remote backup of system data.
- 🔒 Encryption for transmission of confidential information.
- 🔒 The anti-virus software version is promptly updated to the latest version. The network security employs advanced firewall technology to defend both the intranet and extranet. The firewall 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 exercises are conducted through the intranet's E-learning training system.
- 🔒 Conducting information security audits annually.
- 🔒 Information security specialist participated in external information security training courses and information security seminars for a total of 48 hours.



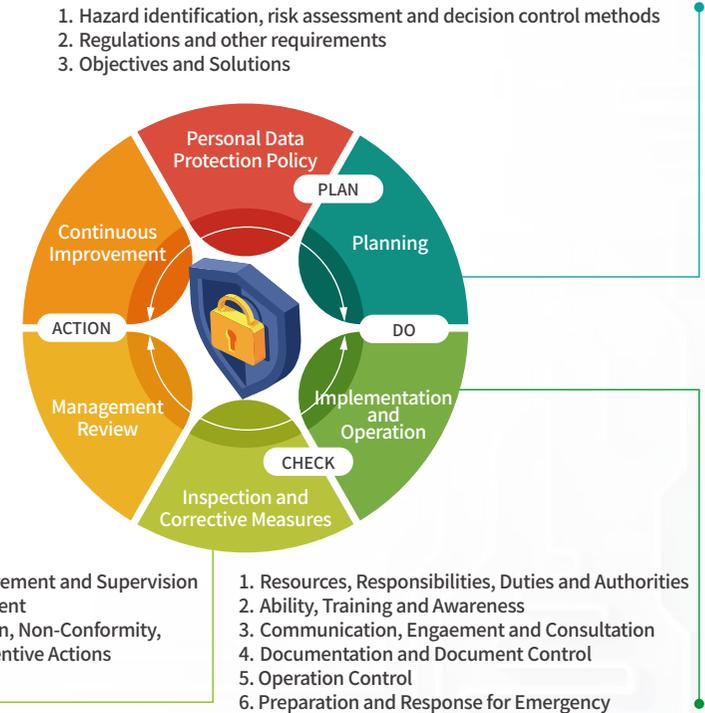
3.5 Personal Data Protection

In safeguarding both its proprietary information and the personal data of its 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 Vice President of the Administration Center 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. TUC had no personal data breach in 2022.

/Organizational structure of Personal Data Protection Committee /



/Personal Data Protection Management Cycle/



3.6 Products and Services

TUC maintains an opened communication channel with its customers and fosters a stable and positive cooperation relationship with them. The Quality Assurance Center promptly forwards customers' feedback to the R&D Department for follow-up improvements, ensuring that customers receive quality service and trust in the Company.

3.6.1 Innovative R&D

TUC is dedicated to technological innovation and product development, utilizing premium raw materials and a meticulous and methodical approach to development, manufacturing, and quality management. By collaborating with clients, TUC creates products that fulfill the requirements of the worldwide electronics industry and specialized markets, establishes proprietary technologies, strengthens its capacity for innovation to distinguish itself from rivals, and ultimately meets market and customer demands while boosting revenue.

TUC boasts a robust R&D team and exceptional technological innovation capabilities, with a steadfast dedication to diversified product development. We are committed to innovation with integrity and a pragmatic, responsible approach to assisting our clients in enhancing their competitiveness and generating fresh industry value in collaboration with them.

TUC is committed to the idea of advancing alongside its customers and generating fresh value within the industry. The Company maintains a continuous investment in innovation and R&D resources, with a focus on delivering cutting-edge material technology, as well as application solutions, and concepts. The R&D Center procures small-scale pilot production equipment and precision analytical instruments annually to reduce costs of raw materials, energy, and manpower for direct testing of new products. This also provides small samples for customers to test and evaluate, accelerating the development of new products and process optimization, and maximizing profits. The Company's sustainable direction includes high-value and eco-friendly products. This year, the R&D Center is boldly implementing new formulation technologies and developing 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) application. These products are also for external interconnection of 800GbE high-speed switches, high-end servers, and data centers. The product has been certified by many customers and has increased the market share of Super/ Ultra Loss Server motherboards. Additionally, as electronic material for mobile devices become thinner, more powerful, and multifunctional, the new generation of High Density Interconnect (HDI) boards has become the consensus for printed circuit boards. The main focus is on miniaturizing through-hole and refining conductors. We offer 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. The objective is to enhance material reduction, volume reduction, weight loss and waste reduction, as well as improve energy efficiency, and minimize environmental impact. Furthermore, with the gradual advancement of 5G technology, the overall communication and telecommunications industry is progressively shifting towards high-frequency and high-speed environmental design. Throughout the year, we developed, constructed, and validated RF substrate application materials for electrical testing systems operating in the radio frequency band exceeding 77 GHz. Additionally, 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. The number of valid patents accumulated in 2022 was 152, an increase of 5.6% over the previous year.

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 while affording intellectual property protection.

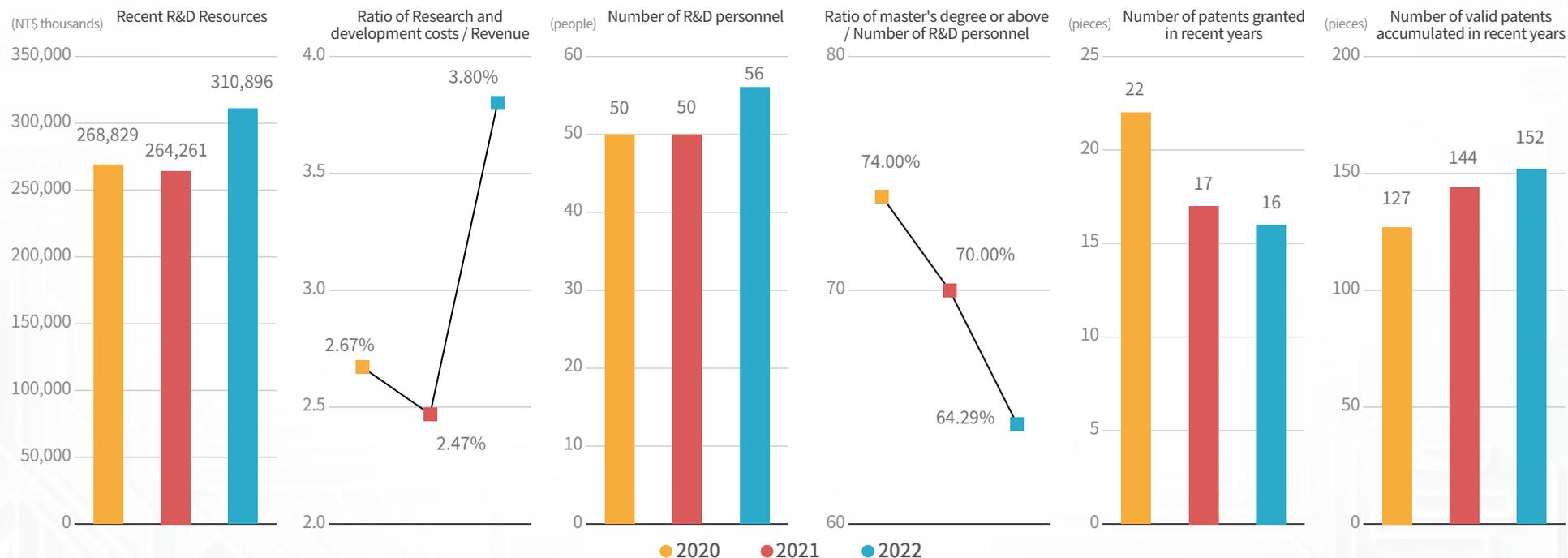
Medium and Long-term Goals

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 substrates, RF substrates, and low-earth orbit satellites.

Recent Successful Product/ Technology Development

Item	Description
Low-loss substrates for high-speed communication	ThunderClad 4SR/ 2A(SP)/ 3+/ 2C/ 1+ and other low-loss substrates for high-end networks, servers, and switches application.
RF Substrates	PegaClad 5/ 4A/ 2A/ 2/ 1 etc. RF wireless communication substrates. Applications include 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, it is suitable as a chip substrate.
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, these are suitable for the high-density through-hole and circuit connection fields.
High heat-resistant substrate	TU-865/ TU-862HF and other high heat-resistant substrates. With excellent heat stability characteristics, these are suitable for use as a base material for combining heterogeneous materials.

Recent R&D Resources

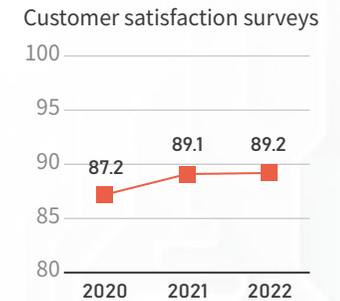
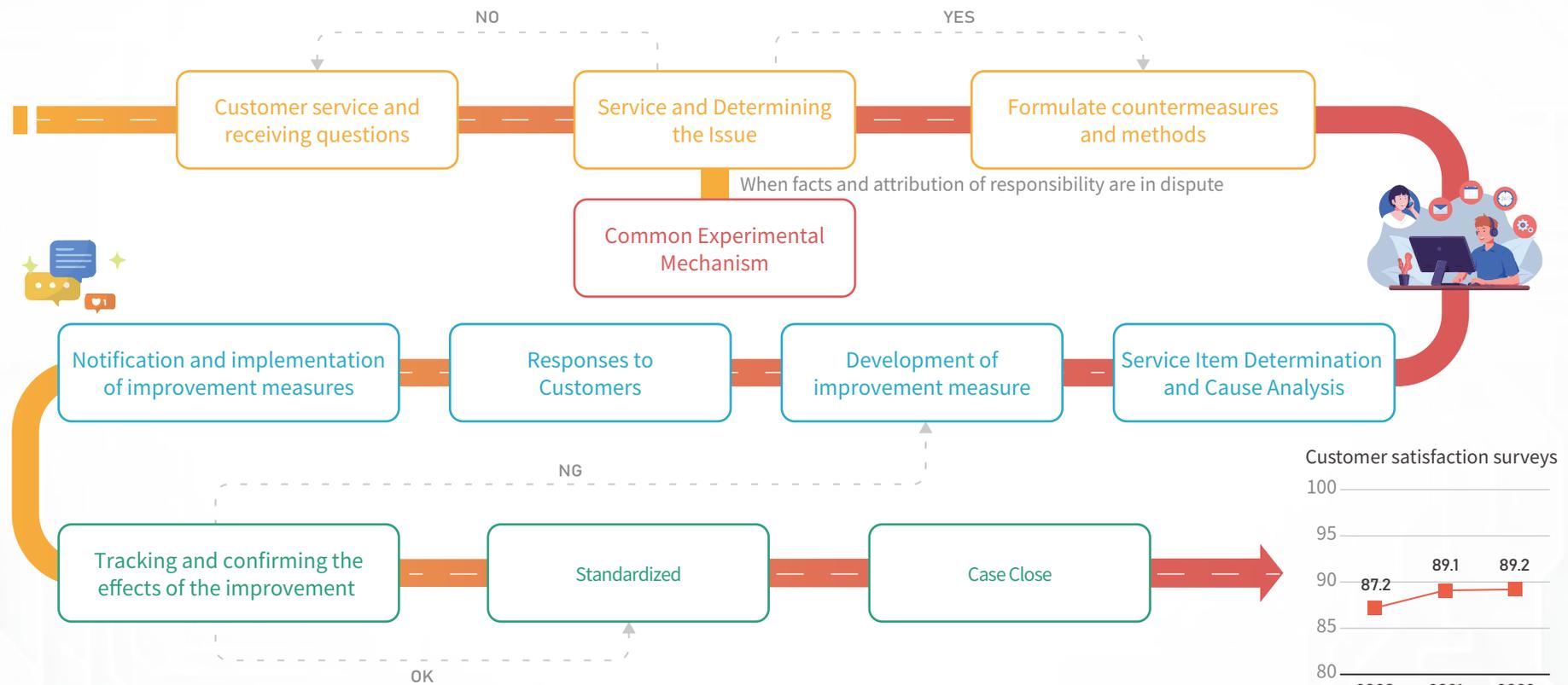


3.6.2 Customer Service

<p>Responsible Department/ Grievance Mechanism</p>	<p>Responsible Department: Sales Department, Quality Assurance Department Grievance Mechanism: Corporate Governance Office (+886-35551103 Ext. 116; Ian.Huang@tuc.com.tw)</p>
<p>Management Mechanism</p>	<p>Policy/ Commitment</p> <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. <p>Goals</p> <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. ◆ Mid-term: Deliver comprehensive customer service, aid in resolving product abnormalities, and enhance customer satisfaction. ◆ 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. <p>Resources Invested in the Current Year</p> <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. ◆ File a case and investigate the root cause of each customer complaint. Simultaneously, extend the analysis to other products or processes in parallel to minimize recurring issues and enhance overall product quality. ◆ Due to the COVID-19 pandemic, customer visitation frequency has decreased. However, we have been conducting periodic remote online meetings to facilitate technical exchanges and discuss customer's demands. Through these interactions, we aim to understand and obtaining customer needs and feedback. <p>Customer Satisfaction Surveys</p> <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.
<p>Effectiveness Assessment</p>	<ul style="list-style-type: none"> ◆ The weighted average customer satisfaction survey score over the past three years was 88.5 points, while the score for 2022 reached 89.2 points. This represents 6.1 points higher than competitors. ◆ The current year witnessed a 4% reduction in customer complaints as compared to the previous year. Furthermore, the average decline in complaints over the past three years was 50%. ◆ There were no significant deficiencies in customer audits. ◆ No instances of customers' privacy violations were reported.

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 and maintaining long-term cooperative relationships. It is important to note that TUC has not infringed upon any customer's personal data or trade secrets.

/Customer Service Process/





chapter IV Green Sustainability

- 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

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.

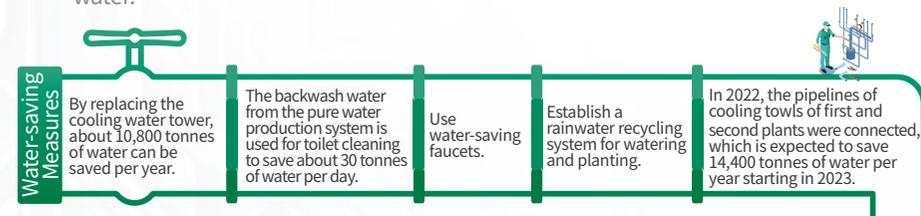
4.1 Water Resource Management

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. In 2020, Taiwan experienced a water shortage crisis. To ensure water availability, the Company regularly activated Ground Water production facilities for emergency use. (Underground Water Rights Number: J0112857)

Year	Water Source	Amount of Water Extraction (million liters)	Water Extraction from the Catchments Located in Areas with Water Stress	Total Amount of Water Extraction
2020	Third-Party Water	375.49	None	390.39
	Ground Water	14.90	None	
2021	Third-Party Water	337.13	None	365.39
	Ground Water	28.27	None	
2022	Third-Party Water	319.31	None	331.34
	Ground Water	12.03	None	

Note: The Third-Party Water is tap water, and its total dissolved solids are $\leq 1,000$ mg/L fresh water.



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.

Unit: million liters	Amount of Tap Water Extraction	Amount of Ground Water Extraction	Total Amount of Water Discharge	Amount of Water Consumption
2020 Year	390.39	14.90	218.57	186.72
2021 Year	337.13	28.27	214.47	150.92
2022 Year	318.32	12.03	199.76	130.59

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 (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
2020	6.93	26.58	10.43	54.10	4.08	0.86
2021	7.15	26.15	13.70	53.10	9.75	0.51
2022	7.95	24.55	8.4	35.1	3.85	0.18

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

4.2 Energy Conservation and Carbon Emissions Reduction

Responsible Department/ Grievance Mechanism	Responsible Department: Occupational Safety Department Grievance Mechanism: Occupational Safety Department (+886-3-555-1103 ext. 150; Eric.Fang@tuc.com.tw)
Management Mechanism	<p>Policy</p> <ul style="list-style-type: none"> ◆ To effectively implement energy management, TUC conducts regular reviews to adjust relevant energy-saving projects. Occupational Safety Department 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. <p>Commitment</p> <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. <p>Goals</p> <p>Short-term:</p> <ul style="list-style-type: none"> ◆ Reduce carbon emissions by 2% in 2025 compared to 2021. <p>Medium and Long-term:</p> <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. <p>Actions taken within the year:</p> <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 act performance reviews as appropriate

To comprehend the carbon emissions produced by TUC’s plant operations, establish carbon reduction objectives, and evaluate the efficacy of energy conservation, the Company has implemented ISO 14064-1 for conducting carbon emission inventories. The table below illustrates the outcomes of the carbon emissions inventory for the previous two years.

Emission Source Category		2021 Emissions(tCO ₂ e/year)	2022 Emissions(tCO ₂ e/year)
Direct Emissions	Category 1: Direct GHG emissions and removals	22,594.57	23,198.45
Indirect Emissions	Category 2 to Category 6	127,645.64	92,798.38
Total		54,446.16	150,240.21

Note: The carbon emission data in 2022 was completed via self-inventory, and the verification is expected to be completed in the third quarter of 2023.

Carbon Emission Intensity

Carbon Emissions Intensity ratios	Revenue (million)	Capacity (1000 Sheets)	Carbon Emissions (tCO ₂ e/year)	Sales Intensity	Product Intensity
				(Carbon Emissions/Millions)	(Carbon Emissions/Thousand Sheets)
2022	8,170.91	5,956.87	115,996.83	14.20	19.47

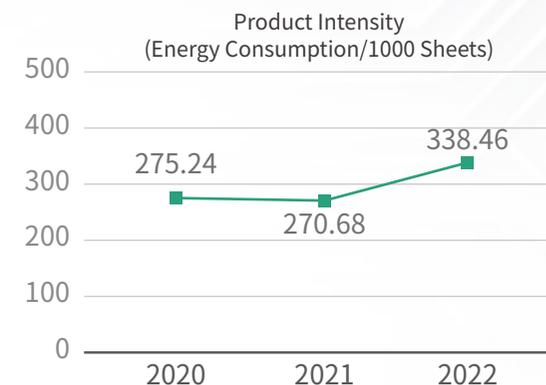
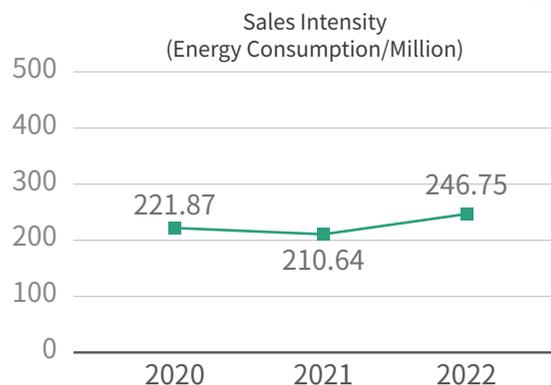
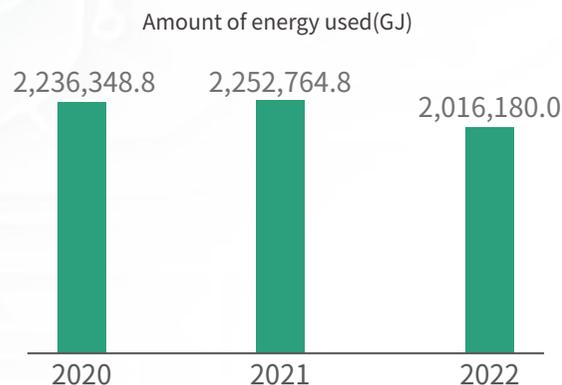
TUC's main products are Copper Clad Laminate and Prepreg, as well as mass laminating services. Generally, higher output leads to greater overall energy consumption. However, the unit energy consumption may be lower due to the fact that high energy-consuming equipment is mostly infrastructure facilities. 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. In 2022, 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 Intensity ratios	Revenue (million)	Capacity (1000 Sheets)	Amount of energy used (GJ)	Sales Intensity	Product Intensity
				(Energy Consumption/Million)	(Energy Consumption/1000 Sheets)
2020	10,079.58	8,125.07	2,236,348.80	221.87	275.24
2021	10,694.70	8,322.62	2,252,764.80	210.64	270.68
2022	8,170.91	5,956.87	2,016,180.00	246.75	338.46

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 reduction plans every year, and achieves energy-saving and carbon-reduction goals in a planned manner. The result from the last three years was 1,820.44 kWh of electricity saved, which reduced 925.9 metric tons of CO₂ emissions and brought 84.9 hectares of afforestation benefit according to the latest carbon emission factors for electricity announced by the Bureau of Energy.

From 2020 to 2022, TUC implemented energy-saving and carbon-reduction measures primarily aimed at enhancing equipment efficiency. These measures included the addition of frequency converter to the cooling tower and ice water pumps in Plant 1, the replacement of the magnetic water chiller in Plant 2, and the replacement of high-efficiency air compressors. Green power generation measures were implemented, including the installation of solar power. The first phase of electric power production, which has been completed, has a capacity of 395 kWh and began generating electricity in Q1 of 2022. TUC is pleased to report this progress.



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In 2022, TUC introduced ISO 14064-1 to more effectively target various sources of greenhouse gas emissions for carbon reduction measures. The Company completed the 2021 GHG inventory certification and established reduction targets based on systematic inventory results.

Energy Saving Investment and the Settlement Effect of the Current Year

Energy Saving Statistics	Energy Saving/ Green Power (kWh)	Investment Funds (NT\$ thousands)	Carbon Emission Coefficient for Electricity
2020	1,033.50	11,435.00	0.502
2021	293.92	3,554.33	0.509
2022	492.62	55,100.00	0.509

List of Recent Energy-Saving Projects

Year	Green Power/ Energy Saving (Water Saving) Program	Energy Savings	Unit	Note
2020	Energy saving and service life extension of the compressor and cooling water pump in Plant 3	140,415	kWh	Electricity Savings
	Renewal of the cooling tower at Plant 2	846,062	kWh	Electricity Savings
	The ice water pump motor of Plant 1 was replaced with IE3 (high efficiency)	47,018	kWh	Electricity Savings
	Recycling and reuse of discharge water from the die temperature controller in Plant 3	3,090	kL	Water Savings
2021	The C/T and cooling water pump motors of the ice machines in Plant 2 were replaced with IE3 (high efficiency)	293,919	kWh	Electricity Savings
	Installation of smart water tower (CCL)	10,206	kL	Water Savings
	Recycling and reuse of discharge water from the die temperature controller in Plant 1	2,659	kL	Water Savings
2022	The cooling tower of Plant 1 is equipped with frequency converter	Estimated to be completed by Q1 of 2023.	kWh	Electricity Savings
	The ice water pump of Plant 1 is equipped with frequency converter	Estimated to be completed by Q1 of 2023.	kWh	Electricity savings
	Replaced the centrifugal water-cooled air compressor system	Estimated to be completed by Q1 of 2023.	kWh	Electricity Savings
	Replaced the magnetic water chiller	Estimated to be completed by Q1 of 2023.	kWh	Electricity savings
	The first phase of solar panel installation (on the roof of Plant 3)	492,624	kWh	Electric Power Generation



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. The audit was suspended in 2022 due to the COVID-19 pandemic.

List of General Types and Quantities of Waste in Recent Years

Unit: tonnes

Type of Waste	Waste	2020	2021	2022	Recycling and Reuse	Collection and Treatment
General	Waste Wood	431	545	447		V
	Waste Plastic	231	318	245	V	
	Wood Pulp Board	449	509	336	V	
	Copper Frame	179	207	140	V	
	Waste Paper	1,170	1,153	909	V	
	Scrap Iron	110	104	76	V	
	Copper Scrap	428	451	344	V	
	Waste Substrate (Under 1 Inch)	31	36	32	V	
	General Waste	1,307	673	390		V
	Copper Dust	79	90	79	V	
Hazardous	Scrap Copper Foil	132	140	100	V	
	Scrap Prepreg	265	287	241		V
	Inner Layer Stripping Wastes	63	134	106		V
	Copper Sulfate Crystals	42	77	53	V	
	Copper Chloride	2,139	2,668	1,931	V	
Total		7,056	7,392	5,429		

Types of Waste and Treatment in Recent Years

Unit: Tonnes

Total Waste Output	Reuse		Incineration		Burial Disposal		Total		
	General	Hazardous	General	Hazardous	General	Hazardous	General	Hazardous	Sub-total
2020	2,809	2,181	1,738	328	/	/	4,547	2,509	7,056
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

Note1: General industrial waste: The calculation is based on the actual weight of off-site disposal, which includes domestic waste generated from the office.

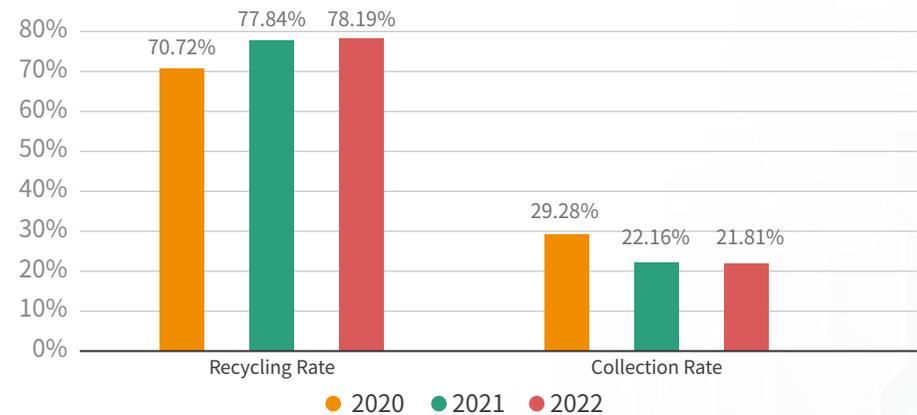
Note2: Hazardous industrial waste: The final treatment options for disposal include incineration, chemical treatment, and reuse.

Waste Recycling and Collection Rate

Unit: Tonnes

	Recycled Volume	Collection Volume	Recycling Rate	Collection Rate
2020	4,990	2,066	70.72%	29.28%
2021	5,753	1,639	77.84%	22.16%
2022	4,245	1,184	78.19%	21.81%

Waste Recycling Rate Over the Years



4.4 Sustainable Supply Chain

Responsible Department/ Grievance Mechanism	<p>Responsible Department: Quality Assurance Department and Procurement Department</p> <p>Grievance Mechanism:</p> <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	<p>Policy</p> <p>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.</p> <p>Commitment</p> <p>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.</p> <p>Goals</p> <p>Short-term:</p> <ul style="list-style-type: none"> ◆ Annual supplier scoring according to the evaluation mechanism (product safety, environmental regulations, quality, delivery, management system certification) ◆ Add supplier scoring for assessment mechanism with Sustainability Evaluation Questionnaire (HR&EHS questionnaires) ◆ For suppliers with lower evaluation scores, we will take measures to reduce the procurement volume or cancel the qualification of qualified suppliers. <p>Medium and Long-term:</p> <ul style="list-style-type: none"> ◆ Counsel suppliers to comply with the standards, including environmental regulations, labor rights, and other requirements. <p>Actions Taken and Results Within the Year</p> <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	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	<ul style="list-style-type: none"> 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.

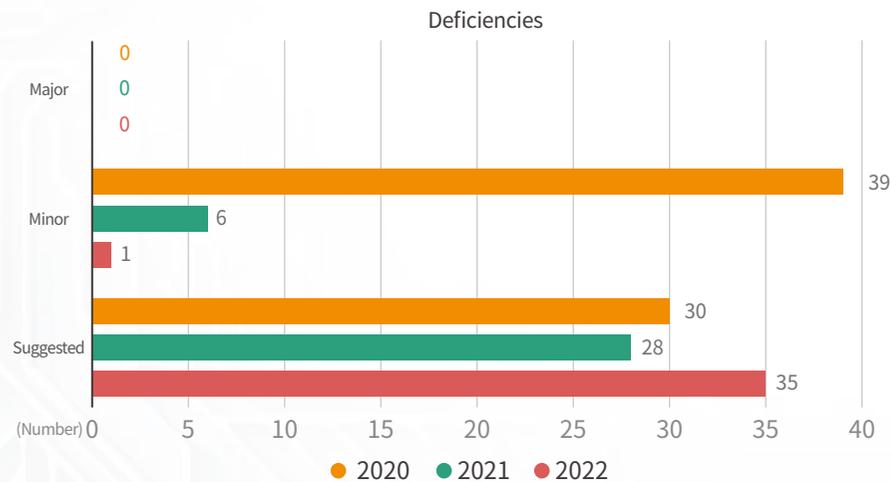
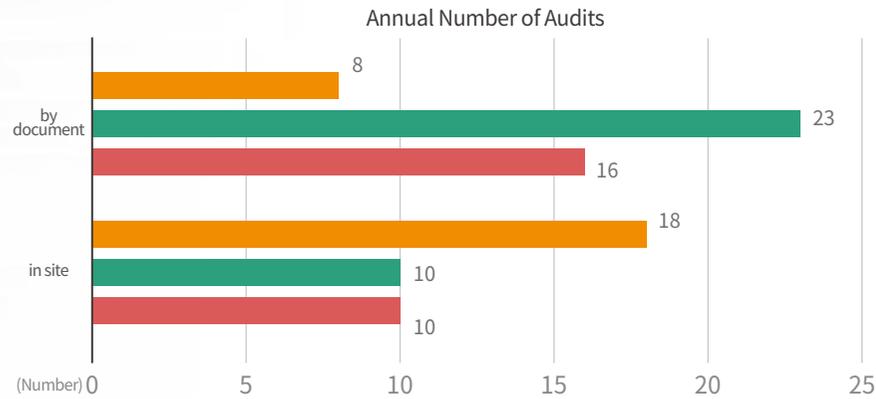
/The documents shall be provided by new and qualified suppliers are as follows/



	Number of Existing Suppliers (Raw Materials)	Ratio of Signing Human Rights and Environmental Declaration Documents	Number of New Suppliers (Raw Materials)	Ratio of Signing Rights and Environmental Declaration Documents
2020	59	83.05%	3	100.00%
2021	62	83.87%	3	66.67%
2022	65	83.08%	3	100.00%

	Number of Existing Suppliers (Raw Materials)	Ratio of Signing the Supplier Sustainability Evaluation Questionnaire	Number of New Suppliers (Raw Materials)	Ratio of Signing the Supplier Sustainability Evaluation Questionnaire
2020	59	96.61%	3	100.00%
2021	62	96.77%	3	66.67%
2022	65	95.38%	3	100.00%

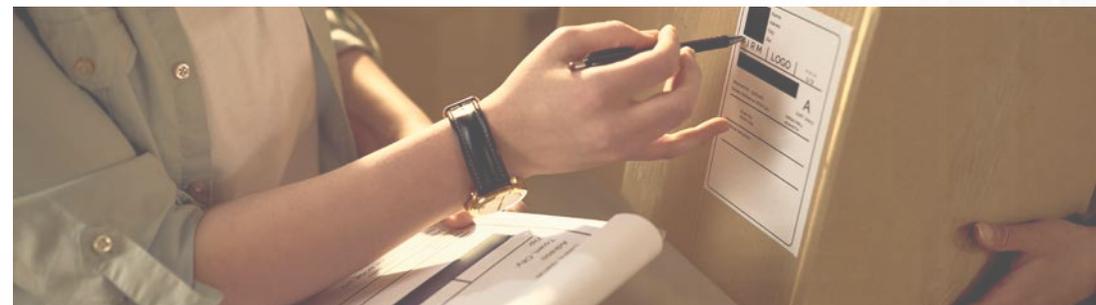
TUC currently does not have a supplier screening system for environmental and social criteria, but mainly focuses on quality-related requirements. However, environmental and social requirements are included in the audited items in the annual supplier audit. With room for improvement in this project, 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.



Note: raw material supplier audit

Supplier Audit Results for 2020-2022

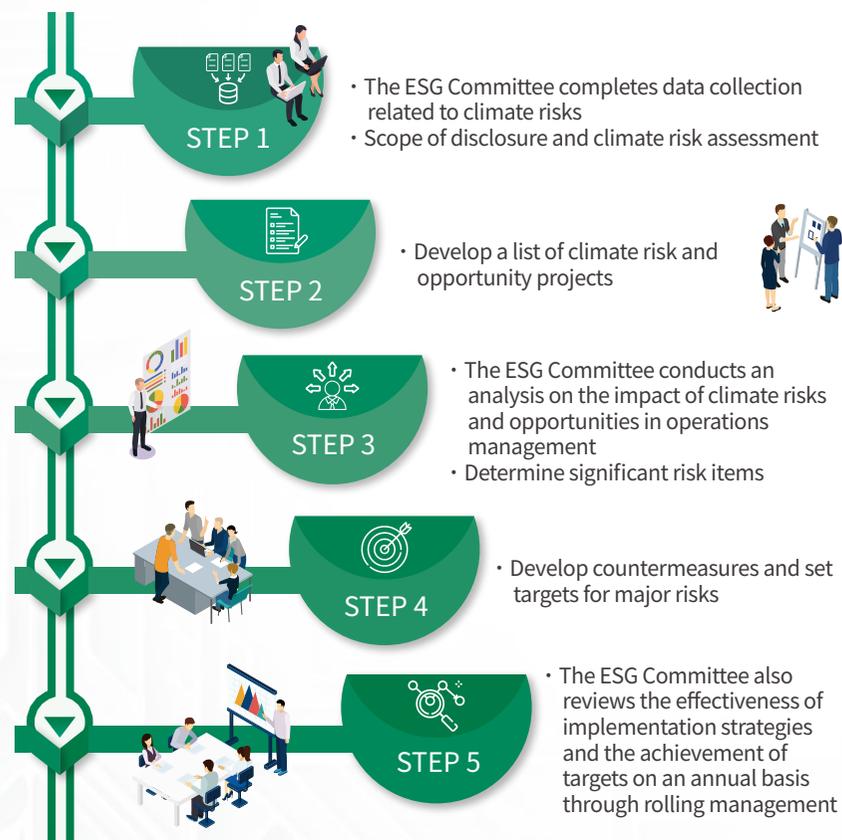
Year	Number of Suppliers Participating in the Quarterly Assessment (Average)	Quarterly Assessment Results (Number of Suppliers)	Number of Suppliers Accepting the Annual Audit	Audit Results (Number of Companies)
2020	16/Quarter	A: 14	26	A: 0
		B: 45		B: 26
		C: 5		C: 0
		D: 0		D: 0
2021	17/Quarter	A: 25	25	A: 4
		B: 42		B: 21
		C: 1		C: 0
		D: 0		D: 0
2022	17/Quarter	A: 16	26	A: 10
		B: 52		B: 16
		C: 5		C: 0
		D: 0		D: 0



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. The ESG 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 fourth quarter of each year, the Board convenes to report on the implementation results of the current year and present the work plan for the upcoming 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 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 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 Risks	Risk Levels	Impact Period	Climate-Related Opportunities	Opportunity Levels	Impact Period
Increase pricing of greenhouse gas emissions	High	Short-term, Medium-term	Use of more efficient modes of transport	High	Short-term, Medium-term
Mandates on and regulation of existing products and services	Low	Short-term	Use of more efficient production and distribution processes	Medium	Short-term
Exposure to litigation	High	Short-term, Medium-term	Use of recycling	High	Short-term, Medium-term
Substitution of existing products and services with lower emissions options	Low	Medium-term	Move to more efficient buildings	High	Short-term, Medium-term, Long-term
Unsuccessful investment in new technologies	Medium	Short-term	Reduced water usage and consumption	Medium	Medium-term
Costs of transition to lower emissions technologies	Medium	Short-term	Use lower-emission sources of energy	Medium	Medium-term, Long-term
Changing customer behavior	Medium	Short-term, Medium-term			
Uncertainty in market signals	Medium	Medium-term, Long-term	Use of supportive policy incentive	Low	Medium-term, Long-term
Increased cost of raw materials	High	Short-term, Medium-term			
Shifts in consumer preferences – tarnishing of industry reputation	Low	Short-term, Medium-term	Use of new technologies	Low	Medium-term, Long-term
Increased stakeholder concern or negative stakeholder feedback	Low	Short-term			
Increased severity of extreme weather events such as typhoons and water supply crises	High	Short-term, Medium-term, Long-term	Participate in the carbon market	Medium	Medium-term, Long-term
Changes in precipitation patterns and extreme variability in climate patterns	Medium	Short-term, Medium-term, Long-term			
Rising mean temperatures	Medium	Medium-term, Long-term			
Rising sea levels	Low	Long-term			

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. The Company has identified three transition risks, one physical risk and three opportunities for 2022, and has responded to and explained these risks and opportunities. 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 	<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	<ul style="list-style-type: none"> ◆ Increased costs and/or reduced demand for products and services due to fines and judgments 	<ul style="list-style-type: none"> ◆ To mitigate the potential risks of fines or litigation, the Occupational Safety Department 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.
			Immediate	<ul style="list-style-type: none"> ◆ Increased severity of extreme weather events such as typhoons and floods

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.
		Use of recycling	<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 	<p>Pipeline connection of the cooling towers of Plant 1 and Plant 2</p> <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, it is recommended that the cooling tower pipes of both plants be connected by 2023. This will allow for the recycling of cooling water, reducing waste water treatment costs and tap water consumption. <p>Projects that are expected to be evaluated in 2023:</p> <ul style="list-style-type: none"> ◆ Project of effluent recycle assessment. ◆ Project of recovery and reuse of process waste. ◆ Allocation plans for public water resources.
		Move to more efficient buildings		<p>Add frequency converter and power-saving system to water pump</p> <ul style="list-style-type: none"> ◆ In 2023, we intend to implement frequency conversion device in the cooling tower and water pumps of Plant 1. This system will regulate the operating frequency of the pumps based on pressure, thereby diminishing power consumption during operation. <p>Installations of additional solar panels</p> <ul style="list-style-type: none"> ◆ In 2023, solar panels are slated for installation in the rear section of the plant, specifically in the material and waste storage area. This initiative aims to bolster revenue from green power and curtail carbon emissions. <p>Installations of additional centrifugal water-cooled air compressor system</p> <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. To address this issue, we plan to install high-efficiency centrifugal water-cooled air compressors in the air compressor room of Plant 3 by 2023. These compressors will provide support piping to the air compressor system in Plant 1, leading to a reduction in the number of air compressors required and a decrease in power consumption during operation. <p>Installations of additional magnetic water chiller</p> <ul style="list-style-type: none"> ◆ The existing chillers at Plant 2 are outdated and ineffective. Our proposal is to replace one of these with a high-efficiency magnetic water chiller in 2023. This new chiller is more efficient than the current screw type chiller and is expected to replace the existing 1.5 units of chillers, resulting in reduced power consumption during operation. <p>👍 Plant 3 received the Green Building Label. 👍</p>



chapter V Social Care

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

TUC values the labor rights of its 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 its 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 2005, TUC obtained the ISO 14001 Environmental Management System certification and 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 the 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 Status

TUC ensures equal treatment of its employees and implements affirmative measures to eliminate any labor conditions that may lead to inequality in the workplace and protect the labor rights of its employees.

5.1.1 Human Rights Protection

TUC values the rights of its 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 belief. TUC has integrated the Responsible Business Alliance (RBA) Code of Conduct into its business strategy. This commitment ensures that the workplace meets occupational health and safety requirements, fulfills its 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 its trading partners, encouraging collaboration on human rights issues.

The Company adheres to labor and human rights laws in all operating locations and educates new hires and current employees on the importance of human rights protection and labor rights. Over the past two years, the Company has provided internal human rights training, resulting in a 100% training rate for employees. Furthermore, TUC offers an avenue for employees to file grievances, and we have not been implicated in any human rights violations in recent times.

Year	Number of employee trained on human rights	Total training hours	Percentage of employees trained
2021	1078	359.3	100%
2022	1042	347.3	100%

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 2022.

5.1.2 Employee Statistics

In recent years, TUC, a prominent producer of copper clad laminate and prepreg, has improved its 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 its workforce.

TUC operates in the electronic components industry and employs full-time staff, with approximately 20% being female and 70% holding indefinite contracts. The Company offers a stable and enduring work environment for the majority of its 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 28% 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. Approximately half of our direct employees possess a college degree or less than a high school degree. Indirect employees with a graduate degree or above account for approximately one-third, while those with a college degree make up the remaining two-thirds. This is due 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.

Most of TUC's new and departing employees are below the age of 30. 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 employ approximately 98% of local talent as senior managers. The Company is committed to collaborating with local communities to identify and attract exceptional talent, thereby earning recognition and contributing to the local economy. The percentage of female senior managers is approximately 8%.

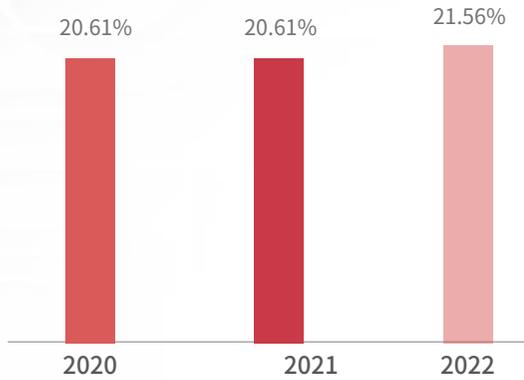
Statistics/Year		2020		2021		2022	
Total number of employees ^{Note 1}		1,111		1,077		1,016	
Employment Contract ^{Note 2}		Indefinite Contract	Fixed-Term	Indefinite Contract	Fixed-Term	Indefinite Contract	Fixed-Term
Gender	Male	628	254	589	266	563	234
	Female	179	50	178	44	181	38
Nationality	Taiwanese	801	0	760	0	729	8
	Foreign	6	304	7	310	6	273
Type of Employment ^{Note 3}		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Gender	Male	882	0	855	0	797	0
	Female	229	0	222	0	219	0

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

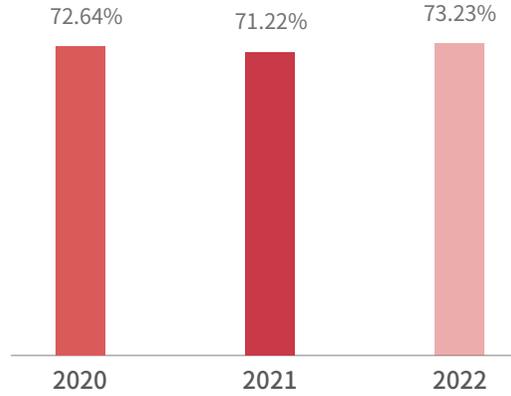
Note 2: Employment contracts are categorized as either indefinite contracts or fixed-term contracts for short-term, seasonal, and specific project periods. In cases where an employee is on maternity/parental leave, the Company employs another employee to act as an agent for the position until the employee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

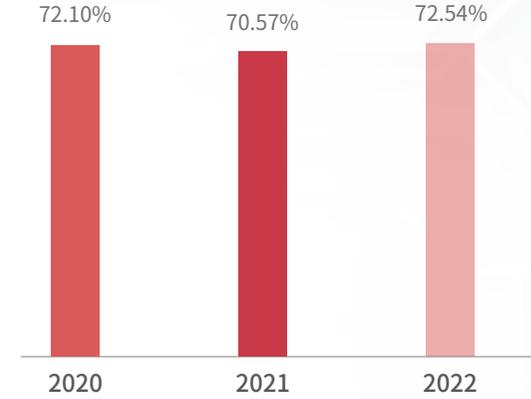
Percentage of female employees in recent years



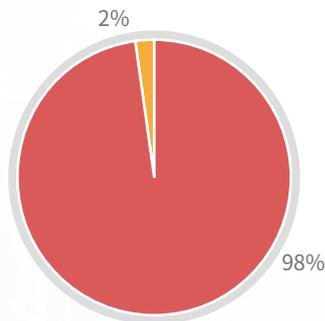
Percentage of employees with indefinite contracts in recent years



Percentage of local employees in recent years

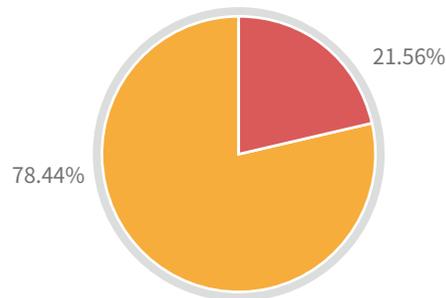


Percentage of local residents employed as senior management in the current year



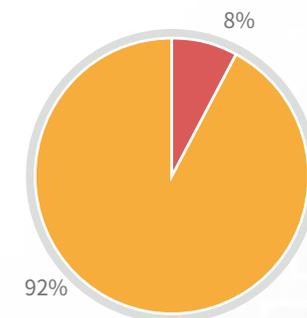
local-resident employees: 49 non-local employee: 1

Percentage of employees by gender in current year



female: 219 male: 797

Gender Ratio of Senior Management for 2022



female: 4 male: 46

Note: "Local" is defined as Taiwan; senior managers are managerial positions at the managerial level (and above).

Diversity Statistics/Year				2020		2021		2022	
				Number of People	Percentage	Number of People	Percentage	Number of People	Percentage
Employee	Direct	Gender	Male	669	82.49%	667	83.38%	609	82.63%
			Female	142	17.51%	133	16.63%	128	17.37%
		Age	Under 30 years old	199	24.54%	149	18.63%	112	15.20%
			30-50 years old	547	67.45%	584	73.00%	549	74.49%
			Over 50 years old	65	8.01%	67	8.38%	76	10.31%
		Academic Background	Graduate School	4	0.49%	3	0.38%	2	0.27%
			College/ University	445	54.87%	416	52.00%	380	51.56%
			Below High School	362	44.64%	381	47.63%	355	48.17%
	Nationality	Taiwanese	506	62.39%	488	61.00%	462	62.69%	
		Foreign	305	37.61%	312	39.00%	275	37.31%	
	Indirect	Gender	Male	213	71.00%	188	67.87%	188	67.38%
			Female	87	29.00%	89	32.13%	91	32.62%
		Age	Under 30 years old	22	7.33%	20	7.22%	17	6.09%
			30-50 years old	220	73.33%	195	70.40%	184	65.95%
			Over 50 years old	58	19.33%	62	22.38%	78	27.96%
		Academic Background	Graduate School	102	34.00%	93	33.57%	93	33.33%
College/ University			189	63.00%	175	63.18%	177	63.44%	
Below High School			9	3.00%	9	3.25%	9	3.23%	
Nationality	Taiwanese	295	98.33%	272	98.19%	275	98.57%		
	Foreign	5	1.67%	5	1.81%	4	1.43%		

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%.

Note: 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%.

New Hires and Employee Turnover Statistics/ Year	2020		2021		2022	
	Total	Ratio ^{Note 2}	Total	Ratio	Total	Ratio
Total Number of Employees for the Year ^{Note 1}	1111	-	1077	-	1016	-

New Employees

Age	Under 30 years old	42	19.00%	57	33.73%	65	50.39%
	30-50 years old	77	10.04%	123	15.79%	91	12.41%
	Over 50 years old	2	1.63%	2	1.55%	4	2.60%
Gender	Male	111	12.59%	144	16.84%	128	16.06%
	Female	10	4.37%	38	17.12%	32	14.61%
Academic Background	Graduate School	25	23.58%	16	16.67%	16	16.84%
	College/ University	59	9.31%	65	11.00%	78	14.00%
	Below High School	37	9.97%	101	25.90%	66	18.13%
Nationality	Taiwanese	111	13.75%	141	18.38%	136	18.28%
	Foreign	10	3.29%	41	13.23%	24	8.82%

Former Employee

Age	Under 30 years old	41	18.55%	62	36.69%	62	48.06%
	30-50 years old	105	13.69%	138	17.72%	144	19.65%
	Over 50 years old	10	8.13%	16	12.40%	10	6.49%
Gender	Male	128	14.51%	171	20.00%	182	22.84%
	Female	28	12.23%	45	20.27%	34	15.53%
Academic Background	Graduate School	19	17.92%	26	27.08%	17	17.89%
	College/ University	74	11.67%	109	18.44%	109	19.57%
	Below high school	63	16.98%	81	20.77%	90	24.73%
Nationality	Taiwanese	130	16.11%	180	23.47%	154	20.70%
	Foreign	26	8.55%	36	11.61%	62	22.79%

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

Note 2: New employee rate = (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, female new employee rate = (Total number of new female employees in the year/ total number of female employees at the end of the year) * 100%.

Turnover rate = (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 = (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%.

In recent years, TUC has engaged 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 relatively balanced.

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.

Statistics/Year		2020		2021		2022	
Total Number of Non-Employee Workers		24		23		23	
Contract Category		Appointment	Contracting	Appointment	Contracting	Appointment	Contracting
Gender	Male	5	12	4	11	4	10
	Female	1	6	1	7	1	8
Region	Taiwan	6	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	5	12	4	11	4	10
	Female	1	6	1	7	1	8
Region	Taiwan	6	18	5	18	5	18

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

5.2.1 Salary and Benefits

Responsible Department/ Grievance Mechanism	Responsible Department: Human Resources Department Grievance Mechanism: ◆ Human Resources Department (+886-3-555-1103 ext. 316; tenchi.hsieh@tuc.com.tw) ◆ Labor-Management Meetings/ Grievance Inbox
Management Mechanism	<p>Policy</p> <p>The Company's most valuable asset is its employees, and TUC aims to guarantee that each employee can work with a sense of security and a willingness to perform at their best. Effectively provide the human resources necessary for the sustainable development of the Company by implementing policies that align with the Company's organizational growth.</p> <p>Commitment</p> <p>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.</p> <p>Goals</p> <p>◆ Short-term: 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.</p> <p>◆ Medium and Long-term: 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.</p> <p>Actions taken within the year</p> <p>◆ 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.</p> <p>◆ 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 its profits among its 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.</p> <p>◆ 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.</p> <p>◆ Encourage 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.</p>
Effectiveness Assessment	◆ The turnover rate in 2022 decreased by 25.66% compared with the previous year. ◆ Received a score of 4.8 under Remuneration Policy of the Corporate Governance Evaluation.

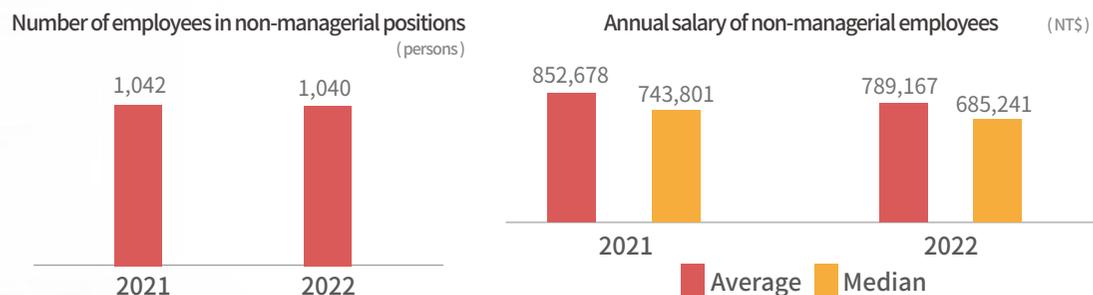
TUC offers a competitive compensation system and comprehensive employee benefits to attract exceptional talent. Additionally, we foster a sense of unity among our employees, encouraging them to grow alongside the Company and achieve mutual success.

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 its 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 its profits. The data indicates that the average and median annual salaries of non-managerial employees in Taiwan have been increasing annually. 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 been decreasing year by year and is approaching parity. The disparity in basic and overall salary between genders among indirect employees is due to the higher number of male senior managers and the unequal ratio of men to women across all positions. 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, TUC is currently exploring ways to address gender inequality and reduce the pay gap. The Company’s remuneration policy considers individual performance as the primary factor for promotion, regardless of gender. TUC pays its direct employees a standard salary that is at least twice the local basic salary for junior employees, regardless of gender. This practice allows us to attract top talent and remain competitive in the market.

To enhance the work efficiency of our employees, TUC offers benefits and a comfortable office environment. We organize various employee benefit activities periodically to alleviate work pressure and foster positive interaction among colleagues. The Company operates a labor pension program in compliance with the law. At present, both the old and new systems are in place, and employees are encouraged to make voluntary contributions to plan for their retirement. In 2022, a total of three employees retired.



Employee Category	Gender	Standard Salary/ Local Basic Wage
Direct Employees in Taiwan	Male	2.08
	Female	2.04

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: All employees (including foreign employees) Insurance 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 employee; NT\$3,000 for the employee’s immediate relatives and spouse
Childbirth Subsidies	NT\$6,000 per child
Holiday Bonus	Based on the Company’s annual operating performance and personal performance
Year-End Bonus	2-month 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.

Ratio of Basic Salary and Remuneration			Percentage					
			2020		2021		2022	
Important Operation Locations	Employee Category	Item	Male	Female	Male	Female	Male	Female
Taiwan	Direct	Basic Salary ^{Note 1}	1.08	1	1.06	1	1.04	1
		Remuneration ^{Note 2}	1.13	1	1.06	1	1.04	1
	Indirect	Basic Salary	1.59	1	1.54	1	1.55	1
		Remuneration	1.78	1	1.66	1	1.71	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).

Parental Leave/ Year	Gender	Year		
		2020	2021	2022
Number of employees eligible for unpaid parental leave	Male	53	46	39
	Female	17	16	13
Number of employees applying for unpaid parental leave	Male	2	1	7
	Female	2	2	2
Number of employees who should be reinstated after their unpaid parental leave (A)	Male	0	2	4
	Female	3	1	2
Number of employees reinstated after their unpaid parental leave (B) (Including early reinstatement)	Male	1	0	1
	Female	3	0	1
Reinstatement rate (B/A)	Male	0%	0%	25%
	Female	100%	0%	50%
Number of employees who have completed their parental leave and are still employed twelve months after reinstatement (C)	Male	1	1	0
	Female	1	2	0
Retention rate (current year C/ previous year B)	Male	100%	100%	0%
	Female	100%	66.67%	0%

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 = (Total number of employees reinstated in the year/ Total number of employees should be reinstated in the year) * 100%.

Note 3: Retention rate = (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%.

Suitable for the Labor Pension Act (new system) ●●●●

◆ 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.

Suitable for the Labor Standards Act (old system) ●●●●

◆ Currently, there are 210 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.



▲ Working Environment



▲ Employee Cafeteria



▲ Breastfeeding Room



▲ Employees' Dormitory

5.2.2 Talent Development

Responsible Department/ Grievance Mechanism	Responsible Department: Human Resources Department Grievance Mechanism: Human Resources Department (+886-3-555-1103 ext. 316; tenchi.hsieh@tuc.com.tw)
Management Mechanism	<p>Policy/ Commitment 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.</p> <p>Goals Short-term:</p> <ul style="list-style-type: none"> ◆ We encourage our employees to pursue external training in professional and technical courses to meet the demands of their respective roles and responsibilities. ◆ The Company places emphasis on safety education, verifying the technical license requirements for each position, and arranging technical license classes. ◆ Introduce the TIPS system for managing intellectual property and enhance the foundational education and training of personnel on intellectual property. <p>Medium and Long-term:</p> <ul style="list-style-type: none"> ◆ Improve the leadership abilities of managers at all levels by implementing functional, development-focused supervisory training programs. ◆ Continue organizing advanced technology forums and courses to promote employees' innovative thinking and competitiveness. ◆ Refine the professional skills and management abilities of employees and managers in order to sustain the Company's technologies. <p>Actions taken within the year</p> <ul style="list-style-type: none"> ◆ This year, we have enhanced our focus on occupational safety and job training, resulting in the addition of 51 new professional and technical licenses, including forklift, suspension personnel, and cranes. ◆ We highly value intellectual property rights and have provided fundamental intellectual property training to both new recruits and R&D teams. This has resulted in an improvement in patent quality and R&D efficiency and a training completion rate of 100%. ◆ We conducted several internal quality management courses, such as SPC basic statistics, QC 7 techniques, DOE experimental design, EDA engineering data analysis, FMEA, MSA, and others. Additionally, we enhanced the training of our engineering system, asked the trainees to submit learning reports after each course, and implemented the tools acquired from the courses in our job content. ◆ Six employees in managerial roles were assigned to take online management courses to enhance the communication and management skills of middle-level managers. They subsequently served as internal instructors following the completion of the courses.
Effectiveness Assessment	<ul style="list-style-type: none"> ◆ Course Certificates/ Learning Reports ◆ Observation and Evaluation of Management Behavior ◆ Course Attendance Rate

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 its 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 recruits 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 recruits 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 its 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 training hours between the two groups.

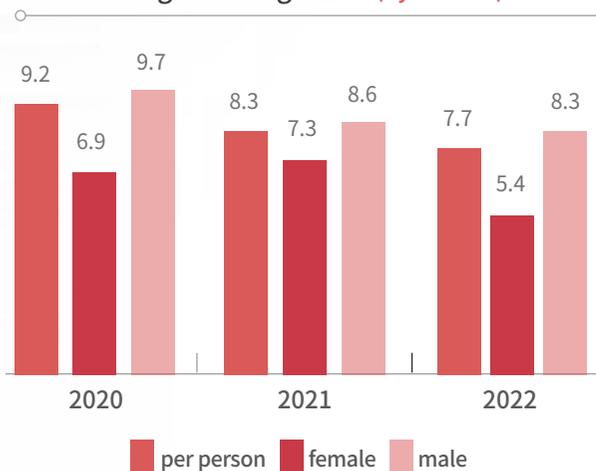
TUC’s cross-strait production centers and global business layout facilitate functional development. Each year, TUC engages in direct communication with managers through an open performance appraisal system to discuss the effectiveness and formulation of work goals. Additionally, individual performance evaluations are conducted and used as a reference for salary adjustments, bonus payments, and promotions.

5.2.3 Labor-management Communication

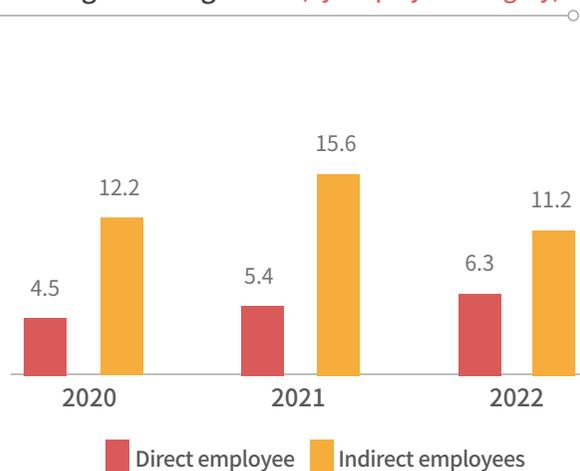
Facilitating effective communication between labor and management promotes cooperation and enables employees to understand the Company’s production plan, business overview, and market conditions. Simultaneously, it allows the Company’s management to stay informed about labor conditions and create a welcoming 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. The employer’s representatives, including the President, the Vice President of the Administration Center, and the Head of the Human Resources Department, are responsible for coordinating labor relations. Through regular communication and dialogue, we promote labor-management cooperation, enabling employees to express their opinions and advocate for better labor conditions from the Company. This effectively enhances 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.

Average Training Hours (by Gender)



Average Training Hours (by Employee Category)



Note: The average number of training hours per employee = The total number of training hours for all employees in the year/ The total number of employees at the end of the year.
 The average number of hours of training per female employee = The total number of hours of training for female employees in the year/ The total number of female employees at the end of the year.
 The average number of hours of training for each category of employees = The total number of hours of training for that category of employees in the year/ The total number of employees in that category at the end of the year.

Receive regular performance appraisals		Number of employees undergoing the appraisals	Total number of employees	Percentage
Gender	Male	793	797	99%
	Female	219	219	100%
Employee category	Direct	737	737	100%
	Indirect	275	279	99%

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

5.3 Occupational Safety and Health

Responsible Department/ Grievance Mechanism	Responsible Department: Occupational Safety Department Grievance Mechanism: Occupational Safety Department (+886-3-555-1103 ext. 150; Eric.Fang@tuc.com.tw)
Management Mechanism	<p>Policy 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 Department, 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.</p> <p>Commitment 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.</p> <p>Goals 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- and 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 2021. ◆ Continuous promotion of health promotion programs. <p>Actions taken and results within the year <ul style="list-style-type: none"> ◆ 2 accidents with minor or slight injuries in 2022 ◆ The Disabling Injury Frequency Rate in 2022 was significantly lower than in the past two years. ◆ Continue to promote the four major plans and four health promotion programs in 2022. </p></p>
Effectiveness Assessment	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

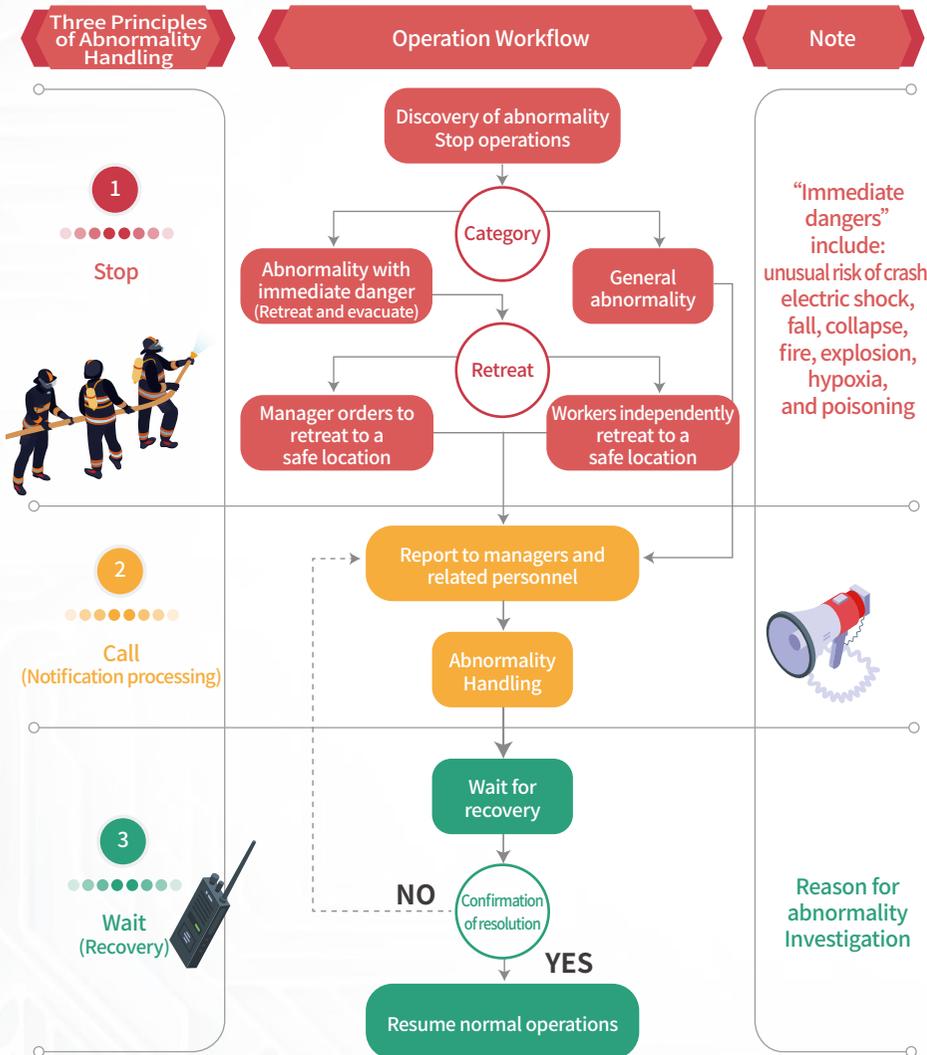
In 2009, TUC obtained the OHSAS 18001 Occupational Safety and Health Management System certification. Then we migrated to the ISO 45001 Occupational Safety and Health Management System certification in 2020. These certifications were obtained to prioritize employee safety and health during the production stage, and to establish a secure and healthy work environment. The certifications also enable the identification and assessment of potential workplace hazards, allowing for risk control and prevention measures to be implemented proactively.



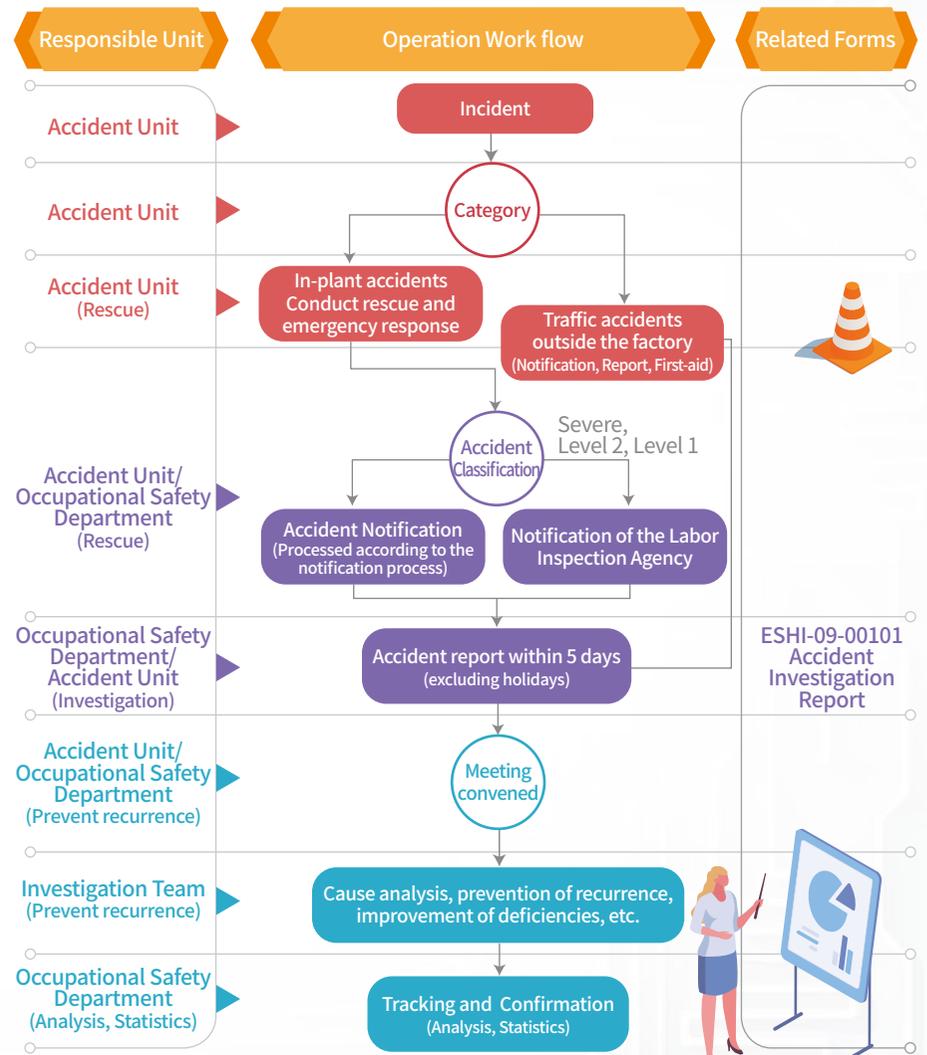
5.3.2 Hazard identification, Risk assessment, Principles of abnormality handling, and Incident investigation

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/



Disability Injury Statistics Table

Statistics of Occupational Injury and Occupational Disease (number of cases)					
Category/ Year	2020	2021	2022	Hazards and Instructions for Improvement	
Type of Occupational Injury	Inappropriate Actions	0	1	0	<ul style="list-style-type: none"> ◆ Compliance with the SOP ◆ Promotion of education and training
	Cut, slashed, and scraped	6	4	1	<ul style="list-style-type: none"> ◆ Violation of regulations by employees resulting in injury ◆ 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	0	6	1	<ul style="list-style-type: none"> ◆ Injury due to a finger being clamped when picking a cleaning tool fell onto the conveyor belt without shutdown during machine cleaning ◆ 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 shutter at the danger zone for possible rolling and clamping injuries ◆ Add manual mode button and a collating sensor for cleaning
	Trip	0	1	0	<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
	Fall	1	0	0	<ul style="list-style-type: none"> ◆ Strengthen the safety protections on racks ◆ Operating personnel should wear appropriate protective equipment, including helmets and safety belts
	Fire	1	0	0	<ul style="list-style-type: none"> ◆ Engineering improvements to identify the risk of flashover due to friction or static electricity

Statistics of Occupational Injury and Occupational Disease (number of cases)					
Category/ Year	2020	2021	2022	Hazards and Instructions for Improvement	
Type of Occupational Injury	Contact with hazardous materials	0	1	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
	Collision	0	0	0	<ul style="list-style-type: none"> ◆ Plan the flow of personnel and install chains or guardrails in areas at risk of collision ◆ Implement education and training promotion
	Contact with high/ low temperatures	0	0	0	<ul style="list-style-type: none"> ◆ Promote safety awareness in workplace ◆ Wearing of high temperature-resistant cuffs ◆ Add photoelectric sensor device
	Traffic accidents	4	9	9	<ul style="list-style-type: none"> ◆ Promote departmental education and training ◆ Promote training at OSHC meetings and various conferences
Types of Occupational Diseases	Occupational Diseases	0	0	0	

Disabling Injury Index

Year	Disabling Injury Frequency Rate (FR)	Disabling Injury Severity Rate (SR)	Total Injury Index
2020	1.78	62	0.33
2021	2.18	43	0.31
2022	0.9	22	0.14

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 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 Department are invited to teach in the department. For external training, employees are enrolled in occupational safety courses offered by professional organizations. In 2022, a total of 25 occupational safety training courses were held/attended, with a total of 193 hours of instruction, 873 participants, and 2,079 hours of training. In addition, TUC regularly invites external medical professionals to conduct health education and awareness programs on-site, covering topics such as tuberculosis and latent tuberculosis, food and health hygiene, and tobacco and betel nut resistance.

5.3.4 Employee Health Management and Promotion

TUC has established full-time labor health service personnel and delegated on-site physicians to conduct routine on-site visits and offer health consultations to employees in compliance with Labor Health Protection Regulations. Adequate first aid kits and other emergency equipment are provided in all factory areas based on the level of hazard risk. Trained personnel are responsible for 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 on-site physician will then conduct follow-up health management planning based on the results of these checkups.

Dust Zone **Noise Zone** **Toxic Chemical Zone**

Please wear a face mask when entering this zone. Please wear noise protection gear when entering this zone. Please wear a gas mask when entering this zone.

請正確配戴防毒面罩

使用前檢查：檢查面罩外觀，檢查面罩內層是否完好，檢查面罩密封性，檢查面罩濾毒罐是否完好。

配戴前準備：將面罩濾毒罐朝外，將面罩濾毒罐蓋蓋緊，將面罩濾毒罐蓋蓋緊。

配戴步驟：將面罩濾毒罐朝外，將面罩濾毒罐蓋蓋緊，將面罩濾毒罐蓋蓋緊。

配戴後檢查：檢查面罩密封性，檢查面罩濾毒罐是否完好。

卸下面罩：將面罩濾毒罐朝外，將面罩濾毒罐蓋蓋緊，將面罩濾毒罐蓋蓋緊。

卸下面罩後：將面罩濾毒罐朝外，將面罩濾毒罐蓋蓋緊，將面罩濾毒罐蓋蓋緊。

General Safety and Health Education and Training Refresher training courses on CPR Certification

Annual Planning of Health Checkups & Projects

年度	2018年	2019年	2020年	2022年
計畫名稱	保肝計畫	甲狀腺防治計畫	代謝症候群防治計畫	健康動起來計畫

依計畫內容規劃健檢項目及健康促進系列活動(2021年因疫情取消)

Establish five levels of abnormality criteria post health check-ups and conduct tracking

級數	2022年					重大異常
	第一級	第二級	第三級	第四級	第五級	
判定標準	無異常	些微異常	部分指數輕微偏高	異常指數偏高	部分指數過高	須立即追蹤
人數	31	270	267	87	46	17
執行措施	-	健康宣導	依意願安排健康諮詢	安排健康諮詢	安排健康諮詢	立即安排複檢/診

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Occupational Health Examination Form 2022

Level	Level 1	Level 2	Level 3
Noise	59	79	16
DMF	70	23	0
Dust	46	10	0

/3 On-Site Visits per Month: two doctors and one occupational physician/

Establish five levels of abnormality criteria post health check-ups and conduct tracking

tuc 醫師臨場諮詢服務

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	賴醫師	陳醫師	劉醫師
日期	2/8(三)	2/15(三)	2/21(二)
時間	9:00-12:00	14:00-17:00	13:30-16:30

服務內容：健康醫查預防、預防接種、職業病預防、孕婦健康評估、癌症/血液傳染病預防諮詢地點：2樓醫務室

醫師簡介：賴醫師、陳醫師、劉醫師

預約專線：自 Garfi #153

2022年諮詢總人數298人

2022年 諮詢人數

月份	諮詢人數
1月	36
2月	26
3月	13
4月	8
5月	45
6月	23
7月	25
8月	19
9月	11
10月	47
11月	48
12月	10
總人數	298

Health Consultations

Assessment of Return to Work

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 Prevention of Human Factor Causing Accidents Program 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 Accurate Medical Concepts among Employees.

健康資訊 2022.12

2022年 宣導主題

1月	居家環境消毒防疫措施
2月	如何維持與提升免疫力
3月	降體脂大作戰
4月	如何辨別Covid-19症狀
5月	防疫更要提升免疫力
6月	防疫不鬆懈保護你我他
7月	夏天喝水補充電解質有訣竅
8月	疫情變化 落實防疫保健康
9月	流感疫苗施打
10月	高血壓飲食運動原則
11月	秋日養生 營養食材推薦
12月	健康吃鍋鏟步

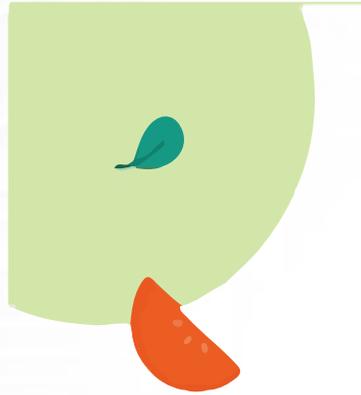
Health Promotion Flyers Have Been Posted In The Health Center, Cafeteria, And On The Bulletin Board Of Each Production Line.

環境、安全與健康促進

平安&環保 健康促進

零災害累計天數看板

部門	零災害累計天數	零災害累計事件	異常次數
上廠部	242619.7	1	67
製山部	22978.3	1	6
生製部	20181.5	1	33
一廠部	16511.5	1	1476
製山部	14293.28	1	14
高層部	12152.2	1	2377
製山部	10202.2	1	176
製山部	10187.21	1	580
製山部	10184.2	1	136



Announcements regarding health promotion activities on the company intranet



紓壓文章分享

過勞預防

- ★勞工安全衛生研究所「過勞自我預防手冊」
- ★勞工安全衛生研究所「過勞量表」
- ★職業促進腦血管及心臟疾病(外傷導致者除外)之認定參考指引

痠痛預防

- ★2017 低頭族之物理治療
- ★健康操15分鐘(簡易版)
- ★疼痛貼布的使用須知
- ★上班族動起來：肩頸篇
- ★上班族動起來：腰腿篇
- ★上班族四大不良姿勢-忍著龜背
- ★2016痠痛知多少
- ★漸進式肌肉放鬆法：手部篇
- ★漸進式肌肉放鬆法：臉部篇
- ★漸進式肌肉放鬆法：身體篇
- ★改善腰痛的復健運動

心靈毒湯系列

如果總是事與願違就請相信上天一定有人活該寂寞所以叫人類
你的心態決定生活的苦與甜
學會改變自己，成就更好的自己
拒絕別人沒有錯
別讓你的音量暴露了你的修養
別遷就不考慮你難處的人
別等有了閒錢了才去旅行
永遠不要跟層次不同的人爭辯
別讓情緒失控毀了你的生活
不忘初心方得始終
做人根本不用去討好誰

Health Promotion Activities
One on One Consultation
with a Nutritionist



健康檢查



健檢異常指數指導

- 高膽固醇血症注意事項
- 高三酸甘油酯血症注意事項
- 低密度脂蛋白過高注意事項
- 高密度脂蛋白過低注意事項
- 肌酸酐過高注意事項
- 尿酸過高飲食注意事項
- 肝功能異常注意事項
- B型肝炎帶原者保健須知
- C型肝炎感染者保健須知



台灣減重班

2018年健康減重成果
2019年健康減重成果
2020年健康減重成果



營養講座講義

20150407健康飲食你我行
20180408飲食安全與健康
20170418如何讓人生
健康生活動起來-小冊
傳單、傳單說明



減重網站

衛福部健康、肥胖防治網
衛福部健康、健康九力網
華人健康網
KinNet 網路網絡營養、減重



減重成功經驗分享

歐凱麗減重15公斤
陳昭昭減重14公斤



熱量控管區

西式飲食熱量比一比
中式食物熱量比一比
市售飲料熱量比一比
營養標籤熱量比一比
食物熱量數據正面
食物熱量數據反面
市售飲料熱量表



飲食控制區

十大飲食控管一讀便知！
自助餐怎麼吃才健康！
十大減重果 吃出水果瘦身力
西式早餐在TOP5助瘦好選擇
海鮮熱量&營養排行榜
西式大餐的不發胖必勝的湯
明明很瘦的假低卡為何瘦不了



努力運動區

CP 值極高的居家運動
一週上肢肌力訓練
一週下肢肌力訓練
住家健身能完成各大肌
群拍打肌訓練
強力縮短手臂線條
豈能運動版燃脂
瘦身技巧密技&正確習



Health Promotion Activities - Pilates, Body Combat, Aerobic Dance



Health Promotion Activities - Body Fat, Skeletal Muscle Mass Testing



Health Promotion Activities – Results

年	減重班獎金	講座費	集點活動獎金	其他	合計	申請補助費	備註
2020	33,000	41,600	-	-	74,600	8,000	因疫情取消多項活動
2021	33,000	44,000	-	150,000	227,000	16,884	勞動部
2022	32,800	30,000	-	-	62,800	21,000	勞動部

年	人數	減重成果						備註
		總公斤	總腰圍	體脂	平均kg	平均腰圍	平均體脂	
2020	62	210.7	289	118	3.3	4.6	1.9	不限 揪團+個人
2021	64	190.6	150	135.4	3	2.3	2.1	不限 揪團+個人
2022	71	185	235	150	2.6	3.3	2.1	不限 揪團



日期:前測3/3後測-9/2
 時間:14:00~16:30
 地址:B1F有氧教室
 畸形:TANITA體組成分析儀

5.3.5 Improvement of Working Environment and Operational Method

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 health nurse and occupational safety management specialist 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.

Health Promotion Activities for Human Factors Improvement- Stress Release with Essential Oils



Results of Human Factors Questionnaire: Comparison Table for Partial Pain Score

電腦作業人員分析								
	下背	右肩	右手右手腕	左手左手腕	左肩	膝	上背	左腿
2018	26	23	20	20	19			
2019		5	6			4		
2021	6		4	3				
2022	14	4					3	7

生產線人員分析							
	下背	右肩	左肩	上背	頸部	右腿	左腿
2018	61	51	47	38	33		
2019	17	16		14		17	
2021	9				3		
2022	9			3			3

精油舒壓課程
日期:10/28(五)
時間:13:00~15:00
地址:B1F訓練教室



5.4 Charity Involvement

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

Charity Involvement in the Current Year

- TUC sponsored the TPCF Environment Foundation to improve its competitiveness in environmental education and green humanities, as well as to fulfill its social responsibility.
- The Company adopted the nearby Gongshiliu Park and the International Environmental Education Park, and has undertaken maintenance of Bo-ai Street, taking on responsibility for maintaining the cleanliness of green spaces and roads.
- Participate in eco-friendly and spontaneous environmental initiatives to safeguard our ecosystem and surroundings.
- The Company actively supports Earth Hour's energy-saving and carbon-reduction initiatives on a daily basis.
- Participate in marathons while also engaging in street cleaning initiatives.
- The adoption of an air quality purification zone has been honored with an award for excellence.

ESG Corporate Sustainability Action

Hsinchu Half Marathon on January 9, 2022

"Plogging" is a newly coined term that merges jogging with picking up litter (Swedish: plocka upp). It is an emerging movement that originated in Sweden and has since gained global popularity. In 2022, TUC continues to promote the health of its employees and also incorporates the concept of street jogging, picking up trash while jogging.



ESG Corporate Sustainability Action

Natural Valley Environmental Educational Tour on December 10, 2022

Nature Valley is a prime example of a successful environmental trust in Taiwan. It is adjacent to the clean land near the Wuhua Industrial Park in Qionglin Township. The trust not only preserves the natural habitat but also promotes environmental education, habitat protection, environmental issues, and volunteerism to raise awareness among citizens. By doing so, everyone can contribute to preserving a piece of pure land for the mountains and forests of Taiwan forever.



Supporting the Earth Hour

Activity on a Daily Basis

The world's largest voluntary carbon reduction initiative, "Earth Hour", is typically observed on the final Saturday of March each year. Every working day, TUC's administrative office area at the three factories turns off the lights for half an hour at noon and reduces the number of elevator rides to contribute to environmental protection. We urge our employees to acknowledge the challenges of climate change, reflect on their lifestyles, and cherish the Earth. We encourage them to participate in Earth Hour activities every day.





Sponsored the TPCF Environment Foundation

感謝
台燿科技股份有限公司
(2022 年度捐款)

熱心公益 嘉惠良多

特贈此狀 以表謝忱

TPCF 讓綠色永續 使愛心無限

財團法人電訊網路環境公益基金會
董事長 陳正雄

2022 年 12 月 31 日

Certificate of Thanks and Appreciation

Adopted the nearby Gongshiliu Park and International Environmental Education Park
taking on responsibility for the cleanliness of the area




Road Adoption
(Bo-ai Street in Zhubei City)



Honored with Award for Adopting Air Quality Purification Zone
Outstanding Adopter of Air Quality Zones Awarded for Purification Efforts

The Executive Yuan's Environmental Protection Administration seeks to boost enterprise and community group involvement in the implementation of Air Quality Purification Zones. By leveraging private sector resources to conduct routine maintenance, the effectiveness of these zones can be enhanced, resulting in cost savings for the government and increased public engagement in preserving a sustainable environment.






chapter VI Appendix

GRI Index Table | Independent Third Party Assurance Statement | Climate Related Financial Disclosures (TCFD)

Sustainability Disclosure Indicators for the Electronic Components Industry | Sustainability Accounting Standards Board (SASB)

GRI Index Table

refers to material topics

Term	TUC has reported the period from January 1, 2022 to December 31, 2022 in accordance with GRI Standards					
GRI 1 in use	GRI 1: Foundation 2021					
Applicable GRI Industry Standards	GRI industry standards are not yet applicable Domestic Industry Category: Over-the-Counter Electronic Components Industry The SASB industry classification is Technology & Communications/ Hardware					
Topic	Disclosure	Description	Chapter	Page Number	Reasons for Omission/ Necessary Explanations	GRI Industry Standards Disclosure Items Reference Number
GRI 2: General Disclosures 2021						
Organization and Reporting Practices	2-1	Organizational details	2.1 Company Profile	18-20		
	2-2	Entities included in the organization's sustainability reporting	Editorial Policies/ ESG Information Disclosure	4		
	2-3	Reporting period, frequency and contact point	Editorial Policies/ ESG Information Disclosure, Frequency of Publication, Feedback	4		
	2-4	Restatements of information	Editorial Policies/ Report Preparation Basis and Information Verification Method	4		
	2-5	External assurance	Editorial Policies/ Report Preparation Basis and Information Verification Method	4		
Activities and Workers	2-6	Activities, value chain and other business relationships	2.1 Company Profile	18-20		
	2-7	Employees	5.1.2 Employee Statistics	66-70		
	2-8	Workers who are not employees	5.1.2 Employee Statistics	66-70		
Governance	2-9	Governance structure and composition	3.1 Governance Practices	25-33		
	2-10	Nomination and selection of the highest governance body	3.1. 1 Board of Directors	27-28		
	2-11	Chair of the highest governance body	3.1. 1 Board of Directors	27-28		

Topic	Disclosure	Description	Chapter	Page Number	Reasons for Omission/ Necessary Explanations	GRI Industry Standards Disclosure Items Reference Number
Governance	2-12	Role of the highest governance body in overseeing the management of impacts	1.1 Sustainable Promotion Committee 1.3 Stakeholder Communication 3.1 Governance Practices	7-8 10-11 25-33		
	2-13	Delegation of responsibility for managing impacts	1.1 Sustainable Promotion Committee	7-8		
	2-14	Role of highest governance body in sustainability reporting	1.1 Sustainable Promotion Committee	7-8		
	2-15	Conflicts of interest	3.1. 1 Board of Directors	27-28		
	2-16	Communication of critical concerns	3.1 Governance Practices	25-33		
	2-17	Collective knowledge of the highest governance body	3.1. 1 Board of Directors	27-28		
	2-18	Evaluation of the performance of the highest governance body	3.1. 1 Board of Directors	27-28		
	2-19	Remuneration Policies	3.1.2.2 Remuneration Committee	29		
	2-20	Process to determine remuneration	3.1.2.2 Remuneration Committee	29		
	2-21	Annual total compensation ratio	-			Confidentiality regulations/ remuneration is within the scope of company confidentiality
Strategy, Policies, and Practices	2-22	Statement on sustainable development strategy	A Message from the Chairman	3		
	2-23	Policy Commitments	3.1.4 Ethics and Integrity 4.4 Sustainable Supply Chain 5.1.1 Human Rights Protection	31-32 57-59 65		
	2-24	Embedding policy commitments	3.1.4 Ethics and Integrity 4.4 Sustainable Supply Chain 5.1.1 Human Rights Protection	31-32 57-59 65		

Topic	Disclosure	Description	Chapter	Page Number	Reasons for Omission/ Necessary Explanations	GRI Industry Standards Disclosure Items Reference Number
Strategy, Policies, and Practices	2-25	Processes to remediate negative impacts	3.1 Governance Practices	25-33		
	2-26	Mechanisms for seeking advice and raising concerns	3.1 Governance Practices	25-33		
	2-27	Compliance with laws and regulations	3.1.5 Legal Compliance	32-33		
	2-28	Membership associations	2.4 Participation in External Associations	23		
Stakeholder Engagement	2-29	Approach to stakeholder engagement	1.3 Stakeholder Communication	10-11		
	2-30	Collective bargaining agreements	5.2.3 Labor-Management Communication	75		

GRI 3: Material Topics 2021

Material Topics	3-1	Process to determine material topics	1.4 Material Topics Identification	12-15		
	3-2	List of material topics	1.4 Material Topics Identification	12-15		

Economic Aspects

Economic Performance

GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed	3.3 Operational Performance	39-40		
	201-2	Financial implications and other risks and opportunities due to climate change	4.5 Climate Related Financial Disclosures	60-63		

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	71-73		
	202-2	Proportion of senior management hired from the local community	5.1.2 Employee Statistics	71-73		

★ Ethics and integrity

GRI 3: Material Topics 2021	3-3	Management of material topics	3.1.4 Ethics and Integrity	31-32		
Customized material topics	Integrity - 1	Number of integrity reports received in the current year	3.1.4 Ethics and Integrity	31-32		

Topic	Disclosure	Description	Chapter	Page Number	Reasons for Omission/ Necessary Explanations	GRI Industry Standards Disclosure Items Reference Number
★ Information Security						
GRI 3: Material Topics 2021	3-3	Management of material topics	3.4 Information Security	41-43		
Customized material topics	Information Security -1	Number of information security incidents in the current year	3.4 Information Security	41-43		
★ Customer Service						
GRI 3: Material Topics 2021	3-3	Management of material topics	3.6.2 Customer Service	47-48		
Customized material topics	Customer Service - 1	Customer satisfaction surveys in the current year	3.6.2 Customer Service	47-48		
Environmental Aspect						
★ Energy						
GRI 3: Material Topics 2021	3-3	Management of material topics	4.2 Energy Conservation and Carbon Emissions Reduction	51-54		
GRI 302: Energy 2016	302-1	Energy consumption within the organization	4.2 Energy Conservation and Carbon Emissions Reduction	51-54		
	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 Emissions Reduction	51-54		
	302-4	Reduction of energy consumption	4.2 Energy Conservation and Carbon Emissions Reduction	51-54		
	302-5	Reductions in energy requirements of products and services	4.2 Energy Conservation and Carbon Emissions Reduction	51-54		

Topic	Disclosure	Description	Chapter	Page Number	Reasons for Omission/ Necessary Explanations	GRI Industry Standards Disclosure Items Reference Number	
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	50			
	303-2	Management of water discharge-related impacts	4.1 Water Resource Management	50			
GRI 303: Water and Effluents 2018	303-3	Water withdrawal	4.1 Water Resource Management	50			
	303-4	Water discharge	4.1 Water Resource Management	50			
	303-5	Water consumption	4.1 Water Resource Management	50			
★ Emissions							
GRI 3: Material Topics 2021	3-3	Management of material topics	4.2 Energy Conservation and Carbon Emissions Reduction	51-54			
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	4.2 Energy Conservation and Carbon Emissions Reduction	51-54			
	305-2	Energy indirect (Scope 2) Greenhouse gas emissions	4.2 Energy Conservation and Carbon Emissions Reduction	51-54			
	305-3	Other indirect (Scope 3) Greenhouse gas emissions	4.2 Energy Conservation and Carbon Emissions Reduction	51-54			
	305-4	GHG emission intensity	4.2 Energy Conservation and Carbon Emissions Reduction	51-54			
	305-5	Reduction of GHG emissions	4.2 Energy Conservation and Carbon Emissions Reduction	51-54			
	305-6	Emissions of ozone-depleting substances (ODS)	-			Not applicable/ No emission of related substances from the Company	
	305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	-			Not applicable/ No emission of related substances from the Company	

Topic	Disclosure	Description	Chapter	Page Number	Reasons for Omission/ Necessary Explanations	GRI Industry Standards Disclosure Items Reference Number
Waste						
GRI 306: Waste 2020	306-2	Management of significant waste-related impacts	4.3 Waste Management	55-56		
	306-3	Waste generated	4.3 Waste Management	55-56		
	306-4	Waste diverted from disposal	4.3 Waste Management	55-56		
	306-5	Wasted directed to disposal	4.3 Waste Management	55-56		
★ Supplier Environmental Assessment						
GRI 3: Material Topics 2021	3-3	Management of material topics	4.4 Sustainable Supply Chain	57-59		
GRI: 308 Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	4.4 Sustainable Supply Chain	57-59		
	308-2	Negative environmental impacts in the supply chain and actions taken	4.4 Sustainable Supply Chain	57-59		
Social Aspect						
★ Employer-employee relations						
GRI 3: Material Topics 2021	3-3	Management of material topics	5.2.1 Salary and Benefits	71-73		
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	5.1.2 Employee Statistics	66-70		
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	5.2.1 Salary and Benefits	71-73		
	401-3	Parental leave	5.2.1 Salary and Benefits	71-73		
	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	71-73		

Topic	Disclosure	Description	Chapter	Page Number	Reasons for Omission/ Necessary Explanations	GRI Industry Standards Disclosure Items Reference Number
Labor/Management Relations						
GRI 402: Labor/ Management Relations 2016	402-1	Minimum notice periods regarding operational changes	5.2.3 Labor-Management Communication	75		
★ Occupational Safety and Health						
GRI 3: Material Topics 2021	3-3	Management of material topics	5.3 Occupational Safety and Health	76-83		
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	76		
	403-2	Hazard identification, risk assessment, and incident investigation	5.3.2 Hazard Identification, Risk Assessment, and Incident Investigation	76-78		
	403-3	Occupational health services	5.3.4 Employee Health Management and Promotion	79-82		
	403-4	Worker participation, consultation, and communication on occupational health and safety	5.3.5 Improvement of Working Environment and Operational Method	83		
	403-5	Workers training on occupational health and safety	5.3.3 Occupational Safety and Health Committee Education and Training	79		
	403-6	Promotion of worker health	5.3.4 Employee Health Management and Promotion	79-82		
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	5.3.3 Occupational Safety and Health Committee Education and Training	79		
GRI 403: Occupational Health and Safety	403-8	Workers covered by an occupational health and safety management system	5.3 Occupational Safety and Health	76-83		
	403-9	Work-related injuries	5.3.2 Hazard identification, risk assessment, and incident investigation	76-78		
	403-10	Work-related ill health	-		Not applicable/ No work-related ill health incidents occurred in the Company	

Topic	Disclosure	Description	Chapter	Page Number	Reasons for Omission/ Necessary Explanations	GRI Industry Standards Disclosure Items Reference Number
Training and Education						
GRI 404: Training and Education	404-1	Average hours of training per year per employee	5.2.2 Talent Development	74-75		
	404-3	Percentage of employees receiving regular performance and career development reviews	5.2.2 Talent Development	74-75		
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	27-28 66-70		
	405-2	Ratio of basic salary and remuneration of women to men	5.2.1 Salary and Benefits	71-73		
★ Supplier Social Assessment						
GRI 3: Material Topics 2021	3-3	Management of material topics	4.4 Sustainable Supply Chain	57-59		
GRI: 414 Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	4.4 Sustainable Supply Chain	57-59		
	414-2	Negative social impacts in the supply chain and actions taken	4.4 Sustainable Supply Chain	57-59		
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	47-48		

Independent Third Party Assurance Statement

格瑞國際驗證有限公司
GREAT International Certification Co., Ltd.

Independent Assurance Statement Based on 2022 Sustainability Report of Taiwan Union Technology Corporation

Statement No.: 2306009

Taiwan Union Technology Corporation (hereinafter referred to as Taiwan Union Technology) and Great Certification International Co., Ltd. (hereinafter referred to as Great Certification) are independent companies and organizations. Except for the evaluation and verification of the company's 2022 sustainability report, Great Certification has no financial relationship with Taiwan Union Technology.

The purpose of this independent guarantee 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 Taiwan Union Technology's Sustainability Report, and not for other purposes. Except for the independent guarantee statement for fact verification, Great Certification does not bear or assume any relevant legal or other responsibilities for the use of other purposes, or anyone who reads this independent guarantee statement.

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

The Scope of Assurance

The verification scope of Taiwan Union Technology and Great verification agreement includes:

- The contents of the entire report and all operating performance of Taiwan Union Technology from January 1, 2022 to December 31, 2022;
- According to the first application type of AA1000 Assurance Standard v3, evaluate the nature and degree of Taiwan Union Technology's compliance with the AA1000 Principle of Principle Standard (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 Taiwan Union Technology's sustainability report, and provide a fair standpoint of Taiwan Union Technology's related operations and performance. We believe that the specific performance indicators of Taiwan Union Technology in 2022, such as economy, society, environment and corporate governance, are presented correctly. The performance indicators disclosed in the report demonstrate Taiwan Union Technology's expectations and efforts to identify and satisfy stakeholders.

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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 Taiwan Union Technology 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 core options of 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 Taiwan Union Technology's corporate policies to confirm the appropriateness of the statement in this report;
- To Discuss with the management of Taiwan Union Technology about the way of stakeholder participation, and have no direct contact with external stakeholders;
- To interviews with employees related to the preparation of the sustainability report and information provision;
- To audit the performance data of Taiwan Union Technology on a sampling basis;
- To evidence supporting the claims made in the review report;
- To Review the process management of the principles of inclusivity, materiality, responsiveness and impact described in the company report and its related AA1000 Principles of Discipline (2018).

Conclusion

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

- **Inclusivity**
Taiwan Union Technology has established a process of cooperation with major stakeholders, including shareholders/investors, customers, employees, suppliers, local community and government agencies, etc., and will launch a series of stakeholder activities in 2022, involving economic, social and the environment and a series of major themes. In our professional opinion, this report covers the inclusion issues of Taiwan Union Technology.
- **Materiality**
The report has stated that Taiwan Union Technology focuses on economic, social and environmental topics, and identified 7 major topics including Energy-saving and carbon reduction, ethical integrity, sustainable supply chain, information security/trade secret protection, salary and benefits, occupational safety and customer service etc. In our professional opinion, this report appropriately covers the materiality issues of Taiwan Union Technology.
- **Responsiveness**
Taiwan Union Technology responds to requests and opinions from interested parties. Implementation methods include numerous internal and external stakeholder communication mechanisms, as an opportunity to provide further responses to stakeholders, and to promptly respond to stakeholder concerns. In our professional point of view, this report covers the responsive issues of Taiwan Union Technology.
- **Impact**
Taiwan Union Technology has identified and fairly demonstrated its impact with balanced and effective measurement and disclosure. Taiwan Union Technology has established a process for monitoring, measuring, evaluating and managing

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impacts, which helps to achieve more effective decision-making and results management within the organization. As far as our professional standpoint is concerned, this report covers the impact issues of Taiwan Union Technology.

-GRI Guidelines

Taiwan Union Technology 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 our professional consideration, this self-declaration covers Taiwan Union Technology's social responsibility and sustainability themes.

Assurance level

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

Responsibility

The statement of opinion in this Statement of Independent Warranty is for the use of Taiwan Union Technology. Our responsibility is solely to provide professional advice and provide interested parties with an independent statement of assurance based on the scope and methods described.

Ability and Independence

Great Certification 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 AA1000AS v3, ISO 9001, ISO 14001 and ISO 45001, and are qualified as lead auditors.

On behalf of the assurance team
JUNE 17th, 2023
GREAT International Certification Co., Ltd.
Taiwan, Republic of China

Signed by General Manager
W. J. Chen

AA1000
Licensed Report
000-250/V3-50AR7

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Climate-related Financial Disclosures

Table 2 of Rules Governing the Preparation and Filing of Sustainability Reports by TPEX Listed Companies

Climate-related Information for Listed OTC Companies

1 Risks and opportunities caused by climate change to the Company and the related measures taken by the Company

Item	Execution Status
Describe the Board's and management's oversight and governance of climate related risks and opportunities.	TUC's management approach to climate change risk is described in Chapter 4.5 Climate Change Related Financial Disclosures in the ESG report.
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 renewable energy certificates (RECs) should be stated.	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.
Greenhouse gas inventory and assurance situation (fill in 1-1 separately).	

1-1 Greenhouse gas inventory and assurance situation

Instructions for filling out the form:

- ▶ The Company can conduct greenhouse gas inventory according to the following standards:
 - Greenhouse Gas (GHG) Protocol.
 - 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 the 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, but at least the data calculated by turnover (NT\$ thousands) should be disclosed.
- ▶ The proportion of total emissions from operating sites or subsidiaries that are not included in the inventory calculation shall not be more than 5%.
- ▶ The assurance statement should summarize the contents of the assurance report of the assurance institution and upload the assurance opinion letter.

Basic Company Information	According to the Sustainable Development Roadmap, at least the following should be disclosed
<input type="checkbox"/> Companies with capitalization of over NT\$10 billion, steel industry, cement industry	<input type="checkbox"/> Individual inventory of the parent company <input type="checkbox"/> Subsidiary inventory of the consolidated financial report
<input type="checkbox"/> Companies with capitalization over NT\$5 billion and less than NT\$10 billion	<input type="checkbox"/> Individual assurance of the parent company <input type="checkbox"/> Subsidiary assurance of the consolidated financial report
<input type="checkbox"/> Companies with less than NT\$5 billion in capital	

Scope 1 (2022)	Total Emissions (Metric tons CO ₂ e)	Intensity (Metric tons CO ₂ e/NT\$ thousand)	Assurance Institution	Description of current situation regarding assurance
Parent Company TUC	23,198.50	0.00284		
Subsidiary (China) TUCC	7,186.80	0.00123		
Subsidiary (China) TUCZ	7,589.40	0.00127		
Total	37,974.70	0.0019		
Scope 2 (2022)	Total Emissions (Metric tons CO ₂ e)	Intensity (Metric tons CO ₂ e/NT\$ thousand)	Assurance Institution	Description of current situation regarding assurance
Parent Company TUC	28,506.50	0.00349		
Subsidiary (China) TUCC	12,586.30	0.00216		
Subsidiary (China) TUCZ	12,375.70	0.00207		
Total	53,468.50	0.00268		
Scope 3 (Voluntary disclosure)				

【Description of Amendment】

- I. This table is newly added.
- II. In order to strengthen the disclosure of information on issues related to climate change, OTC companies are required to disclose information related to climate change.

Sustainability Accounting Standards Board

SASB Industry Classification as Technology & Communications/Hardware

Topic	Indicator Code	Disclosure	Nature	Corresponding Chapters	Responses
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 Chapter 3.4 Information Security of the ESG Report
Employee Diversity and Inclusion	TC-HW-330a.1	(1) Management (2) Technical personnel (3) Percentage of gender and race of other employees	Quantify	Employer-employee Relations	Please refer to Chapter 5.1.2 Employee Statistics of the ESG Report
Product Life Cycle	TC-HW-410a.1	Percentage of annual revenue of products complying with IEC 62474 reportable controlled substances	Quantify	Product Quality	Not Applicable
	TC-HW-410a.2	Percentage of annual revenue from products meeting the EPEAT label or equivalent requirements	Quantify	Product Quality	Not Applicable
	TC-HW-410a.3	Percentage of annual revenue from products meeting the Energy Star or equivalent requirements	Quantify	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 (%)	Quantify		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	Quantify	Supply Chain Management	Please refer to Chapter 4.4 Sustainability Supply Chain in the ESG 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	Quantify	Supply Chain Management	Please refer to Chapter 4.4 Sustainability Supply Chain in the ESG 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 Indicator

Number of units produced by product category	TC-HW-000.A	◆ Copper Clad Laminate: 4,999,000 sheets	◆ Prepreg: 11,413,000 meters	◆ Mass Lamination Service: 3,774,000 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		

Sustainability Disclosure Indicators for the Electronic Components Industry

(Table 1-12 of 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	Quantify	Please refer to Chapter 4.2 Energy Conservation and Carbon Emissions Reduction of the ESG Report for the 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	Quantify	Please refer to Chapter 4.1 Water Resource Management of the ESG Report.	Thousand cubic meter (m ³)	
III	Weight of hazardous waste generated and percentage of recovery	Quantify	Please refer to Chapter 4.3 on Waste Management of the ESG Report.	Metric tons (t), percentage (%)	
IV	Explain the type, number, and rate of occupational accidents	Quantify	Please refer to Chapter 5.3.2 on Hazard identification, Risk assessment, and Incident Investigation of the ESG Report.	Ratio (%), 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)	Quantify	TUC's products are not terminal products and therefore not applicable.	Metric tons (t), percentage (%)	
VI	Describe the risk management for the use of critical materials	Qualitative Description	There are no critical materials in the raw material procurement of TUC, therefore it is not applicable.	Not Applicable	
VII	Total pecuniary loss resulting from legal proceedings related to the anti-trust conduct ordinance	Quantify	TUC had no related incidents in 2022.	Currency	
VIII	Production of major products by category	Quantify	Copper Clad Laminate: 4,999,000 sheets Prepreg: 11,413,000 meters Mass Lamination Service: 3,774,000 sq. ft.	Varies by product types	

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



tuc

Taiwan Union Technology Corporation(TUC)