

Corporate Sustainability-ESG Achievements

In alignment with the short-, medium-, and long-term ESG blueprint, the Board of Directors delegated the senior management to organize a CSR task force in May 2021 (Production Plant, Quality Assurance Department, Technology Department, Finance Department, Business Department, Administrative Management Department, and Labor Safety Office) to be responsible for promoting and implementing a sustainable development plan, and we renamed the CSR task force the ESG task force in March 2022 in alignment with the amendment to the law. It is responsible for integrating strategic policies and implementation results related to the environment, occupational safety, employee care, social care, corporate governance, and stakeholder communication generated by cross departmental operations of the company. Report to the board of directors at least once a year.

Convened by the Vice President of Technology and guided by the Chairman, a total of 5 meetings were held in 2022. The proposals included (1) Continuously identifying sustainability related issues and developing action plans to address them, such as a Task Force on Climate-related Financial Disclosures (TCFD); (2) Objectives and policy revisions of sustainability related issues, such as greenhouse gas inventory and verification, carbon neutrality paths and energy; (3) Supervise the implementation of sustainable business matters and evaluate the implementation status.

On July 1, 2022, the Board of Directors of the Company approved the greenhouse gas inventory and verification schedule, and the implementation will be reported to the Board of Directors every quarter. The implementation of the Company's ESG sustainable development will be reported to the Board of Directors at least once a year, with the most recent report being filed on October 26, 2022. The task forces will modify their plans according to the Board of Directors' recommendations.

▲ ESG short-term 1-2 year sustainable development plan and goals

E environment	<ol style="list-style-type: none">1. Energy-saving processes and facilities have achieved a 3% reduction in energy and greenhouse gas emission intensity.2. Set up smart meters to carry out smart energy-saving planning for equipment. Short-chain/continuous design of the process to achieve carbon reduction goals through low-carbon manufacturing3. Set up a recycling water system to reduce tap water consumption by 5%.4. For transportation fuel saving, we arrange the shipping in batches through the sales management plan to reduce the number of vehicles dispatched, thus reducing 3 vehicles dispatched every week.
S social objectives	<ol style="list-style-type: none">1. Village and Good Neighbor cares for the disadvantaged and donates more than 20 safety boxes to the village every year.2. Provide employment opportunities in nearby villages, with more than 2 people per year.3. To improve employee occupational safety and health, we have established a high/over-load human factors engineering promotion plan.
G governance objectives	<ol style="list-style-type: none">1. Establish a risk management committee.2. Develop an intellectual property patent management plan. Supply chain management (suppliers, contractors) - ban on conflict minerals

	<ol style="list-style-type: none"> 3.Prepare the CSR report. 4.Select suppliers and contractors who share the common goal of corporate social responsibility and fully sign the "Corporate Social Responsibility Declaration" for cooperation. 5.Improve the corporate governance on a rolling basis and maintain the second level of corporate governance evaluation carried out by OTC.
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▲ ESG short-term 3-5 year sustainable development plan and goals

E environment	<ol style="list-style-type: none"> 1. Energy-saving processes and facilities have achieved a 6% reduction in energy and greenhouse gas emission intensity. 2. Work with specific customers and raw material suppliers to build a circular economy resource recycling model for precious metals (Au) and high-purity metals (Al, Cu). 3. Cooperate with the "Sewage Treatment Plant Reclaimed Water Promotion Plan", a certain proportion of process water uses recycled water. 4. Initiate ISO-14064 greenhouse gas inventory.
S social objectives	<ol style="list-style-type: none"> 1. Through organization initiation, we work with national organizations to organize social welfare activities, more than one event per year. 2. Work with neighboring companies to organize social participation activities and expand social participation. 3. Introduce the education and training management system and the job agent system, and establish a complete talent training system.
G governance objectives	<ol style="list-style-type: none"> 1. Prepare the ESG sustainability report and obtain third-party certification. 2. Prepare the English version of the annual report, shareholder meeting manual and interim/final financial report.

▲ ESG short-term 3-5 year sustainable development plan and goals

E environment	<ol style="list-style-type: none"> 1.Energy-saving processes and facilities have achieved a 10% reduction in energy and greenhouse gas emission intensity. 2.To generate and use green electricity, a solar power generation system with a total power of more than 300 kilowatts has been built. 3.Planning ISO-50001 energy management system. 4.The proportion of renewable energy (green energy) used reaches more than 10%. 5.In terms of transportation fuel management, 50% of diesel trucks under the fifth phase will be replaced, and more than 50% of official vehicles will be electric vehicles.
S social objectives	<ol style="list-style-type: none"> 1.Innovate and develop materials for advanced medical equipment, achieve high-end treatment equipment used in first-class large hospitals, and more than 1. 2.The promotion of career training for middle-aged and senior-aged people aims to create a silver-haired friendly workplace and create irreplaceable human value.
G governance objectives	<ol style="list-style-type: none"> 1.Links to the United Nations Sustainable Development Goals (SDGs), showing more than 7 of the 2030 sustainable development goals are linked. 2.Plan to join the Responsible Business Alliance (RBA). (TSMC supply chain indicators) 3.Independent directors account for more than half of the total number of directors.

▲ Implement achievements of ESG sustainable development in 2022

(1) The Company's ESG promotion achievements won the 2022 commendation and award from the Occupational Safety and Health Administration, Ministry of Labor for "Enterprise Sustainability Report Public Occupational Health and Safety Indicator Evaluation - Top-performing Enterprise" .

(2) The objectives and implement achievements of ESG's short-term and medium-term sustainable development plan this year are briefly summarized in the following table:

E environment	Objective	Implementation results Data boundary: Information on the parent company's Taiwan plant area
Energy intensity	Decrease by 6%	Decreased by 5.67%
GHG emissions intensity	Decrease by 6%	Decrease by 10.6%
Achieving carbon reduction through low-carbon manufacturing (reducing electricity consumption)	Decrease by 2%	Decrease by 375,500 kWh, i.e., Decrease by 9.54% in the same period
Recycle the water system and reduce the usage amount of tap water	Decrease by 5%	Decrease by 14%
Waste management	Set the goal of waste density not higher than that of the previous year.	In 2022, the output of wastes was 139.4 tons, and the reduction rate of wastes per unit product decreased by 11.65%
Planned shipment in bulk to reduce vehicle dispatching and fuel for transportation	Vehicle number: 3	decrease of 3 trips per week/29% decrease in gasoline/26% decrease in diesel
Business model of resource recycling in circular economy	1 pcs	5NCu refining technology has been completed and mass production equipment is under construction
Conduct ISO-14064 greenhouse gas inventory	(1) In September, the 2021 greenhouse gas inventory results were logged into the National Greenhouse Gas Login Platform, and the simple carbon neutrality management platform was built on the Company's website. (2) In November, TTMC completed its 2050 carbon neutrality path planning.	
Environmental and ecological protection	In the 2022 Arbor Day activity, under the leadership of the Chairman and the President, hundreds of plants including podocarpus, macrophyllus, and hibiscus were planted. Totally about 200 trees and 1500 shrubs planted.	The total green area reaches 1440 square meters, and the greening rate of the plant area is about 4.8%, which can reduce approximately 2160 kilograms of carbon dioxide annually.

S social objectives	Implementation results
Caring for the underprivileged and our neighbors, while making donations to help the nearby village children every year.	In 2022, approximately 30 households received some form of charity, and in the past eight years, a total of 240 marginalized families have received donations, in order to continuously improve society.
Provide more than 2 job opportunities per year for people in neighboring villages	In 2022, priority was given to providing job vacancies to nearby villages, creating 3 employment opportunities for the children of nearby townships.

S social objectives	Implementation results
Industry-university cooperation	In May, 2022, TTMC- Department of Resources Engineering, National Cheng Kung University cooperation program was launched. A briefing on industry-university cooperation program was presented to 50 students interested, and the summer internship opportunity was provided by the Company. A total of three students submitted their resumes, and one was admitted to the Technology Department after an interview.
Social welfare activities	<ol style="list-style-type: none"> 1. The activity of rescuing the surplus pomelos. 2. Purchase gifts produced by sheltered factories. 3. Provide employment and training opportunities for persons with physical and mental disabilities in the area every year, targeting 18 persons. By 2022, we aim to assist 18 persons and provide a self-sufficient work platform for friends with physical and mental disabilities. 4. In April 2022, the Company's ESG Friendly Train actively launched the "Hsitzuwan Beach Cleaning Activity", advocating for the responsibility of citizens on Earth. 5. Participated in the 2022 Baseball Competition for the Blind and served as a volunteer for two games, including as a base umpire, recorder, and base controller. Assisted blind baseball players in smooth listening and sound localization, as well as ensuring the safety of striking and base running.
Develop materials for advanced medical equipment	In order to localize and domesticate the materials used for building medical equipment, the Company completed the development of domestic medical equipment materials and completed the shipment of two sets of finished products in 2022.
Human resource development (this item only reveals the same year as the Market Observation Post System in 2021)	<ol style="list-style-type: none"> 1. The average employee benefit package is NT\$ 948 thousand/person in 2021 2. The average employee salary is NT\$ 783 thousand/person in 2021 3. The average salary of full-time employees who are not supervisors is NT\$ 732 thousand/person in 2021 4. The median salary of full-time employees who are not supervisors is NT\$ 700 thousand/person in 2021 5. Female supervisors in management positions account for 26.09% 6. Number of occupational disasters: 0 people; Ratio of occupational disaster population: 0%

G governance objectives	Implementation results
Rolling-type sound corporate governance and maintaining a second level gap in corporate governance evaluation	In 2022, the 2021 evaluation was announced, ranking among all TPEX Listed Companies in the second level gap (6% -20%) for three consecutive years. The total score is higher than the Company's score in 2020 and the average score of all TPEX Listed Companies in the second level gap.
Establish a third Functional Committee	In 2022, the Risk Management Committee made scanning and reporting to the Board of Directors the risks of major investment, asset security, supervision of subsidiaries, product sales, supply chain and finance.
Volunteer to prepare a "Sustainability Report" and receive awards	Continuously prepare the 2021 "Sustainability Report" to disclose ESG related information, and disclose the risks and opportunities of climate change in accordance with TCFD guidelines. Won the 2022 commendation and award from the Occupational Safety and Health Administration, Ministry of Labor for "Enterprise Sustainability Report Public Occupational Health and Safety Indicator Evaluation - Top-performing Enterprise" .
The completion rate of information security awareness education and training is 100%	Information security publicity courses were conducted 12 times, and was completed by 117 people (100%), and there were no major information security incidents.
Formulate a smart property patent management plan	<ol style="list-style-type: none"> 1. There are 15 copies of "R&D Record Book Management Operation". 2. The total number of global patent applications approved has accumulated to 6. 3. 5 confidential documents listed in the Company's Technical Research and Development Department. 4. 16 trademarks (11 in Taiwan, 3 in China, and 2 in Japan).

Board of Directors	1. Seat number of directors (including independent directors): 7. 2. Seat number of independent directors: 3. 3. The seat number of female directors and the ratio of 28.57%. 4. The attendance rate of directors attending the Board of Directors is 97.62%. 5. The number of further education hours for the directors and supervisors was 100%. 6. Investor communication: The Company holds one annual legal conference.
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▲The concrete benefits of investing in energy-saving or green energy-related environmentally sustainable machinery and equipment and investing in domestic green energy' s peripheral industries in 2022 are as follows:

Investment equipment	Investment amount	Investment benefits
Improve the efficiency of the air compressor and replace three variable frequency air compressor units	NT\$ 1,105,000	Compared with the previous period (2021), the actual measurement of air compressor saved 101,477 kWh of electricity and reduced greenhouse gas emissions by 51,652kg-CO2e in 2022.
Precious metals (Au/Ag) and high-purity metals (Cu) construct circular economy resource recycling and reuse equipment	NT\$ 2,956,00	In 2022, through the construction of recovery equipment for precious metals (Au/Ag) and high-purity metals (Cu), the Company developed a new business model of the circular economy, which not only accelerated its entry into the semiconductor application field, but also brought benefits to the Company's recycling and carbon reduction.
Strategic Alliance invests in domestic Lianyou Metals Co., Ltd.	NT\$ 26,080,000	The Company invested in domestic Lianyou Metals Co., Ltd. (stock code 7610) by Strategic Alliance, and reduced tungsten alloy and cobalt to sodium tungstate (Na2WO4) and cobalt carbonate (CoCO3) by recycling, which is helpful to the "Environmental Sustainability", "Social Participation", "Corporate Governance" and "Enterprise Commitment" of ESG of the Company.