



02

Build Innovative Supply Chains

2.1 Product Quality

2.2 Technology R&D

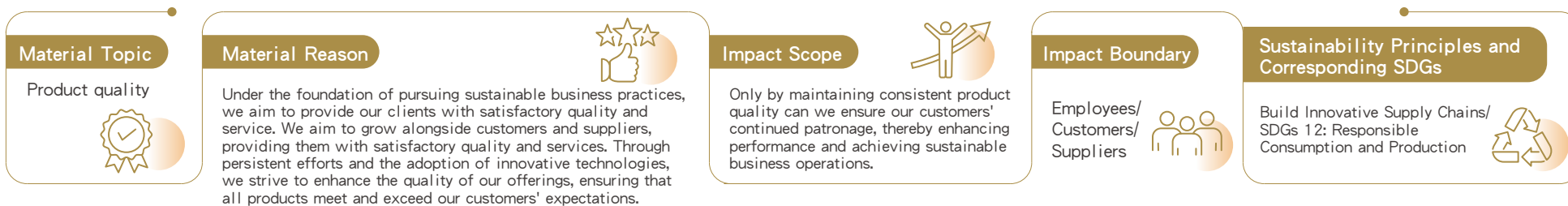
2.3 Supply Chain Management



Annual Material Topic	2024 Annual Goals	Performance Status
Product Quality	Improve oxidation and yellowing resistance during ABS production and storage	Achieved
	Optimize EPS formulations to enhance processing efficiency and storage stability	Achieved

Annual Material Topic	2024 Annual Goals	Performance Status
Technology R&D	ISO 14021 certification for recycled content	Achieved
	Establish a pilot plant for emulsion polymerization stirrer blades	Achieved

2.1 Product Quality GRI 3-3



Management Approaches

Policy Purpose	We collect information on market development and customer needs to develop environmentally friendly new products and niche products that satisfy the market and customer needs, enhancing our technological R&D capability and company profit.
Objective	<p>2024 Goals: 1. Improve the quality of general-grade ABS products (storage stability); 2. Enhance processing efficiency and storage stability of fast-grade EPS products.</p> <p>Mid-term goals in 2027: 1. Apply GPPS materials in high-value water-related applications and obtain third-party quality certifications; 2. Development of alternative EPS formulations using raw materials restricted under REACH regulations.</p> <p>Long-term goals in 2030: 1. For process optimization and product development, continue compliance with the goal of safety and environmental five zeros (zero pollution, zero emissions, zero occupational hazards, zero accidents, and zero failures).</p>
Management Plan	Deliver stable product quality that complies with international quality management standards and enhances customer satisfaction.
Evaluation of the Management	<p>1. Suppress oxidation and yellowing during ABS production and storage by incorporating external additive formulations;</p> <p>2. Optimize EPS formulations to enhance processing efficiency and storage stability.</p>
Assessment Mechanism	<p>1. Statistical analysis of ABS appearance and color quality for both domestic and international markets;</p> <p>2. Monitoring of EPS customer processing cycle times and preservation of export product quality.</p>
Assessment Result	<p>✓ 1. The base color of ABS was improved, resulting in stable color appearance from production to packaging with a color difference (YI) of ≤ 2.</p> <p>✓ 2. Optimization of the EPS formulation led to an increase of 45 in surface hardness, a 10% improvement in storage stability, and a 15% enhancement in molding efficiency.</p>
Grievance Mechanism	If customers are dissatisfied with product quality, the "Customer Complaint Handling Procedure" is followed to provide a formal channel for lodging complaints, ensuring the protection of customer rights.



2.1.1 Sales Regions for Major Products

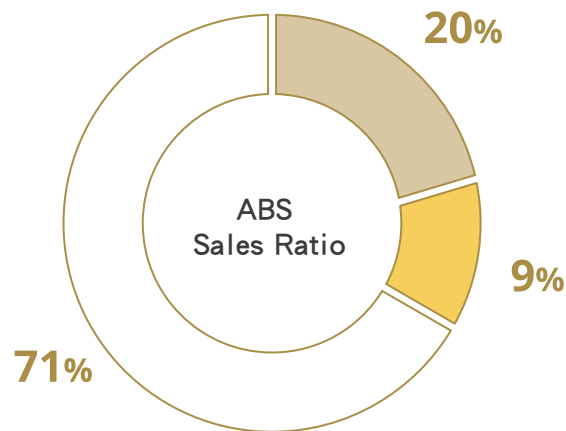
ABS/PS products manufactured at Linyuan and Qianzhen Plants

Amidst the rapid expansion of new capacities in 2024, China gradually transitioned from an import country to an export. In response to market changes, TTC swiftly shifted its target markets, achieving results as follows:

- ABS sales ratio in China and Hong Kong was reduced to 20%, with a major shift towards emerging markets in South Asia and Southeast Asia, and ongoing development in oceanic province.
- The GPS market continues to expand its reach into oceanic province, with the sales ratio in China and Hong Kong maintaining about 12%, while other sales regions are being further cultivated and developed.
- EPS sales remain steady as efforts continue to cultivate the Central and South American and Southeast Asian markets.

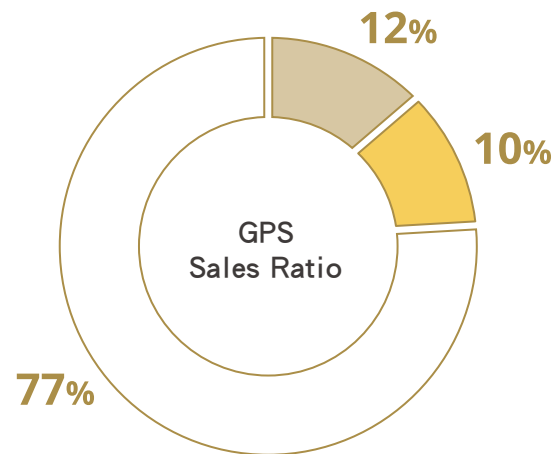


2024 Sales Distribution of Major Products by Region



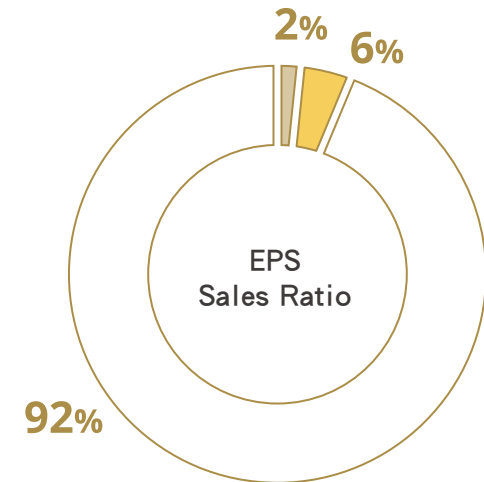
● Mainland China including Hong Kong
● Taiwan ● Others

Production volume of ABS products in 2024: 86,741 tons



● Mainland China including Hong Kong
● Taiwan ● Others

Production volume of GPS products in 2024: 59,751 tons



● Mainland China including Hong Kong
● Taiwan ● Others

Production volume of EPS products in 2024: 94,641 tons

EPS produced by the Zhongshan Plant

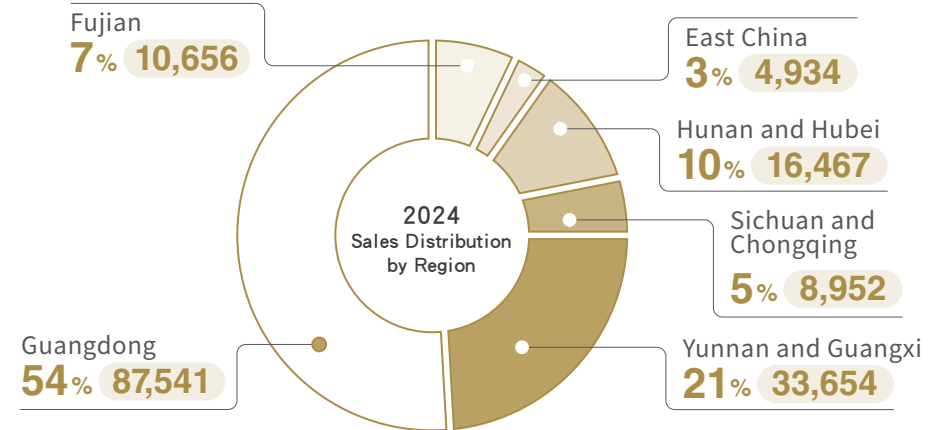
All sales from the Zhongshan Plant were directed towards China, targeting primary markets including electronic packaging, fruit and vegetable packaging, fish boxes, ceramics, pharmaceutical packaging, and exterior wall insulation boards. Given the plant's geographical location and to capitalize on shipping cost advantages, the primary sales markets are in the Guangdong and Yunnan provinces. To expand brand influence and coordinate with the Gulei plant establishment plan, sales in Fujian have been intensified, and there were minor sales in fringe markets.

In 2024, the domestic economy remained sluggish, with continued downturns in the real estate sector and related industries such as home appliances and furniture. However, market conditions showed signs of recovery in the second half of the year, driven by the implementation of government stimulus measures, such as the home appliance replacement subsidy program. Overall demand in 2024 declined by approximately 20%.

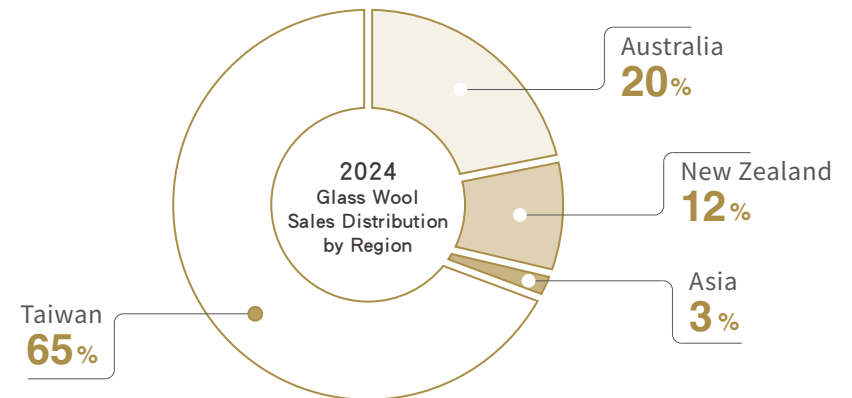
Efforts were channeled into stabilizing the existing customer base and actively exploring markets in Zhudong and Gulei pre-sales areas from the Zhongshan Plant. This strategy involves increasing the base of regular customers and stabilizing transaction volumes to mitigate the impact of shrinking demand. Meanwhile, remained product quality, with continuous improvements in particle size concentration, and enhanced service awareness to increasing competitiveness. Although overall demand declined in 2024, the Zhongshan Plant maintained stable sales volumes with core customers in South China while significantly expanding its direct customer base in regions such as Zhudong and Yunnan. Sales volume increased steadily from 126,898 metric tons in 2023 to 162,204 metric tons in 2024.

GW from the Toufen Plant

In 2024, domestic sales of GW products accounted for approximately 65%, while the remaining 35% were exported to New Zealand, Australia, the USA, and various Southeast Asian countries. The domestic market for glass wool grew by 6% in 2024, with imports accounting for approximately 7% of the overall market, predominantly from Kuwait. It's projected that the domestic market will contract by about 8% in 2025 compared to 2024. The Southeast Asian market has long been affected by price competition from mainland China. As a result, exports of glass wool have focused primarily on higher-priced markets such as New Zealand and Australia. However, due to a sluggish real estate market in these regions in 2024, combined with low-cost dumping from China and a sharp rise in ocean freight rates, the total export volume to New Zealand and Australia in 2024 remained flat compared to 2023. In response to the significant increase in domestic electricity prices and the resulting rise in production costs, the 2025 export strategy will focus on maintaining sales volume while improving profit margins. The projected sales ratio for 2025 is 63% domestic and 37% export.

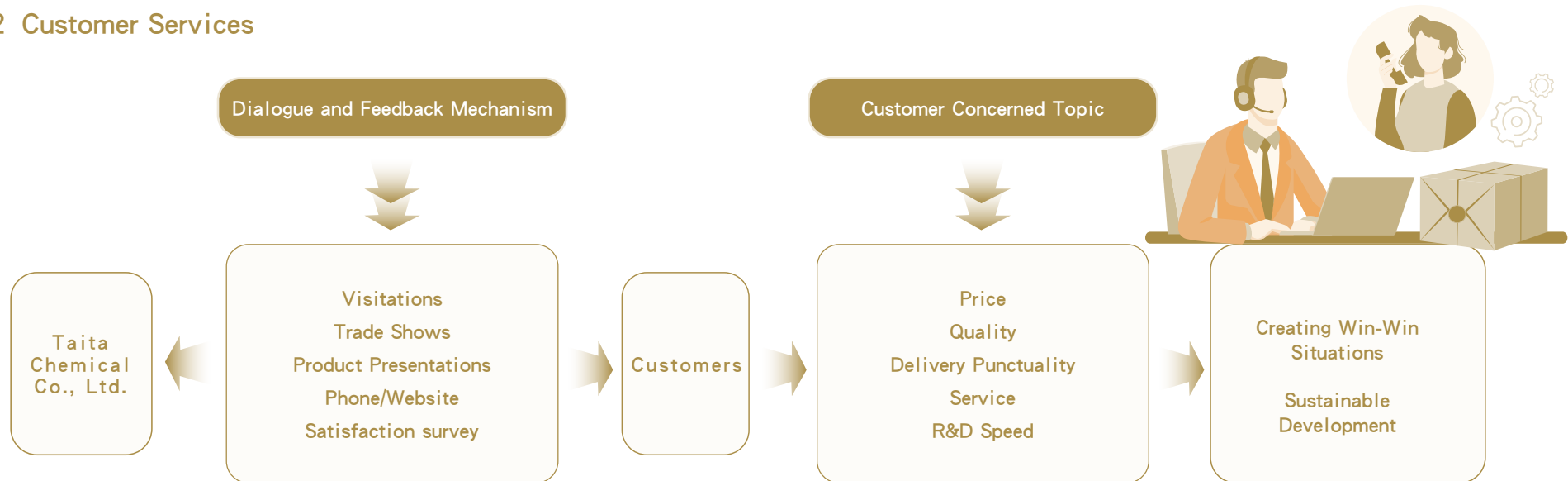


Production volume of EPS products in 2024: 162,204 tons



Production volume of GW products in 2024: 8,998 tons

2.1.2 Customer Services



(1) Products comply with local government regulations for customer sales

- For ABS/GPS/EPS/AS in accordance with EU regulations, we fully use materials that comply with the Restriction of Hazardous Substances (RoHS) Directive and the Registration, Evaluation, and Authorization of Chemicals (REACH).
- EPS, in line with EU and Japanese regulations, switched to using non-hexabromocyclododecane (non-HBCD) (321N) as a flame retardant for producing fire-resistant EPS.
- Curved printing and glass wool comply with RoHS, and formaldehyde-free products ensure indoor air quality.
- BS/PS/EPS products' PSM process safety management, hardware equipment rectification, and process design are in line with ISO 50001 energy management and ISO 14064-1 greenhouse gas inventory standards.
- ABS products obtained import permit from the Bureau of Indian Standards (BIS).
- Product ISO 14021 certification for TAIECOR products.

(2) Improving product performance and customer satisfaction

TTC, under the foundation of pursuing sustainable development, continuously strives to enhance product quality and performance. We have implemented the ISO 9001 quality management system and establish a quality policy as follows: QP (Continuous improvement of product quality) + QS (Enhanced service quality) = Q (Operational quality satisfying the customer). Monthly quality assurance meetings are held to discuss product line quality, maintain stable product quality, track process capability and stability. The objective is to provide superior and functional products, enhancing the customer's processing and production efficiency.

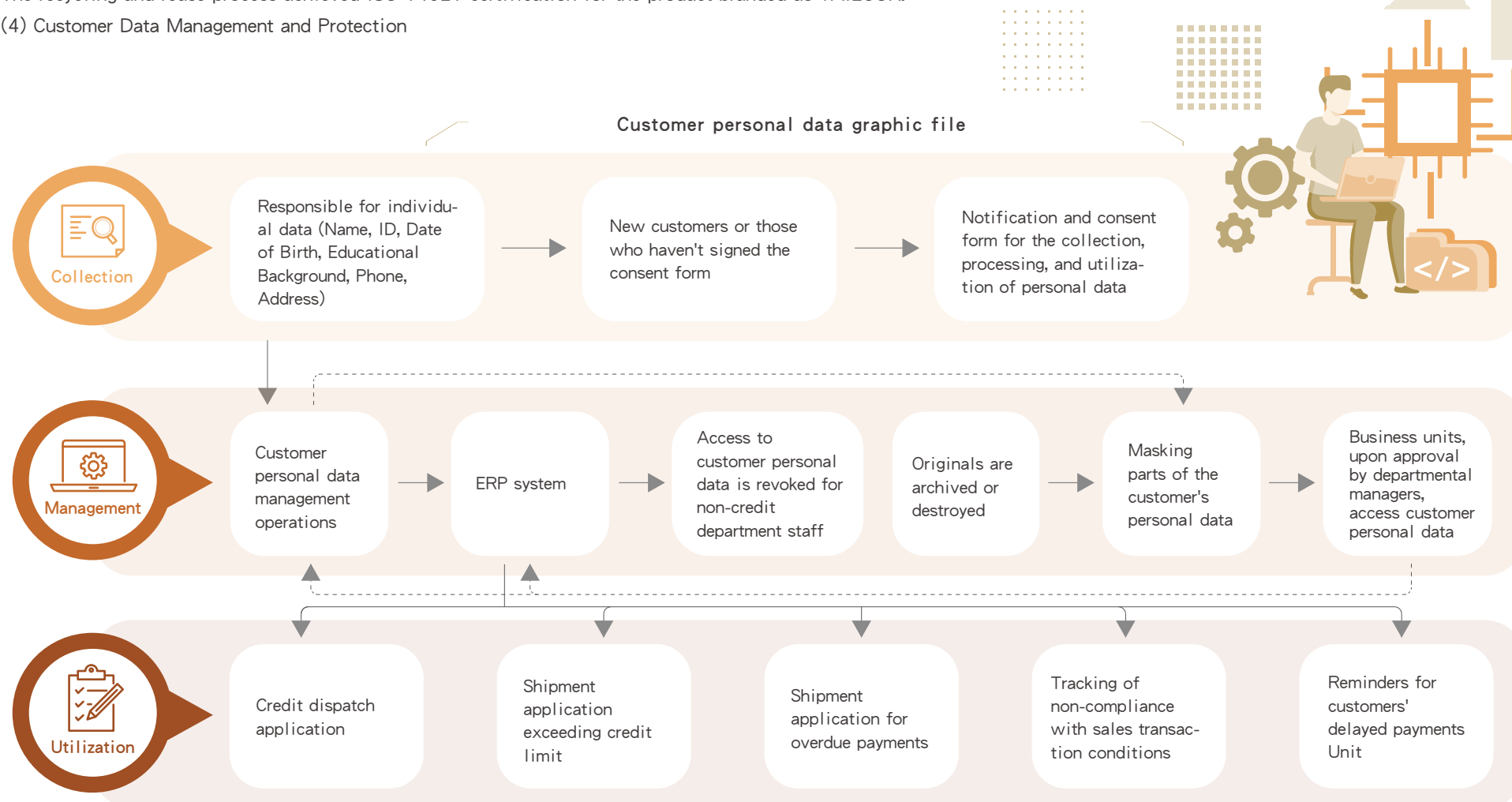
(3) Achievements in Enhancing Basic Product Performance and Quality Improvement in 2024, Targets Met

The base color of ABS was improved, resulting in stable color appearance from production to packaging with a color difference (YI) of ≤ 2 .

Optimization of the EPS formulation led to an increase of 45 in surface hardness, a 10% improvement in storage stability, and a 15% enhancement in molding efficiency.

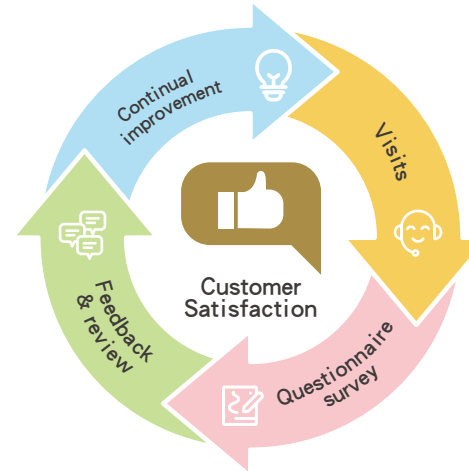
The recycling and reuse process achieved ISO 14021 certification for the product branded as TAIECOR.

(4) Customer Data Management and Protection



2.1.3 Customer Satisfaction

TTC values customer feedback, collecting opinions and suggestions on various products and services for internal operational improvement. Aligning with ISO 9001's commitment to customer quality and emphasizing customer satisfaction, an annual customer satisfaction survey is conducted, and corrective actions are taken for any customer dissatisfaction. These were reported in internal management meetings (e.g., production and sales meetings, business management meetings, management review meetings). Our goal is to provide excellent customer service, enhance product satisfaction, and gain trust from our customers.



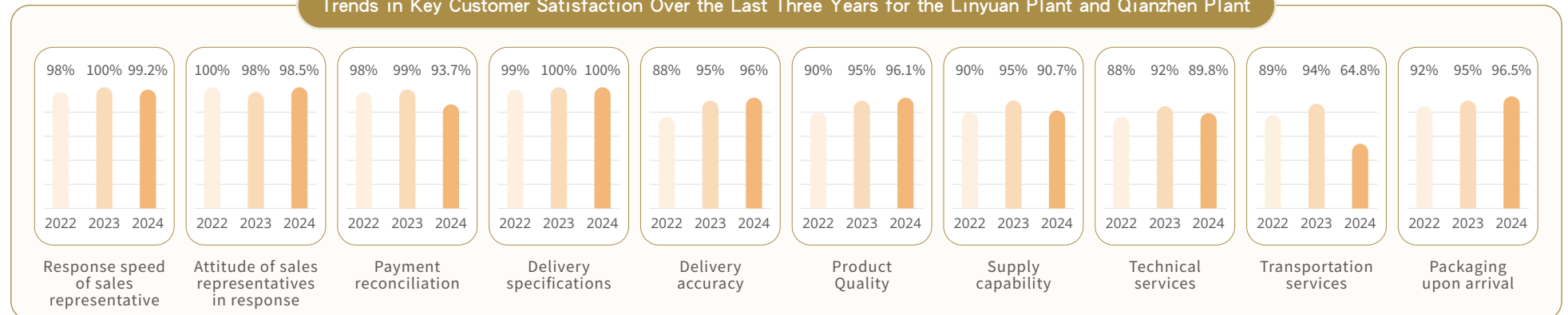
ABS/PS Production at Linyuan and Qianzhen Plants

The customer satisfaction survey for ABS and Polystyrene (known as PS) products covers six areas: service quality of sales representatives, product quality, supply capability, technical service, transportation service, and the quality of packaging upon arrival. Each category holds a weight of 16.67% in the evaluation.

The target audience for the customer satisfaction survey is determined by selecting clients who account for 70% of the total sales volume across both domestic and international sales divisions, which totals 162 companies.

In 2024, one customer satisfaction survey was conducted, with an average satisfaction rate of 96%. All evaluation indicators were rated as excellent; however, some customers expressed complaints regarding delivery delays caused by typhoon-related disruptions.

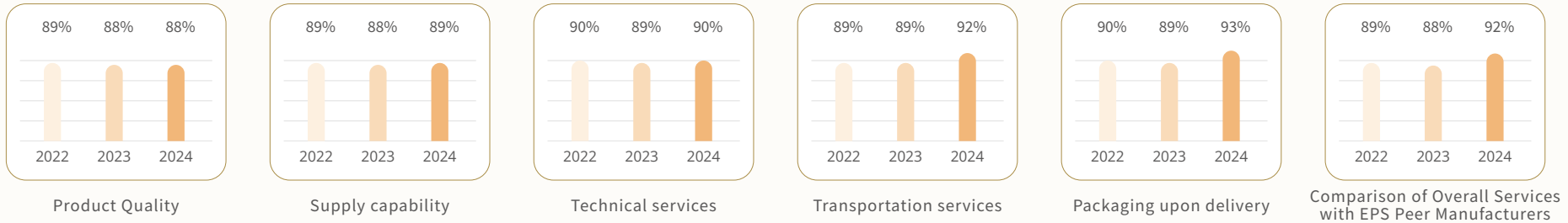
Trends in Key Customer Satisfaction Over the Last Three Years for the Linyuan Plant and Qianzhen Plant



EPS produced by the Zhongshan Plant

The EPS product customer satisfaction survey covers: Product quality (30%), supply capability (30%), technical services (20%), transportation services (10%), packaging upon arrival (5%), and comparison of overall services with EPS peer manufacturers (5%). The survey audience is selected from customers representing 85% of total sales (143 companies in total). In 2024, two customer satisfaction survey were conducted, with an average satisfaction rate of 92%. The set targets were achieved, with customer satisfaction regarding product quality remaining generally consistent. Occasional issues such as batch-to-batch variations and quality instability were noted. Technical services performed on par with the previous year, while improvements were observed in packaging and transportation services. Moving forward, efforts will focus on further enhancing particle size uniformity and stabilizing product quality to strengthen industry competitiveness, while continuously improving transportation services to elevate overall service quality.

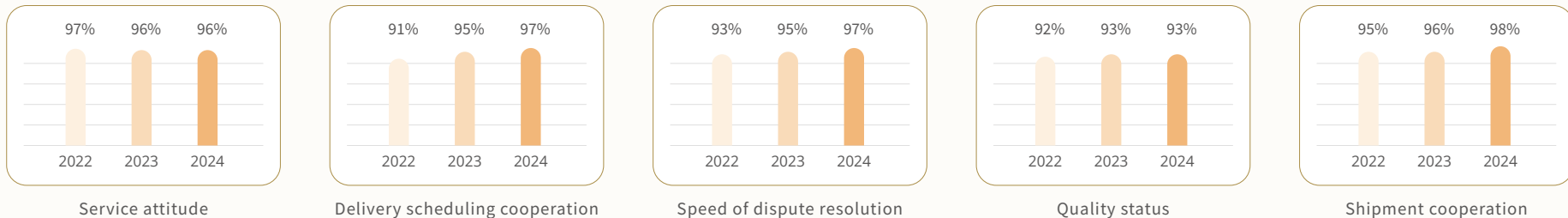
Zhongshan Plant Trends in Key Customer Satisfaction Over the Last Three Years



GW from the Toufen Plant

The customer satisfaction survey for glass wool covered the following aspects: service attitude, delivery scheduling coordination, speed of dispute resolution, quality status, and shipment cooperation. In 2024, one satisfaction survey was conducted, resulting in a satisfaction rate of 95%, successfully meeting the target of 90%. The survey focused on the top 70% of customers by domestic and export sales revenue from the previous year, totaling 31 customers in 2024. After compiling the feedback, a customer satisfaction survey report was prepared. By providing excellent customer service, we aim to enhance customer satisfaction and win their trust in our company.

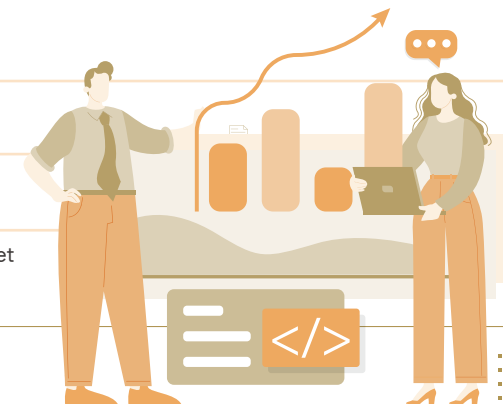
Customer satisfaction survey for Toufen Plant



2.2 Technology R&D GRI 3-3



Management Approach	
Policy Purpose	Collect market development and customer demand information to research and develop environmentally friendly and customer-oriented new products that meet market and customer needs, thereby enhancing R&D capabilities and company profitability
Objective	2024 Goals: 1. TAIECOR eco-friendly material ISO 14021 recycled content certification; 2. Establish a pilot plant for new model emulsion polymerization stirrer blades Mid-term goals in 2027: 1. Development and promotion of TAIECOR eco-friendly materials; 2. Control of particle size distribution in emulsion polymerization 3. Development of synthesis technology for large and small particle sizes in emulsion polymerization Long-term goals in 2030: 1. Development of high-value application materials aligned with ESG development trends 2. Development of butadiene emulsion polymerization formulations
Management Plan	Monitor product development progress according to the "Raw Material/Formulation Amendment and On-site Test Operation Standard." Report and review R&D progress in monthly development
Evaluation of the Management	1. Monthly development meeting reports and review of R&D progress. 2. New product development progress is included in key performance indicator evaluations. 3. Certification of recycling and reuse processes
Assessment Mechanism	1. ISO 14021 product certification for recycled content 2. Establish a pilot plant for emulsion polymerization stirrer blades
Assessment Result	1. The recycling and reuse process achieved ISO 14021 certification for the product branded as TAIECOR 2. establish a pilot plant for new model emulsion polymerization stirrer blades
Policy Adjustment	1. Gather comprehensive market information and leverage Group/industry-academia R&D resources to shorten market promotion timelines and enhance market competitiveness. 2. TAIECOR Product Traceability ISO 14021 Certification Information



2.2.1 Technology R&D

For the R&D team at TTC, continuous development of new and niche products, and leveraging the collective R&D resources of the Group, are essential to create high profitability and ensure sustainable operations.

Since its early market growth, TTC has been actively focusing on product functionality and features, undergoing a series of performance enhancements and new product developments to accelerate customer R&D progress. When customers face manufacturing issues or bottlenecks in process capability for their new products, the Company provides superior technical services to speed up the mass production timeline for the client, enhance their production yield, and ultimately ensure that the newly launched products are competitive in the market.

Over the years, TTC has dedicated itself to technical R&D and has effectively developed environmentally friendly and customer-centric new and niche products, meeting market and customer needs, enhancing technical R&D capabilities, and increasing revenue. Their achievements are notable. In addition to improving manufacturing processes across all factories, they focus on establishing proprietary key technologies and enhancing differentiated innovation. The R&D expenditures for TTC in 2022, 2023, and 2024 were NT\$15.31 million, NT\$15.83 million, and NT\$16.37 million, respectively.

2.2.2 Successfully Developed Technologies or Products

- (1) Improve oxidation and yellowing resistance during ABS production and storage
- (2) Product ISO 14021 recycled content certification for TAIECOR products.

2.2.3 Ongoing R&D Projects

- (1) Development and promotion of TAIECOR eco-friendly materials.
- (2) Control of particle size distribution in emulsion polymerization.
- (3) Development of synthesis technology for large and small particle sizes in emulsion polymerization.
- (4) Development of alternative formulations for EPS polymerization by substituting raw materials restricted under REACH regulations.
- (5) Process optimization and product development, compliance with the goal of safety and environmental five zeros (zero pollution, zero emissions, zero occupational hazards, zero accidents, and zero failures).

2.3 Supply Chain Management

2.3.1 Supply Chain Sustainable Development

With the goal of long-term sustainable management, TTC is committed to establishing good communication channels with long-term suppliers and prioritizing the safety of operations at manufacturing sites. As a result, they've fostered stable, mutually trusting, and sustainable supply chain relationships, all aimed at growing together with respect for human rights, a focus on workplace safety, and an emphasis on environmental conservation.

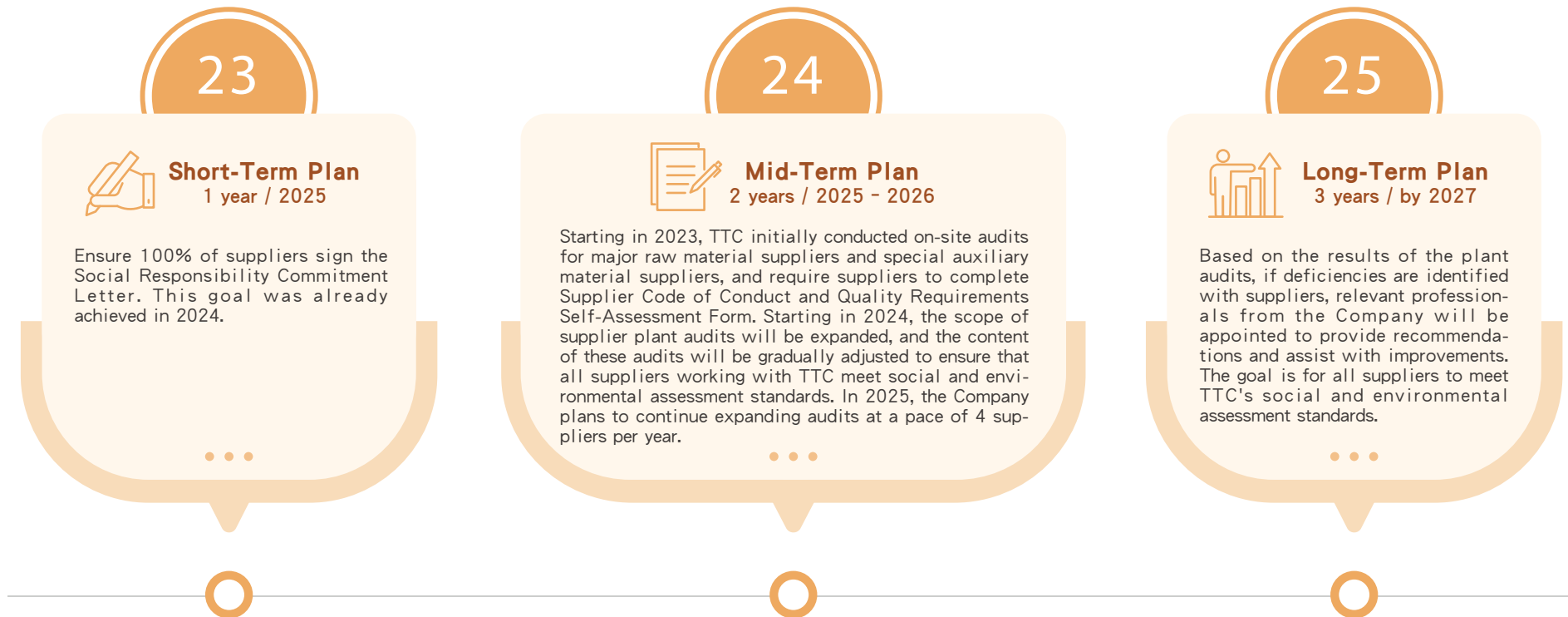
(1) Objectives and Strategies for Sustainable Supply Chain Development:



(2) Implementation and planning for sustainable development of supply chain:

TTC is committed to promoting sustainable operational development. Since 2018, they've introduced the "Supplier Social Responsibility Commitment Letter" for long-term raw material suppliers, requiring them to commit to human rights, workplace safety, hygiene, environmental protection, and conflict minerals.

Starting in 2023, TTC also implemented audit evaluation form for plant visits and began searches on Ministry of Environment, local environmental protection bureaus, and public information websites to check whether suppliers had violated local environmental laws. Based on the search results, these will be used for subsequent risk assessments, the related execution and future plans are as follows:



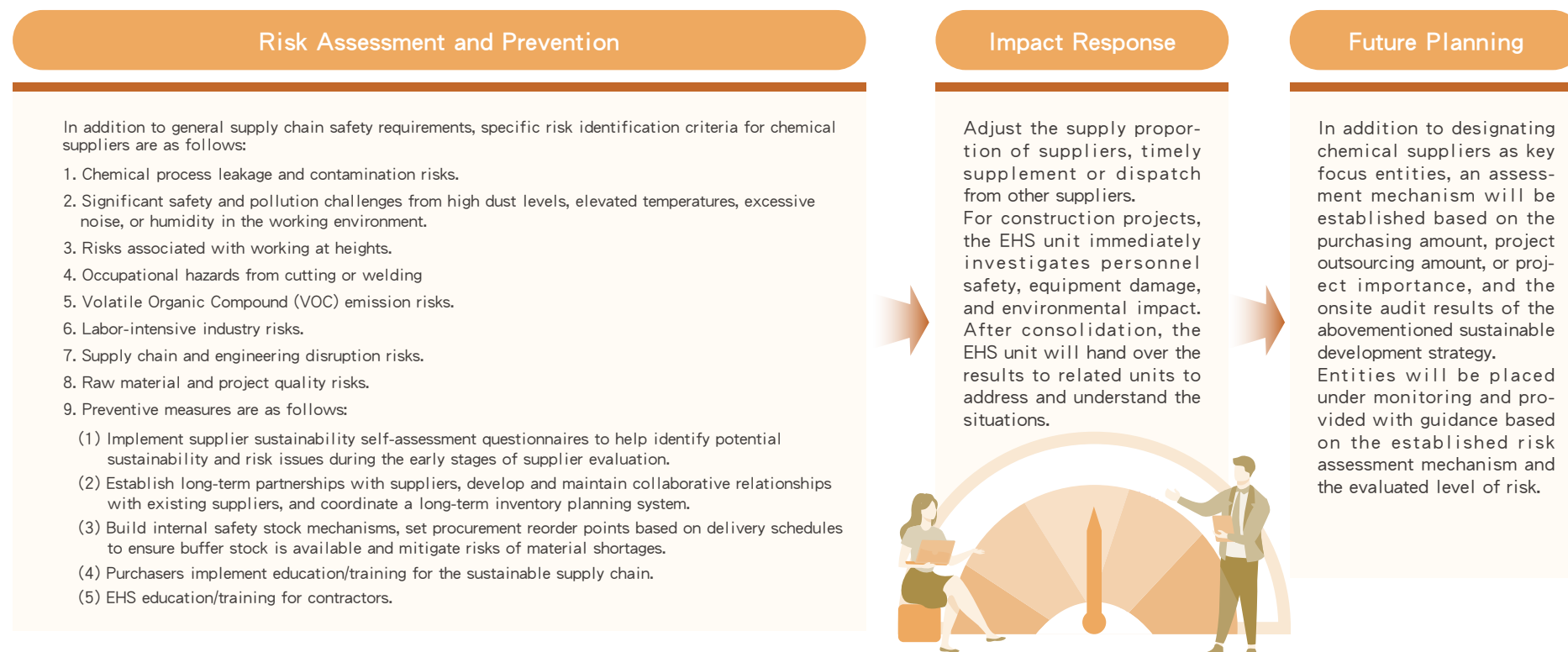
Note: The Supplier Code of Conduct and Quality Requirements Self-Assessment Form includes five major assessment items: labor and human rights, health and safety, environment and resources, ethics and integrity, and management and quality systems.

Labor and Human Rights	No forced labor; no child labor; provision of due wages and benefits; guarantee for working hours and breaks; elimination of workplace sexual harassment, bully, and discrimination; and no conflict minerals.
Health and Safety	Measures required for occupational safety, emergency response, occupational health, protection against machinery injuries, public health, food and accommodation, and health and safety information.

Environment	Operation permit; pollution prevention and resource conservation; hazardous substances; effluents; non-toxic solid waste; noise; exhaust emissions; product and service limitation; energy/resource consumption; and GHG emissions.
Ethics and Integrity	Ethical corporate management; respect for intellectual property rights; abidance by non-disclosure agreements; privacy protection; and avoidance of the conflict of interest.

(3) Supply Chain Risk Management

TTC has established a comprehensive electronic procurement process. Guided by the principles of fairness, impartiality, and transparency, the Company staunchly prevents any procurement malpractices or favoritism. In addition, the Company ensures smooth communication channels with its suppliers, aiming to reduce supply risks. As part of the sustainable supply chain risk assessment, prevention, and response measures, TTC collaborates with suppliers through the following action plans:



Risk Factors and Attributes	Suppliers (Chemicals)	Construction Contractors	
	Environment (E), Social (S), and Governance (G)		
Potential Risks	<ul style="list-style-type: none">Chemical process risk (E)High dust levels, elevated temperatures, excessive noise, or humidity in the working environment (E)VOC (Volatile Organic Compounds) emission risk (E)	<ul style="list-style-type: none">Labor-intensive industry risks (S)Supply chain disruption/delay risk (G)Quality risk (G)	<ul style="list-style-type: none">High dust levels, elevated temperatures, excessive noise, or humidity in the working environment (E)Risks associated with working at heights. (E, S)Labor-intensive risks (S)Occupational hazards from cutting or welding (S)Supply chain and construction disruption risks (G)onstruction quality risks (G)
Number of Audited and Visited Suppliers/ Contractors	4		The assessment is conducted together with the contractor's construction performance assessment
Audit Details	<ul style="list-style-type: none">Environmental (E): Compliance with regulations on the manufacture and storage of restricted substancesGovernance (G): Quality, production and order management, customer complaint and satisfaction tracking, employee training, and management of external processing.		
Number of Qualified Suppliers/Contractors	4 (100% pass rate)		

2.3.2 Supply Management Mechanism

To maintain sustainable business practices, TTC conducts regular supplier evaluations every year. We have established evaluation management mechanisms specifically for raw material suppliers and engineering contractors. This is designed to reduce and prevent potential risks. The management mechanism is divided into evaluations for raw material suppliers and engineering contractors.

(1) Evaluation and Management of Raw Materials Supplier Evaluation

TTC establishes long-term strategic partnership with raw materials suppliers and determine the safety stock based on materials preparation lead-time to ensure supply chain fluency. In order to motivate suppliers to continually optimize and ensure that our company receives high-quality raw materials and services in a timely, appropriate quantity and at a reasonable price, we regularly conduct evaluations in line with our production, operational, and environmental policies each year. Evaluations are based on criteria like quality, delivery time, environmental and workplace safety, packaging, quality certification, and service. These evaluations are uniformly conducted by the Group Procurement & Logistics Division of USIG. The detailed evaluation mechanism and process are outlined below:

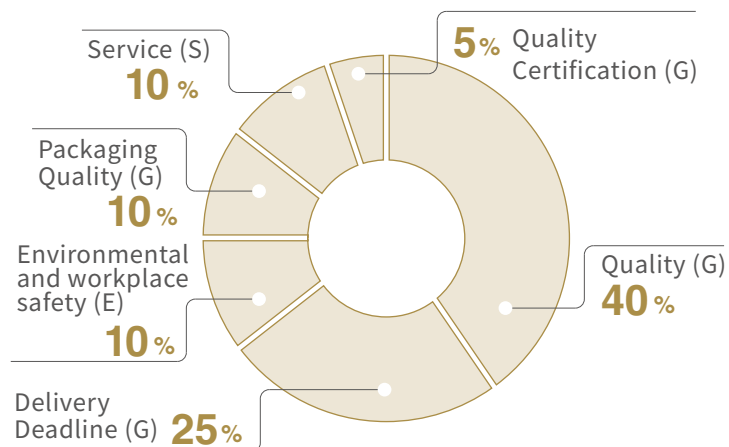
We select qualified suppliers of raw materials and OEM products based on one of or a combination of the following

- Suppliers with credibility or a good reputation at home and abroad.
- Registered certify suppliers with accreditation bodies, such as ISO certifications (ISO 9001, ISO 14001, and ISO 45001), or compliance with the European Union's Restriction of Hazardous Substances Directive (RoHS).
- Suppliers with a good quality or delivery record.
- Suppliers designated by technology suppliers.
- Exclusive suppliers of materials.

For new suppliers of raw materials/outourced products, provided samples undergo inspection and testing by the R&D department and other relevant units. After evaluation and trial, if the report meets requirements, it's confirmed in a product improvement meeting. The procurement unit will then add the supplier to the list of qualified suppliers. After approval by the respective plant manager and the President of TTC, this list is used as a reference for procurement.

Documentation: Information related to qualified raw material/outourced product suppliers is recorded in the Supplier Directory. A comprehensive record is maintained and reviewed periodically for updates.

Annual Supplier Evaluation Assessment Items



※ The primary reference points for assessing environmental and occupational safety are ISO 14001 and ISO 45001.

※ (E), (S), (G) represent respectively environmental, social, and governance aspects.

The qualifying threshold for the annual evaluation of raw material suppliers is set at 75 or above. Apart from the suppliers with scores above 85 for three consecutive years may be exempt from evaluation. In 2024, the qualification rate for raw material supplier evaluations at all plants exceeded 100%, with the evaluated suppliers representing 100% of the year's transactional suppliers.

Results of Raw Materials Supplier Evaluation 2022-2024

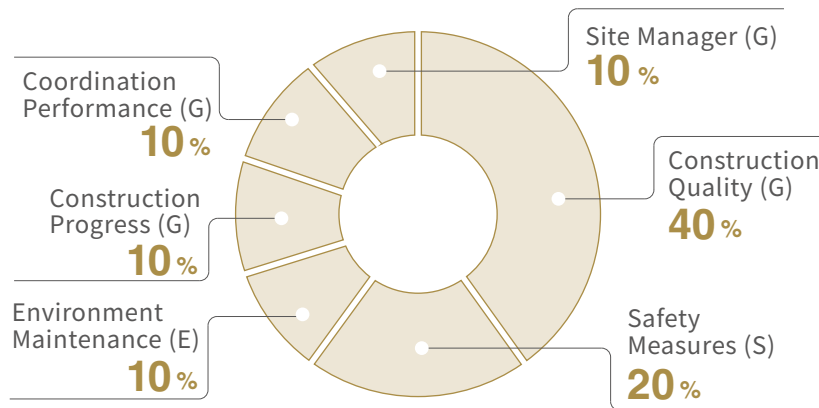
Year	2022	2023	2024
Number of Evaluations (Including Zhongshan Plant)	256	250	210
Pass Rate	100%	100%	100%

※ For supplier scores below 59 in the evaluation, the transactions with this supplier will be suspended or terminated as per regulations.

(2) Evaluation and Management of Engineering Contractors Evaluation

Subcontracting policy primarily focuses on local contractors. Register qualified contractors' information and classified after being evaluated based on their capability and quality. This classification serves as a recommendation and reference for soliciting project bids. During the construction process, the quality of the work relies on the supervision and management of plant onsite personnel. Management areas include environmental safety, occupational safety, human rights, and labor practices, with regular reports submitted to headquarters for updates.

Construction Assessment Evaluation Criteria



※ (E), (S), (G) represent respectively environmental, social, and governance aspects.



The passing threshold for the contractor's construction performance evaluation is a score of 50 or above. In 2024, TTC's qualification rate for construction evaluations in all plants reached 100%. The proportion of evaluated contractors accounted for 100% of the contractors transacted in 2024.

Construction Assessment Results from 2022 to 2024

Year	2022	2023	2024
Projects evaluated	63	60	27
Pass Rate	100%	100%	100%



2.3.3 Strategic procurement

Under the framework of sustainable business management, TTC is steadfast in promoting oversight in quality, capability, service, and environmental and occupational safety. The company places high importance on ensuring the safety and health of its employees with the ultimate goal of establishing a stable, trust-based, and enduring relationship within the supply chain. TTC collaborates with esteemed suppliers, aiming for mutual growth.

Support for local procurement

TTC has bases in Taiwan and Zhongshan, China, with Taiwan serving as the primary headquarters for overall operations. Upholding the spirit of uplifting local industries in Taiwan, the Company prioritizes purchasing from Taiwanese suppliers when product quality and procurement terms are comparable. By fostering strong cooperative relationships, TTC aims to bolster the stable development of Taiwan's economy. In 2024, the proportion of local procurement from the Taiwan plants was 72.77% of the total procurement amount (excluding bulk raw materials, including auxiliary materials, equipment, and subcontracting), while the Zhongshan Plant in China maintained a 100% local procurement rate.

The bulk raw materials, such as styrene, acrylonitrile, and butadiene required by TTC production, are under fixed contracts with local Taiwanese suppliers. According to market conditions, a portion is imported from abroad to maintain a steady supply. In 2024, the procurement of these bulk raw materials accounted for 100% of TTC's annual procurement total. There were 7 suppliers for these raw materials, all of which were Taiwanese.

Breakdown of 2024 Procurement for Key Raw Materials in Taiwan

Locations/Materials	Styrene	Acrylonitrile	Butadiene
Taiwan	50%	100%	100%
Foreign	50%	0%	0%
Source	2 Local Suppliers	2 Local Suppliers	3 Local Suppliers
		0 Foreign Suppliers	0 Foreign Suppliers

Breakdown of 2024 Procurement for Key Raw Materials in Zhongshan Plant

Locations/Materials	Styrene (Zhongshan)
China	100%
Non-China	0%
Source	8 Local Suppliers
	0 Foreign Suppliers

Growing Together with Suppliers

Currently, TTC's key raw material suppliers, including CPC Corporation, FCFC, Formosa Plastics, and CPDC, have all obtained ISO 14001 and ISO 45001 certifications. These certifications meet the Company's requirements for environmental management and occupational health and safety management, making them excellent partners for sustainable development. Regarding the investigation of potential negative impacts caused by suppliers, the Company adopts a proactive risk management approach. In addition to periodically reviewing environmental violation records of manufacturers published on government websites or online media and checking for any significant violations or news related to suppliers, since 2024, the Company has conducted supplier on-site audits at a frequency of four suppliers per year. These audits are combined with supplier self-assessment questionnaires on code of conduct and quality requirements to evaluate whether suppliers pose any negative or potential risks to the Company (such as penalties or shutdowns imposed by authorities). For suppliers with outstanding performance or those with violations or deficiencies that may cause potential negative impacts, the Company implements the following measures: For records of violations or deficiencies, the Company provides guidance for improvement; if suppliers maliciously refuse cooperation or fail to improve within a reasonable time, risk control measures such as lowering evaluation scores or selecting alternative suppliers will be adopted. For suppliers with no records of violations or deficiencies and demonstrating excellent performance: the Company organizes bilateral exchange meetings to share strengths and exchange feedback.