04 Chapter Product Innovation

In 2024, generative artificial intelligence (AI) technology experienced rapid growth and remained a major trend in the technology sector. With advancements in AI technology, consumer demand for high-performance computer hardware has also increased accordingly. CLEVO is dedicated to providing customers with an exceptional consumption and user experience. To this end, the company actively promotes product innovation related to AI technologies and integrates the concept of sustainable development throughout the entire product development process. From product design and manufacturing to end-user application, CLEVO upholds this principle with the aim of delivering more environmentally friendly products to consumers.

Across every stage of notebook development, including design, R&D, manufacturing, sales, and after-sales service, CLEVO has built a comprehensive and well-integrated service system. The Company offers six distinct categories of notebooks to meet the increasingly diverse needs of consumers: Mainstream, Business, Gaming, Creator, Energy-Saving, Long-Lasting, and Environmentally Friendly, and the newly launched AI-powered notebooks.

With a strong focus on user experience, CLEVO demonstrates innovation, flexibility, and environmental friendliness in its product offerings. These achievements reflect CLEVO's long-term commitment to sustainability and its ongoing pursuit of excellence.

Performance Highlights

In 2024, the performance of AI-powered notebooks was continuously enhanced, delivering an exceptional user experience to customers.

In 2024, CLEVO invested NT$737 million in innovation and R&D, representing a 4.74 percent increase in annual R&D spending compared to the previous year.

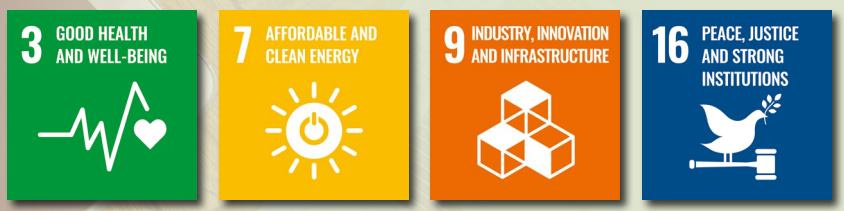
CLEVO has obtained a total of 44 patents across five countries worldwide.

In 2024, due diligence on conflict minerals was conducted across all suppliers, with 100 percent of sourced raw materials confirmed to be free from conflict-related origins.

In 2024, there were no violations of restricted or prohibited substance regulations, and no incidents of non-compliance with health and safety regulations related to products and services.

According to the 2024 customer satisfaction survey, quality-related scores improved by approximately 10 percent compared to the previous year and have shown consistent growth for three consecutive years.

Association with SDGs



Note: SDGs refer to the United Nations Sustainable Development Goals.

4.1 R&D and Innovation

Material topic Innovative R&D

Impact

- Innovative R&D is key for companies to increase market competitiveness and brand value. Still, it allows companies to seize market technology leadership, promotes industry and industry–university collaboration to accelerate technology application and implementation, and strengthens industry relationship networks through multi-party collaboration. In contrast, if the company fails to properly manage innovation issues, its technology and products may fall behind in a rapidly changing market, affecting product sales and layout.
- While pursuing economic growth, the Company is also committed to addressing environmental and social needs, working collaboratively with society to build a sustainable future.

Policy Commitment

- CLEVO incorporates the ISO management system into the design stage to achieve product safety and environmentally friendly production procedures. The Company aims to comply with international norms and standards to ensure that its products maintain market competitiveness in functionality and quality.
- CLEVO incorporates sustainability into its product design, focusing on meeting environmental requirements, reducing environmental impact, and enhancing overall sustainability. Efforts include adopting energy-efficient designs, improving product energy performance, using recycled plastics, and increasing the recyclability of both products and packaging materials.
- The Company is committed to continuously innovating through both internal and external initiatives to offer a diverse and comprehensive range of products that meet the needs of different customers.

Goals

- Cumulative number of global patents obtained
  Short-term (2025): Accumulate 50 global patents
  Mid-term (2030): Accumulate 55 global patents
  Long-term (2035): Accumulate 60 global patents

Responsible Unit

- Product Strategy Department
- Legal and Intellectual Property Department
- Human Resource Department

Resources Invested

- Invest human and material resources to establish R&D teams, and invest in R&D budgets fixed annually, product testing costs, safety regulations fees, and ISO certification fees.

Grievance System

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Action Plans

- Invest in low-carbon product development. All CLEVO products comply with energy efficiency certification standards including U.S. Energy Star 8.0, China CEL, and the EU ERP Directive.
- Introduce sustainable and environmentally friendly materials into product design, including halogen-free PCBs, recycled plastics, and fully recyclable paper-based packaging.

Evaluation Mechanism

- R&D Innovation: Annual investment tax credit reports are used to assess the status of patent applications filed by the Legal and Intellectual Property Department.

CLEVO has consistently developed a variety of products over the years, adhering to its commitments during the product design and development stages, including the restriction of hazardous substances. CLEVO has established the CLEVO HSF (Hazardous Substances Free) technical standard to ensure that its products do not contain hazardous substances regulated by international environmental laws. These include the Restriction of Hazardous Substances Directive (RoHS), the Packaging and Packaging Waste Directive, the EU Battery Directive, the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), the EU Directive on Perfluorooctane Sulfonates (PFOS), and the Directive on Polycyclic Aromatic Hydrocarbons (PAHs). CLEVO remains committed to providing environmentally friendly products that allow customers to enjoy an exceptional user experience while contributing to the well-being of the planet.

CLEVO Innovation and R&D Milestones in the Past 5 Years

2024

Developed a technology for enhancing energy efficiency that integrates Intel DTT and EPO automatic mode. This innovation enables the processors in Copilot+ notebooks to operate optimally under temperature and battery constraints. It also leverages artificial intelligence and machine learning algorithms to predict future workloads and optimize performance accordingly.

2023

(1) The Company developed a new line of AI-integrated laptops capable of running generative AI directly on the device.
(2) A newly designed fan control algorithm dynamically adjusts fan speed in real time based on system load, maintaining optimal energy efficiency and acoustic performance at all times.
(3) Replaced traditional extruded aluminum heat dissipation components with high-strength graphite blocks. This change reduces weight by approximately 30 percent for the same volume and allows for flexible 3D surface designs, enabling more diversified structural forms.
(4) Patents for optical fiber connectors and optical fiber connector modules.

2022

(1) Developed a liquid metal thermal pad in combination with an enhanced thermal structure design to improve the heat dissipation rate of the CPU and GPU through optimized thermal mechanisms. The power design achieved a TPP of 300 watts, setting a benchmark in the industry.
(2) Applied laser engraving technology to expand thermal contact area, thereby enhancing overall heat dissipation performance.

2021

(1) Developed liquid metal sealing technology to improve thermal conductivity from the GPU or CPU to the heat pipe.
(2) Introduced a shared heat dissipation mechanism by overlapping specific sections of the GPU and CPU heat pipes, forming cross-linked heat pipes to enable shared thermal pathways.

2020

(1) Developed an automatic switching design between integrated and discrete graphics based on GPU workload detection.
(2) Implemented an adaptive optimization mechanism for multi (heterogeneous) graphics cards to independently optimize video output.

4.1.1 Main Products

CLEVO has developed the following products and services:

Mainstream Laptop

From a strategic perspective on mainstream models, CLEVO aims to meet replacement purchases in both mature and emerging markets, including government institutions, as well as the first-time purchase needs of large enterprises, small and medium-sized businesses, and consumer or household markets in emerging sectors. The Company continues to develop models equipped with Intel Alder Lake-U (15W) processors and AMD Lucienne/Barcelo U Refresh processors.

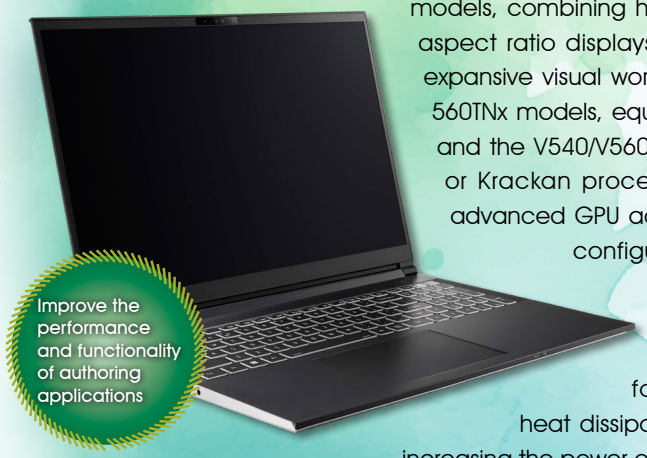
Commercial Laptop

In 2024, the Company's product planning continued to focus on lightweight designs combined with high-performance batteries. The Company introduced commercial laptops featuring Intel's Raptor Lake, Meteor Lake, and Lunar Lake-V platforms with H45 and U15 series processors. These models integrate technologies such as Intel Processor Power Management (PPM), TPM 2.x, fingerprint recognition, facial recognition, spill-resistant design, and Microsoft's Secured-Core PC. They also meet Intel EVO specifications and comply with military-grade standards (MIL-STD-810G or MIL-STD-810H).

Gaming Laptop

CLEVO has cultivated deep expertise in this field over many years, accumulating strong R&D capabilities. The Company has developed 15.6", 16", and 17.3" gaming laptop models featuring the latest Intel Raptor Lake-HX Refresh processors and NVIDIA RTX 4090 graphics. These models incorporate a newly designed leak-resistant thermal structure to significantly reduce temperatures, along with dynamic power adjustment for the CPU and GPU. This allows the laptops to provide a faster and smoother gaming experience when running next-generation games.

Studio Laptop



CLEVO launched the new V540 and V560 Studio laptops in 14" and 16" models, combining high performance with energy efficiency. Featuring 16:10 aspect ratio displays in both 14" and 16" sizes; these laptops offer a more expansive visual workspace for enhanced user experience. The new V550/ V 560TNx models, equipped with Intel Meteor Lake-H Core Ultra 7/5 processors, and the V540/V560ENx/KNx models, powered by AMD Hawk Point, Strix Point, or Krackan processors along with NVIDIA RTX 4070 graphics, combine advanced GPU acceleration technologies with exclusive Studio drivers. This configuration significantly enhances application performance and system stability. With a slim and lightweight 19.9 mm chassis, these laptops enable content creation anytime, anywhere, making them the fastest notebooks for creative and gaming applications. We introduced heat dissipation design that significantly reduces temperature while increasing the power of the graphics card and processor, allowing it to effectively reduce temperature while remaining silent. We also cooperate with Pantone Certification (color correction) for our 14-inch and 16-inch series products to meet the creative community's needs.

Energy-saving,Long-lasting, and Environmentally Friendly Laptop

While complying with environmental regulations across various countries, the L240LU and L260LU 14"/16" models incorporate sustainable material design. Over 7 percent of the total device weight consists of environmentally friendly post-consumer recycled (PCR) plastics and recyclable packaging materials. Additionally, the products are designed in accordance with the latest energy-saving standards to meet customer demands for long battery life. CLEVO has also developed battery swelling prevention technology and fast-charging capabilities, combining environmental responsibility with enhanced user satisfaction.

AI Laptop

AI notebooks are equipped with NPUs (Neural Processing Units), enabling on-device execution of generative AI tasks and offering strong development potential. CLEVO is proactively responding to the 2024 AI PC replacement trend by launching a range of models featuring next-generation platforms. These include the L240LU, L260LU, V540TU, and V560TU models equipped with Intel's Meteor Lake and Lunar Lake Core Ultra platforms (integrated NPU with OpenVINO AI), as well as the V540KU, V550KU, and V560KU models featuring AMD's latest Strix Point and Krackan platforms (integrated NPU with Ryzen AI software).

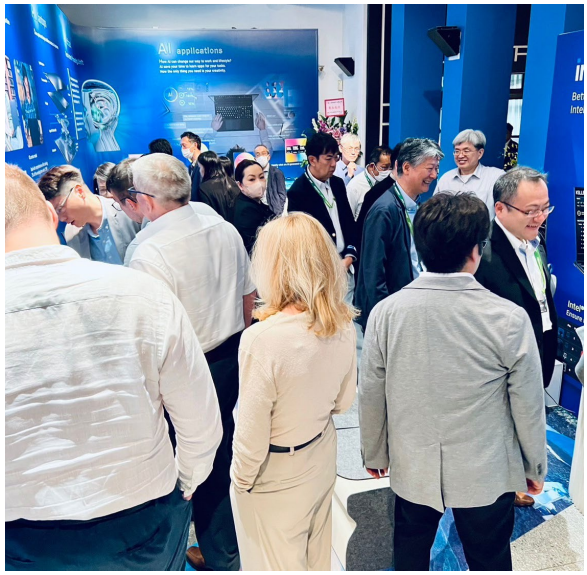
4.1.2 Major R&D and Innovation Outcomes

With the rapid growth of the AI PC market, CLEVO developed its latest Copilot+ AI PC in 2024: the Intel Lunar Lake-based notebook models L240 and L260LU. Through this product line, CLEVO aims to provide consumers with the latest AI PC technologies, delivering a faster and more energy-efficient user experience.

1. Intel's Lunar Lake processors feature a new P-Core and E-Core architecture (4P + 4 LP-E), where the performance cores (P-Cores) deliver enhanced computing power, while the efficiency cores (E-Cores) improve performance under the same power consumption conditions. This significantly boosts overall processing efficiency while extending the device's battery life.
2. Lunar Lake-V processors utilize LPDDR5X-8533 Memory on Package, MoP, which reduces power consumption and minimizes physical size.
3. The platform also integrates Intel DTT's Energy Performance Optimizer (EPO) AutoMode technology, allowing the processor to operate optimally under thermal and power constraints. Combined with AI and machine learning algorithms, the system can predict future workloads to dynamically optimize performance. This configuration enables low power consumption and extended battery life while maintaining high performance and improving overall energy efficiency.

Demonstrating Innovation Achievements

In 2024, during Computex Taipei, CLEVO held its first public annual exhibition at SPOT-Taipei Film House. In collaboration with Intel, the Company jointly presented its latest product models and technologies to customers, while also conveying CLEVO's core values to the general public.



4.1.3 Green Product Design

CLEVO began incorporating post-consumer recycled (PCR) plastics into the design of new models developed since 2023. PCR materials are environmentally friendly plastics produced by collecting, sorting, and cleaning plastic products discarded by consumers and reprocessing them at recycling facilities.

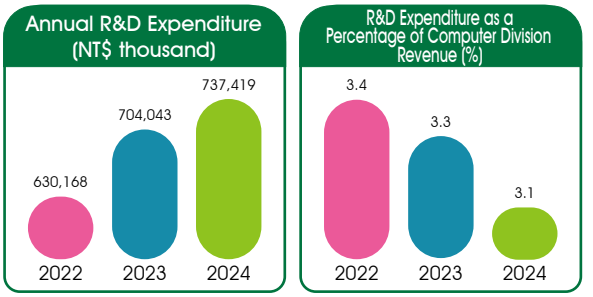
Currently, selected CLEVO notebook models use PCR plastics for the front bezel, speaker, keyboard keycaps, and outer frame. Since 2023, models manufactured by the Company have adopted PC+ABS materials for the front bezel, with 35 percent PCR content, accounting for approximately 3 to 5 percent of the total device weight. From 2024, additional components such as the keyboard frame (KB FRAME), speaker units (SPK), and keycaps have adopted varying proportions of PCR materials, raising the overall PCR content to more than 7 percent of the total product weight. In 2025, CLEVO will continue increasing the proportion of PCR materials used in its products, aiming to design and manufacture more sustainable devices.

4.1.4 R&D Investment and Patent Strategy

CLEVO is committed to delivering an exceptional user experience and high-quality products, with core product design focused on meeting customer needs. In recent years, product development has emphasized concepts such as high performance, low carbon emissions, recyclability, and reduced environmental impact. CLEVO remains firmly committed to sustainable development in its research and development efforts. In response to the growing trend of sustainable innovation, the Company continues to attract top talent and increase R&D investment to strengthen its internal innovation capabilities. In 2024, CLEVO invested NT$737 million in innovation and R&D, accounting for approximately 3.1 percent of the computer division's revenue. This represents a 4.74 percent increase compared to the previous year, primarily driven

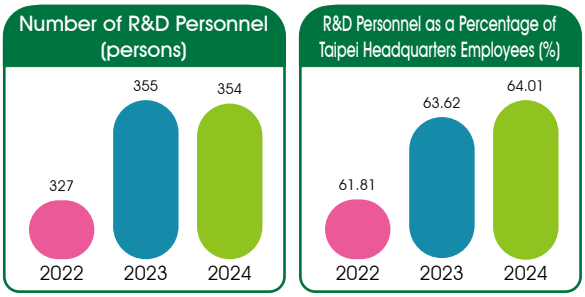
by salary adjustments and increased bonuses resulting from stronger profitability. In terms of R&D talent recruitment, the proportion of R&D personnel remained consistent with the previous year, indicating a stable workforce within the Company's R&D department. CLEVO is committed to investing in innovation and R&D, aiming to deliver outstanding products through market-driven solutions that align with the ongoing trends of sustainable operation and development.

CLEVO's R&D Investment Trend in Recent Years



Note: The 2023 figure for R&D expenditure as a percentage of the computer division's revenue is based on data disclosed in the annual report, which is presented to one decimal place. Accordingly, the 2022 percentage has been revised for the 2023 reporting year.

CLEVO's R&D Personnel Trend in Recent Years



Note: Due to a data error in the number of Taipei headquarters employees in 2022, the proportion of R&D personnel was underestimated. The 2022 figure has been revised in the 2023 reporting year.

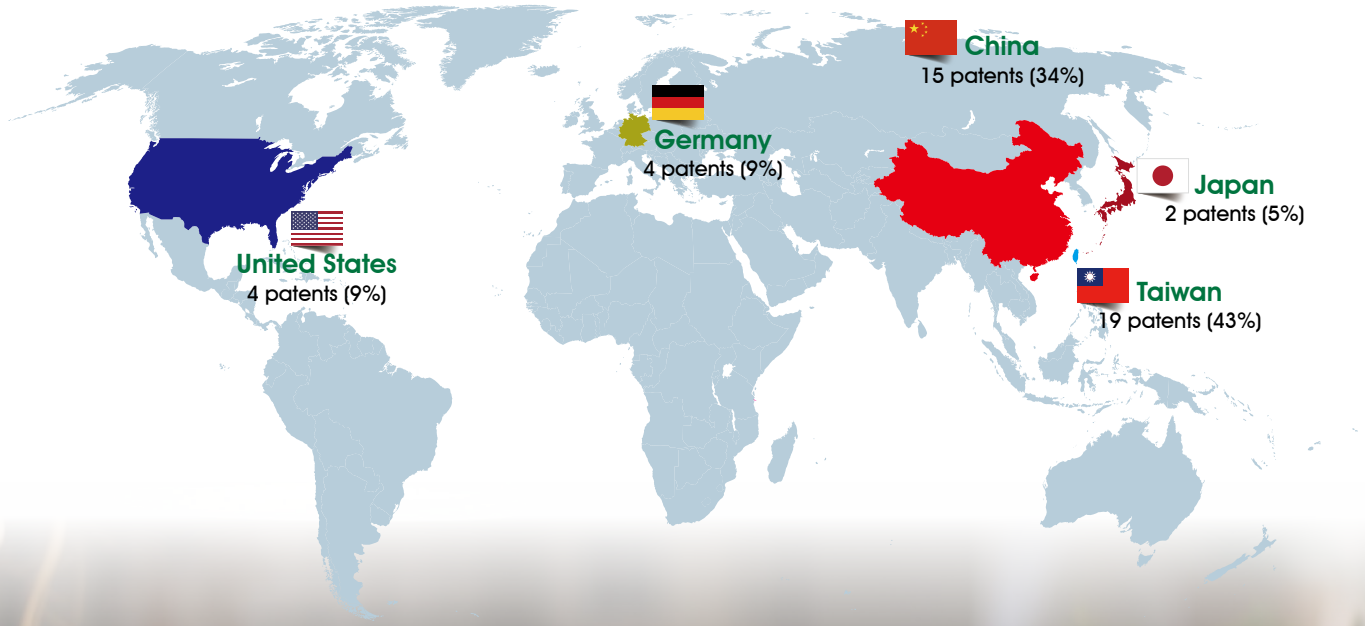
CLEVO's intellectual property management policy includes the following principles: (1) Flexible apply the Company's intellectual property to maintain operational agility; (2) Continuously create, maintain, and utilize of the Company's intellectual property to safeguard the Company's interests and preserve competitive advantage; (3) Enhancing employees' awareness of intellectual property protection to prevent and mitigate intellectual property risks. CLEVO's Legal and Intellectual Property Department serves as the dedicated unit responsible for managing all intellectual property-related matters within the Company. To encourage internal innovation, CLEVO publicly recognizes employees whose trademark proposals have been approved. In addition, the Company conducts intellectual property training programs and periodic awareness campaigns on intellectual property-related legal knowledge to enhance employees' understanding of intellectual property rights.

Application Process for Patent and Trademark

Step1	The applicant fills out the application and submits it to the Legal and Intellectual Property Department after the unit supervisor approves.
Step2	An external patent and trademark firm is appointed by the Legal and Intellectual Property Department to conduct a patent/trademark search.
Step3	If we have any doubts about the feasibility of the registration, we will discuss with the applicant how to modify and adjust the creative content and formulate countermeasures (including, but not limited to, requesting the proposer to modify the text or graphics of the applied trademark before reapplying).
Step4	After receiving the notice or punishment issued by the competent authority, the Legal and Intellectual Property Department forwards the review results to the proposer for further communication and discussion.
Step5	Inform the proposer after the preceding Legal and Intellectual Property Department receives the approval notice issued by the competent authority. The relevant operations, such as paying registration fees and obtaining certificates, are executed after the head of the Legal and Intellectual Property Department gives confirmation.
Step6	After the approval letter is delivered, the external patent and trademark office shall complete the registration fee payment and obtain the certificate within the official deadline.

CLEVO considers its R&D achievements as key assets for sustainable operations and places great importance on the protection of intellectual property rights arising from these innovations. As of December 31, 2024, CLEVO has obtained a total of 44 patents across five countries, with 9 additional patents under application. The Company has also registered 282 trademarks, with 3 trademark applications currently in progress. CLEVO will continue to prioritize global patent deployment to strengthen its market competitiveness while safeguarding the intellectual property rights of its R&D personnel.

CLEVO's global patent strategy



4.2 Supply Chain Management

Material topic Supply Chain Management

Impact

- Supply chain management is an issue that every enterprise must address in light of the global sustainable trend and laws. Good supply chain management can help businesses reduce their carbon footprint and increase consumer trust and brand loyalty. In contrast, as environmental and human rights laws and regulations in various countries tighten each year, failing to conduct due diligence on suppliers will increase the reputational risk for enterprises due to supply chain management failures and may indirectly lead to human rights violations or environmental damage.

Policy Commitment

- Continue to monitor the new suppliers' sustainable policy conditions and work with suppliers to build CLEVO's sustainable value chain.
- Develop supplier management specifications and screening criteria to thoroughly examine suppliers' capabilities, such as delivery quality and delivery schedule, to reduce CLEVO's operational risks and increase market competitiveness.
- To ensure that CLEVO's products do not have a negative impact on the environment and comply with customer expectations as well as domestic and international regulations. CLEVO requires its suppliers to prohibit the use of hazardous substances or substances that are internationally banned. The Company will also continue to pay close attention to the requirements and regulations of such hazardous substances to fulfill its social responsibility to the Earth.
- CLEVO is committed to not using hazardous substances, not violating labor policies, and not engaging with suppliers that infringe on human rights. The Company conducts strict audits of its annual trading suppliers to prevent the occurrence of such issues.

Goals

Supplier quality management is continuously verified based on annual evaluation scores covering quality and service performance.

- **Short term (2025):** Achieve a supplier evaluation score of 75 points [Note]
- **Mid-term (2028):** Achieve a supplier evaluation score of 85 points
- **Long term (2030):** Achieve a supplier evaluation score of 95 points

Note: The supplier evaluation score refers to the total score of each individual supplier.

Responsible Unit

- Kapok Computer (Kunshan)
- Electronic Procurement Department
- Mechanical Resource Development Department

Resources Invested

- Establish a cross-organizational dedicated unit to execute annual audits, evaluations, risk assessments, and follow-up improvements for supply chain manufacturers.
- Establish audit fee budget.

Grievance System

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Action Plans

- Use conflict mineral material number identification to determine whether the metals purchased each year come from conflict mineral-producing regions.
- Annual evaluations are conducted for all suppliers, and each supplier complies with the requirements set forth in CLEVO's supplier contract.

Evaluation Mechanism

- Disclose the annual supplier audit results in the sustainability report, review the annual compliance rate, check the implementation status, and conduct due diligence for the responsible supply chain.
- In 2024, there were no violations of regulations, and no adverse incidents occurred within the supply chain.

CLEVO is committed to building long-term, trust-based partnerships with its suppliers to ensure smooth production and delivery while minimizing operational risks. Through a comprehensive supplier management policy, the Company maintains effective communication with its suppliers and ensures that they meet CLEVO's standards for service quality, delivery schedules, environmental protection, and human rights.

4.2.1 CLEVO Value Chain

CLEVO's core business focuses on the R&D, design, production, and sales of portable computers and related products. Its main product portfolio includes six categories of notebook computers. CLEVO Primarily sells products to brand owners or the end of regional value chain channels. We integrate the strength of the upstream, midstream, and downstream NB value chains to maximize profits. The value chain of the NB industry includes passive component, chipset, graphics processor, memory module, central processing unit, and parts suppliers in the upstream; case, keyboard, power supply, display, and lens suppliers in the midstream; and system designers, manufacturers, and sellers in the downstream.

In recent years, CLEVO has actively cultivated niche markets. Benefiting from the continued growth of the gaming sector, the Company has established a unique competitive advantage through flexible manufacturing and customized products. Its business performance has improved year by year and has been recognized with numerous international awards and honors.

CLEVO Value Chain Diagram

4.2.2 Supplier Evaluation and Management Approach

CLEVO regards its suppliers as important partners and aims to build long-term and stable cooperative relationships with them. The Company places strong emphasis on both the selection

of new suppliers and the management of existing ones. All new suppliers must meet CLEVO's standards to qualify as approved suppliers. Qualified new suppliers must sign CLEVO's social and environmental declarations, which consist of the REACH SVHC Substance Survey, Chemical Substance Guarantee Letter, and Environmental Declaration. Depending on the supplier's nature, additional declarations may be necessary, including the Conflict Minerals Declaration and the Red Phosphorus Declaration. In 2024, CLEVO engaged 12 new suppliers, all of whom were screened based on environmental and social standards.

CLEVO conducts monthly comprehensive evaluations of its suppliers based on material quality, timeliness of issue resolution, and the effectiveness of corrective actions. Suppliers are then categorized into four tiers: A, B, C, and D. In the event of a material abnormality, CLEVO immediately notifies the supplier and requires a short-term corrective response within 24 hours, followed by a formal corrective action report within three days. This mechanism enables the Company to manage quality risks in real time, enhance supply chain responsiveness, and strengthen continuous improvement capabilities.

Based on the results of supplier evaluations, CLEVO provides varying levels of support and guidance. For suppliers rated C or D, the Company initiates targeted improvement mechanisms, including quality review meetings (such as weekly sessions or monthly quality review meetings), and may conduct irregular on-site process audits to ensure continuous quality improvement. If a supplier fails to meet CLEVO's standards or expectations after receiving guidance, and such deficiencies pose risks to production or the Company's reputation, a performance downgrade report will be issued. In such cases, CLEVO may terminate the partnership to safeguard the overall quality and risk management standards of its supply chain.

Supplier Quality Issue Management and Score

A: Quality 100 points * 80%				B: Service 100 points *20%		Total score (A+B)	Evaluation Class
IQC feed batch return rate (50%)	Abnormal production line (30%)	Clearance status (10%)	Problem severity (10%)	Improvement report responses (50%)	Service quality (50%)	≥ 90 points	A Grade
						≥ 80 points	B Grade
						≥ 70 points	C Grade
						≥ 60 points	D Grade

Every January, CLEVO conducts a comprehensive evaluation of each supplier based on the previous year's performance, including quality, delivery, and technical process capabilities. These evaluations serve as the basis for supplier management.

Supplier Quality Management Table

Evaluation Item	Evaluation Content	Weighting (%)
Quality	Quality management system and execution (defect correction and improvement management)	10
	Batch rejection rate (IQC inspection records)	10
	Production line issues (IPQC inspection records)	10
	Customer complaint issues (customer satisfaction and complaint handling)	10
	5S implementation at the factory	10
Delivery	Planned production capacity and execution	10
	On-time delivery rate	10
	Production and delivery schedule follow-up and coordination management	10
	Logistics, warehousing, and transportation management capabilities	5
Technical Process	Capability in new technology development, design, and production	5
	Use of automated equipment	5
	Process innovation capability	5
Total Scores		100

4.2.3 Conflict Minerals

As global attention to human rights issues continues to grow, conflict minerals have become a critical consideration in CLEVO's procurement practices. Conflict minerals refer to metals and raw materials sourced from environments associated with human rights abuses and armed conflict. These include the commonly used 3TG materials in the electronics industry: tungsten, tin, tantalum, and gold. These minerals are primarily extracted from regions such as the Democratic Republic of the Congo (DRC), where abundant natural resources have long been controlled by illegal armed groups, resulting in serious human rights violations such as forced labor and child labor.

CLEVO recognizes the significance and risks of this issue and has designated conflict minerals as prohibited materials in its procurement policy to prevent indirect contributions to social and human rights violations during the production process. The Company is committed to not using minerals sourced from the eastern region of the DRC or surrounding areas associated with human rights concerns. Since 2022, CLEVO has implemented due diligence for conflict minerals and incorporated the related policy into its internal practices. The Company requires all suppliers to comply with its policy of avoiding the use of conflict minerals and mandates the disclosure of the sourcing of 3TG metals to ensure that CLEVO products do not contain materials from conflict-affected regions.

In 2024, CLEVO conducted conflict minerals due diligence on 55 suppliers with purchase records within the past two years. Suppliers were required to submit the Conflict Minerals Reporting Template (CMRT) and trace the smelter locations of the sourced minerals. In 2024, CLEVO did not use any raw materials originated from conflict-affected regions. In the future, CLEVO will continue to carry out conflict minerals due diligence and further strengthen its sustainable supply chain management in order to minimize the risk of human rights violations.

4.2.4 Local Procurement

Amid growing global awareness of environmental sustainability, CLEVO actively promotes local procurement to reduce carbon emissions generated during supply chain transportation. Selecting local suppliers not only significantly shortens transportation distances but also reduces the risk of incidents associated with long-distance shipping.

In 2024, the local procurement[1] rate for raw materials at the Taipei headquarters reached 44.49%, while Kapok Computer (Kunshan) recorded a rate of 26.31%. On a group-wide basis, the overall local procurement rate reached 33.88%. CLEVO will continue to prioritize the geographic proximity of its suppliers as part of its commitment to environmental sustainability.

Note1 Local suppliers for the Taipei headquarters are defined as those whose shipping origin is Taiwan. For Kapok Computer (Kunshan), local suppliers are defined as those whose shipping origin is in China. Local procurement statistics are based on the purchase amount of mechanical and electronic materials.

4.3 Responsible Production

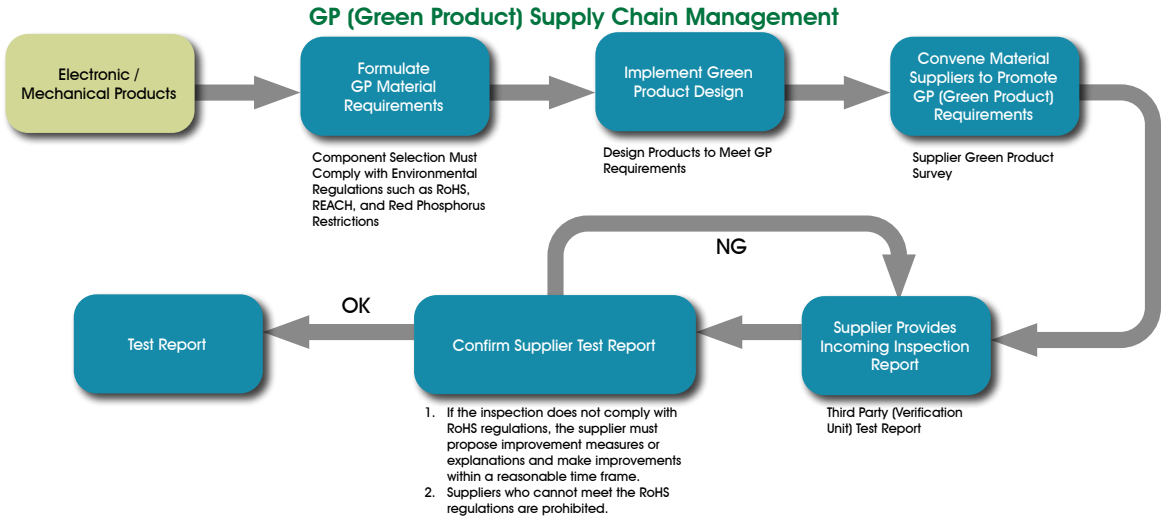
4.3.1 Green Purchase

To meet growing consumer and customer preferences for environmentally friendly products, as well as increasingly stringent environmental and product regulations across various regions, CLEVO has proactively adjusted its raw material procurement strategy to ensure that materials used in new products are safe and compliant with both international and national standards. To guarantee that all raw materials meet global environmental requirements, CLEVO has established the GP (Green Product) Operational Management Procedure. This policy requires suppliers to avoid the use of hazardous substances and any materials that are internationally restricted or prohibited, ensuring that CLEVO's products fully comply with customer expectations.

CLEVO's environmental compliance is aligned with key international directives, including the EU Restriction of Hazardous Substances (RoHS) Directive, the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation, and the Waste Electrical and Electronic Equipment (WEEE) Directive. In addition, CLEVO avoids the use of conflict minerals. For more details, please refer to Section 4.2.3.

CLEVO requires its partners to sign documents such as the REACH SVHC Substance Declaration, the Chemical Substance Guarantee Statement, and the Environmental Declaration. Suppliers must also provide chemical substance analysis reports issued by third-party verification bodies or qualified laboratories to ensure that the raw materials and components procured by CLEVO are free from hazardous substances. This supports the development and production of green products while minimizing potential environmental and health impacts associated with harmful substances. In 2024, there were no incidents involving violations of health and safety regulations related to CLEVO's products or services.

To monitor suppliers' implementation of environmental management practices, CLEVO requires suppliers to provide ISO 14001 Environmental Management System certification and conducts green manufacturing factory evaluation. The evaluation procedures and requirements for green products and green factories are as follows:



Evaluation Item for Green Product

Directive or Regulation	Evaluation Stage	CLEVO Product Compliance Status
EU RoHS	Production Manufacturing	All raw materials procured by CLEVO are subject to 100 percent compliance verification and control at the time of inbound registration, in accordance with the GP (Green Product) Management Procedure. Materials that do not meet compliance requirements will not be approved for procurement.
REACH		
PFOA		
PFOS		
WEEE		

Evaluation Item for Green Factory

Confirm Supplier ISO 14001 Environmental Management System Certification	
Suppliers are inspected for implementation and adherence to the environmental management system	(1) Confirmation of the management organization and execution system
	(2) Commitment from the senior management
	(3) Environmental strategies, goals, policies, and action plans
	(4) Compliance with environmental protection laws
	(5) Elimination of hazardous substances in production procedures
	(6) External reporting on environmental performance and activities
	(7) Environmental protection education for employees

4.3.2 Carbon Reduction in Logistics

Supply chain carbon reduction is critical for global companies to achieve their carbon reduction goals. CLEVO has increased the total number of individual ocean shipments to reduce carbon emissions during product transportation by adjusting the size of packaging materials and actively combining cabinets. The goal is to reduce the direct emissions caused by high-frequency product transportation. After redesigning the product packaging, CLEVO successfully reduced the packaging volume and increased stacking capacity. The 1-in-1 placement method can increase individual shipments by 7% compared to the original packaging method, while the 4-in-1 placement method can increase individual shipments by 17%. CLEVO can significantly reduce the number of product transportation trips, total carbon emissions, and energy consumption in the value chain, while improving logistics and transportation efficiency by adjusting packaging materials to demonstrate its commitment to carbon reduction.

4.3.3 Improved Energy Efficiency in Consumer Use

As the impacts of climate change continue to intensify, consumer awareness and preference for eco-friendly products have steadily increased. In response to these expectations, CLEVO integrates energy-saving and eco-friendly concepts into its product research and design. The Company conducts in-depth studies of energy consumption across various usage scenarios and works to minimize power usage during operation, standby, and shutdown modes.

China Energy Conservation Certification

In 2024, one of CLEVO's notebook models received China's Energy Conservation Certification. In addition, all models complied with the energy efficiency standards of U.S. Energy Star 8.0, China CEL, and the EU ERP Directive. These achievements reflect CLEVO's strong commitment to energy efficiency. CLEVO places "enhancing energy efficiency" and "providing the best user experience" at the core of its product design philosophy, enabling consumers to enjoy exceptional performance while contributing to a more environmentally friendly future.

4.3.4 Reduction of Resource Waste from End-of-Life Products

CLEVO, based on the concept of environmental friendliness, has adopted single-material modular designs from the product design stage and developed easily disassembled and recyclable modules, making components easier to dismantle. This design facilitates effective classification and reuse during the recycling process, introducing the concept of a circular economy to reduce product waste.

CLEVO follows an integrated design approach for its products and packaging, aiming to reduce the variety and complexity of materials used. This strategy enhances end-of-life recyclability and improves customer willingness and efficiency in recycling, while still ensuring optimal product protection. To achieve its goals of reducing packaging plastic and lowering carbon emissions, the Company has gradually decreased the use of EPE cushioning materials and PE plastic bags, replacing them with recyclable or reusable alternatives such as paper folding structures and non-woven fabrics. Additionally, it has introduced handle designs made from biodegradable materials. These initiatives actively promote the transformation of green packaging, contributing tangible actions toward pollution reduction, carbon reduction, and sustainable development.

Five Key Practices in Product Design

Modular Design	Design for Easy Disassembly	Design for Easy Separation	Reduced Use of Materials	Use of Recyclable Materials
Increasing the consistency of materials used helps reduce hassle in recycling and sorting	Products can be disassembled using ordinary tools without specialized equipment	Electronic components are designed to be easily detachable	Reduce the number of bolts, washers, and nuts used	Using recyclable materials as the priority

4.4 Customer Relationship Management

Material topic Customer Relationship Management

Impact

- Customer relationship management is an essential part of the sustainable operation of the enterprise. Good customer relationship management and immediate response processing can help customers add points to the Company brand image while making them feel CLEVO's sincerity and problem-solving efficiency. In contrast, ignoring customers' needs may harm the Company reputation and long-term operations.
- CLEVO is confident that its core goal of improving product and service quality will allow the Company to maintain market competitiveness and gain a foothold in the increasingly competitive consumer electronics market.

Policy Commitment

- CLEVO has well-defined "customer service management," "non-conforming product control," and customer grievance handling procedures in place to ensure standardized services to customers.
- The Customer Service Department and Customer Quality Service (CQS), R&D, and sales teams jointly devise responses to consumers' needs.
- Build a positive market image to enhance customer loyalty and satisfaction, thereby strengthening business performance and competitiveness.
- CLEVO is committed to taking every customer's feedback seriously and ensures that all customer complaints are addressed within the specified time frame, with appropriate solutions and corrective actions provided.

Goals

- The Company responds to all customer complaints and provides resolution plans within the required time each year.

Taipei Headquarters:

- Short-term (2025): Overall customer satisfaction score of 84; Return Merchandise Authorization (RMA) rate at 1.2%
- Mid-term (2027): Overall customer satisfaction score of 90
- Long-term (2030): Overall customer satisfaction score of 91

Kapok Computer (Kunshan):

- Short-term (2025): Overall customer satisfaction score of 85; Return Merchandise Authorization (RMA) rate at 1.2%
- Mid-term (2027): Overall customer satisfaction score of 90
- Long-term (2030): Overall customer satisfaction score of 95

Responsible Unit

- Customer Service Department
- Planning Support Department

Resources Invested

- Annual Customer Satisfaction Survey & Customer Complaint Handling Team

Grievance System

- TEL: +886-2-22789696
- Email: marketing@clevo.com.tw

Action Plans

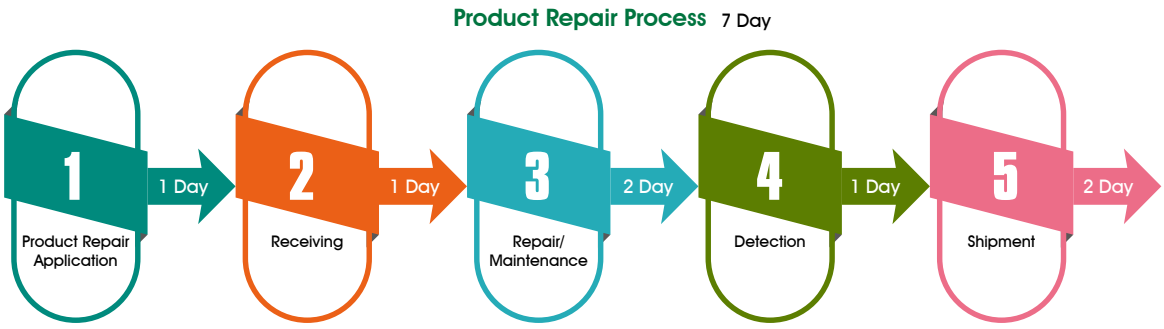
- Use online conferences and exhibitions to develop foreign clients and maintain customer relationships.
- Conduct customer satisfaction surveys twice yearly, and respond to customer complaints within the deadline.

Evaluation Mechanism

- Taipei Headquarters: In 2024, the overall customer satisfaction score reached 84, and the Return Merchandise Authorization (RMA) rate was 1.6%, meeting the targets set for the year.
- Kapok Computer (Kunshan): In 2024, the overall customer satisfaction score reached 82.1, and the RMA rate decreased to 1.47%, achieving the 2024 performance goals.

CLEVO remains committed to enhancing the quality of its services and products to meet customer expectations, treating customer feedback as a key driver for continuous improvement. To strengthen service efficiency and issue resolution capabilities, dedicated customer service units have been established at both the Taipei headquarters and Kapok Computer (Kunshan). These units provide real-time support and repair services to assist customers in addressing various issues encountered while using the product. In addition, to maintain service quality, the Company has established standard operating procedures such as "Customer Service Management" and the "Procedures or Non-conforming Product Control." These procedures ensure that employees can effectively respond to customer needs, resolve product-related issues in a timely manner, and properly document customer feedback to inform future product improvements. CLEVO places great importance on building long-term and stable partnerships with its customers. Moving forward, the Company will continue to enhance its customer service processes and product quality to strengthen customer trust, elevate brand value, and fulfill its core commitment to sustainable business operations.

CLEVO's Customer Quality Service (CQS) considers customer relationship management and regular client follow-ups as essential responsibilities. Customers are CLEVO's most valuable asset, and maintaining strong customer relationships plays a vital role in ensuring stable business growth. For customers in China, Kapok Computer (Kunshan) is responsible for managing client relationships through phone calls, instant messaging platforms, and on-site visits to understand customer needs and feedback, and to provide timely and effective solutions. For customers outside of China, the Taipei office is responsible for relationship management through its sales team and Field Application Engineers (FAEs). These teams stay connected with clients via Skype, Line, social media, and regular in-person visits to collect feedback, respond promptly to inquiries, and continuously strengthen customer satisfaction and trust in CLEVO.



4.4.1 Customer Satisfaction Survey

CLEVO is committed to delivering an exceptional customer experience and meeting customer needs. To gain a clear understanding of customer satisfaction and feedback, the customer service team conducts an annual survey. Through this survey, feedback on products and services is collected and used to establish measurable KPI targets for customer service and product design. These insights help the Company develop products that better meet customer expectations.

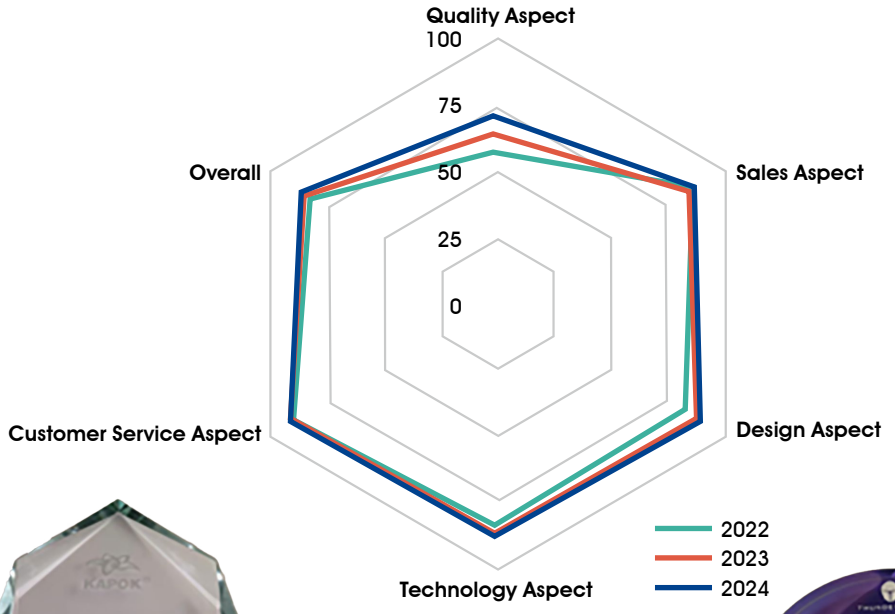
CLEVO's customer satisfaction survey is structured around five key dimensions: Sales, Quality, Technology, Customer Service, and Design. This framework ensures a comprehensive understanding of the customer experience. After collecting customer satisfaction survey results, CLEVO forwards customer feedback to the relevant departments responsible for product manufacturing, using the insights to improve product design.

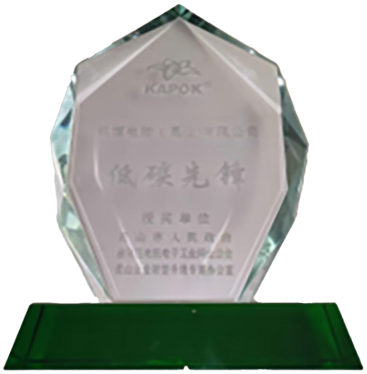
In 2024, CLEVO achieved an overall customer satisfaction score of 82.5, showing a slight increase compared to the previous year and meeting the target set for 2023. Compared to the 2023 survey results, the quality dimension score in 2024 saw a significant increase of 10 percent. Quality scores have now grown for three consecutive years, indicating that customers have clearly recognized the improvements in CLEVO's product quality. This progress also serves as meaningful encouragement for the Company's R&D, manufacturing, and quality assurance teams. Looking ahead, CLEVO will continue to enhance the quality of its products and services, striving to maintain long-term, positive customer relationships.

Customer Satisfaction Survey Results Over the Past 3 Years

Year	Overall	Quality	Sales	Design	Technology	Customer Service
2022	83.5	57.5	86	89.5	87.5	89.5
2023	81.7	63.7	83.4	86.9	85.9	88.7
2024	82.5	70.2	85.5	81.4	86.8	89.1

Historical Customer Satisfaction Scores – CLEVO





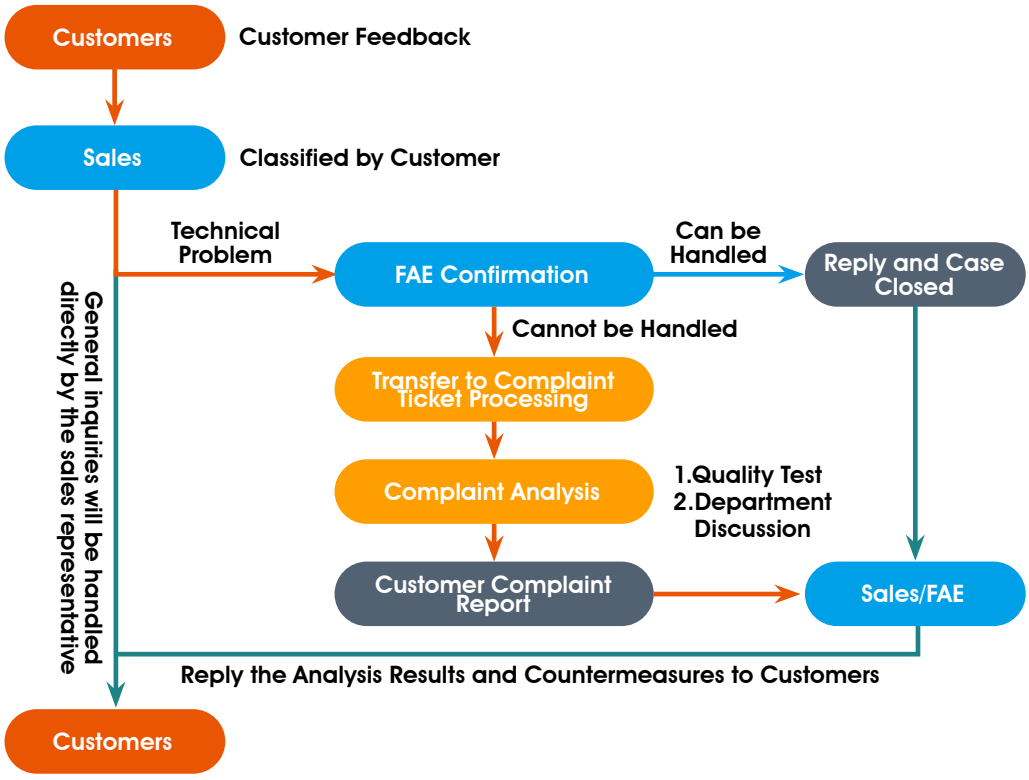
2024 Low-Carbon Pioneer Award

2024 Thunderobot Outstanding Partner Award

4.4.2 Customer Complaint Analysis and Feedback

To manage customer feedback more effectively and proactively, CLEVO has implemented a structured customer complaint management system. Each year, the Customer Quality Service (CQS) team distributes surveys to gather timely insights into customer satisfaction regarding product quality and complaint resolution. Survey results are analyzed, and corresponding improvement plans are developed to ensure CLEVO's products continue to meet user needs.

In response to customer feedback, Field Application Engineers (FAEs) serving as sales contacts promptly reach out to customers, providing real-time, professional technical support to address issues. Customer feedback is also relayed to the relevant departments as a reference for ongoing product improvement. For more complex issues or those requiring cross-departmental collaboration, CLEVO establishes dedicated project teams to conduct in-depth investigations and implement systematic solutions. At the same time, the sales team strengthens customer communication and provides regular updates on product information to enhance the quality and efficiency of Return Merchandise Authorization (RMA) processes. The Company ensures that repairs and returns are completed within the specified number of working days.

In 2024, CLEVO successfully achieved the RMA improvement target that was set for 2023. Moving forward, the Company will continue to enhance service processes and quality management to further improve customer satisfaction and steadily advance toward its service performance goals for the new year.

Procedures for CLEVO Customer Complaint Analysis and Feedback