



3. Products and Services

3.1 Product R&D and Innovation

To meet customer demands for new product development processes and continuous production technology optimization, Pan-International Group continues to strengthen its R&D innovation capabilities by actively investing in R&D personnel, advanced equipment, and facility construction. Meanwhile, the Group promotes production equipment optimization and automation, continuously improving production efficiency and quality to build a more competitive innovative R&D system. Particularly focusing on the enormous business opportunities in the new energy vehicle market, the company upholds the spirit of R&D innovation by actively developing new products including high-voltage cable for EV, high-voltage (battery pack) harness, high speed wire harness, connector wire harness, HDI multi-layer board, and Automotive PCB. The company continues to expand its product lines, enhance technical thresholds, and drive revenue growth.

Furthermore, for other industrial sectors, the company continues to invest in innovative R&D, launching new products that meet market demands such as Automotive low-voltage harness, High-voltage cable for EV, medical device cables and equipment, PCB for vehicle LCM, workstation and mining machine PCB, medical consumables, WiFi 6 / 5G routers, and charging docks. These innovations drive competitiveness and strengthen the company's market position. To support long-term R&D innovation, the company continues to invest approximately 1-2% of its annual total revenue (about NTD 400-500 million) in R&D funding each year, and plans to gradually increase this investment ratio to ensure technological innovation and product development remain ahead of the market, driving sustainable corporate growth.



- **Developing Green Products:**

To accommodate customer needs for new product development and production technology improvement, while responding to global trends for green and sustainable products, the company continues to invest R&D resources, actively strengthening R&D personnel, advanced equipment, and facility construction. Meanwhile, the company promotes production equipment optimization and automation to improve production efficiency and reduce energy consumption and carbon footprint.

In the field of new energy vehicle mass production, the company has completed the deployment of relevant equipment, and with environmental protection and energy conservation as goals, actively develops vehicle wire harness, high-voltage (battery pack) harness, and high-speed wire harness needed for new vehicle models, striving to provide low-energy consumption, non-hazardous materials, and high-performance green solutions. Meanwhile, HDI multi-layer board and Automotive PCB development also progress systematically according to customers' product development schedules, completed using environmentally compliant and highly reliable process technologies to meet customer requirements for product quality, production capacity, and environmental protection.

- **Strategic Layout - Entering the New Energy Vehicle Market:**



The Group actively responds to the global "green transformation" trend, proactively planning and deeply investing in the new energy vehicle related product market, demonstrating its commitment to sustainable development. Since 2021, Pan-International has been planning and establishing market foundations, continuously expanding investments, and deepening technical and customer cooperation. The company has not only steadily increased the revenue scale of new energy vehicle products but also significantly improved market visibility and market share, advancing toward the goal of becoming a first-tier supplier of automotive wire harnesses and related products.

This series of strategic planning and active investments has not only successfully increased the proportion of new energy vehicle products in overall revenue, aligning with the company's long-term development strategy of "transformation and upgrade," but has also achieved the goal of improving overall profitability. Through steady growth and excellent performance, employees and shareholders share in the company's operational achievements, jointly witnessing the realization of the Group's green sustainability blueprint.

3.2 Product Quality and Safety

Material Topic Management Approach: Product Quality and Safety

Corresponding GRI Indicators: GRI 3-3, 416-2

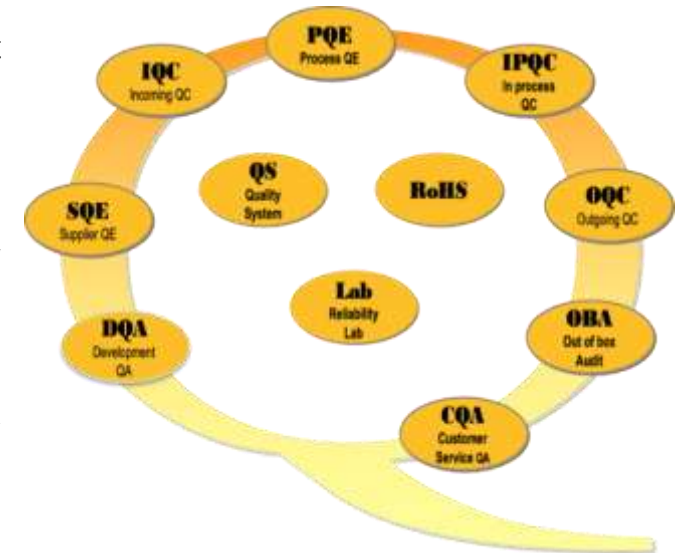
Impact Description		1. Bear product damage compensation liability. 2. Increase product repair costs. 3. Damage to reputation and corporate image. 4. Loss of orders.				
Location		Pan-International, Taipei (Parent Company)	Dongguan Pan-International	New Ocean, Jiangxi	Honghuasheng, Yantai	CJ Electric Systems, Wuhu
Policies or Commitments Established or Followed	Internal Regulations	V	V	V	V	V
	Government Regulations	V	V	V	V	V
Responsible Units		1. R&D Department 2. Plant Manufacturing Department 3. Quality Control Department				
Management Actions		1. Incorporate quality and safety planning when designing and developing products. 2. Develop a comprehensive quality inspection for the supply chain at each station. 3. Establish customer feedback mechanisms to improve product quality. 4. Arrange product liability insurance to protect company interests.				
Process for Monitoring the Effectiveness of Actions		1. Regularly review the inspection results at each quality inspection station and optimize the procedures. 2. Modify designs and processes based on customer feedback to improve product quality.				

Management Performance Indicators				
Indicators	2024 Achievement	Short-term Goal (2024)	Mid-term Goal (2022-2027)	Long-term Goal (2022-2050)
Zero product safety incidents	Achieved 100% in 2024 			

Quality, efficiency, cost, and innovation are our fundamental criteria for meeting customer demands and are the key indicators that give customers confidence in Pan-International's capabilities. Due to our emphasis on product quality, we prioritize it as our top criterion. By establishing a comprehensive production system that includes inspections and checks at every stage--from R&D verification, supplier audits, incoming inspections, production inspections, outgoing inspections, unpacking inspections, and customer service audits--we ensure that our product and service quality meets customer needs. In addition, through external verification units, we have obtained certifications such as ISO 9001, ISO 13485, ISO 14001, ISO 45001, ISO 14064-1, IATF 16946, IECQ QC 080000 etc., certifying that our management, production, special industry, environmental, hazardous substance, and occupational safety management systems meet market requirements.

However, to avoid damages to the Company from accidents, we also purchase product liability insurance to mitigate risk associated with product liability lawsuits. Currently, the overall implementation is positive, with no cases of product liability lawsuit reported.

We provide products and services to customers and win their trust based on the four principles of "quality, cost, efficiency, and flexibility." In a highly competitive market, we believe that providing end consumers with safe products that do not harm their health is the best way to demonstrate our competitiveness. Therefore, for product assembly manufacturers or brand sellers, we always prioritize "quality" for our electronic components or electronic finished products. Internally, we have established inspection stations throughout the process--from product design, supplier selection, incoming inspection, production inspection, outgoing inspection, unpacking inspection to customer service audit. These connected inspections allow us to identify and address problems immediately to maintain quality stability. In addition, to enhance professional technology and quality management capabilities while meeting customer requirements, the Company has obtained several certifications, including ISO 9001, ISO 14001, ISO 45001, ISO 14064-1, ISO 13485, IATF16949, and IECQ QC 080000. These certifications demonstrate that Pan-International meets professional standards in quality management, environmental management, hazardous substance management, occupational health and safety management, greenhouse gas inventory, and other management capabilities, as well as medical and automotive professional production capabilities, ensuring that we provide customers with safe products.



Quality Inspection Function Cycle ▼

3.3 Customer Relationship Management

Pan-International has long been deeply involved in industries such as consumer electronics, automotive, industrial control, and medical sectors, with extensive experience in the research and development and manufacturing of customized wire harnesses and related components. Leveraging the advantages of our global logistics bases, we can offer customers comprehensive one-stop solutions. Amid the global trend toward net zero emissions, green industries are emerging. We are actively working with customers to develop wire harnesses and related components for new energy vehicles and energy storage equipment, aiming to seize opportunities in the early stages of global green industry development and secure our position in the market.

Customer loyalty to Pan-International is an achievement we take pride in. We treat all customers with integrity by setting accessible levels for their product drawings, formulas, production technologies, trademarks, patents, and other related confidential information, ensuring strict control to prevent any leakage. We require employees and suppliers to sign confidentiality agreements and establish penalties for breaches. We also strengthen the awareness of confidentiality and regulatory compliance through various daily channels, ensuring that personnel who handle confidential information treat it as their own assets and protect it strictly. In addition, various whistleblower reporting channels have been established to form a third-party supervision network to further prevent leakage of confidential information.

Through the joint development of new products, efficient and cost-effective finished product delivery, strict confidentiality in safeguarding customer business opportunities, and global logistics and distribution, we meet all customer needs while maintaining strong and close customer relationships.

3.3.1 Commitment to Customers

(GRI 418-1)

- [Zero Cases of Confidential Information Leakage]

Items	Number of Cases
Number of cases involving confidential information leakage in 2024	0

- [No Product Liability Lawsuits]

Items	Number of Cases
Number of cases involving product liability lawsuits in 2024	0