OPT®
Machine Vision

广东奥普特科技股份有限公司
OPT Machine Vision Tech Co.,Ltd.

股票代码：688686.SH

OPT®
Machine Vision

2024

Environmental Social and Governance Report

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Perface

Report Scope:

This report is compiled with OPT Machine Vision Tech Co., Ltd. as the primary reporting entity, including its subsidiaries and branches. Unless otherwise specified, the scope of this report is consistent with the scope of the consolidated financial statements of our company.

Terminology:

OPT Machine Vision Tech Co., Ltd. is referred to as "OPT," "the Company," "we," or "our" in this document.

Data Statement:

All information and data cited in this report are derived from OPT' s official documents, statistical reports, financial statements, and verified sustainability practices aggregated and audited by relevant functional departments and business units.

The Company confirms that all referenced information and data are objective and accurate. Unless otherwise specified, monetary values are denominated in Renminbi (RMB).

Report Statement:

This report comprehensively presents OPT' s ESG performance and sustainability commitments during 2024, based on factual records of environmental protection enhancements, corporate governance optimization, employee rights safeguarding, and social responsibility fulfillment.

Compilatory Basis:

This Report is prepared in accordance with:

- Guidelines No. 4 for Self-Regulatory Supervision of Listed Companies on the Shanghai Stock Exchange – Preparation of Sustainability Reports. ;
- Sustainability accounting standards established by the Sustainable Accounting Standards Board (SASB);
- Disclosure recommendations from the Task Force on Climate-Related Financial Disclosures (TCFD);
- United Nations Sustainable Development Goals (SDGs);
- China Corporate Social Responsibility Reporting Guidelines (CASS-ESG 6.0).

Access to this Report:

You can download the Chinese and English versions of this report from the official website of Opt (www.opt-mv. com) and Shanghai Stock Exchange (www.sse. com. cn).In case of any inconsistency in the versions, the Chinese version shall prevail.

Chairman' s Message.

Under the broader context of the "14th Five-Year Plan" and the implementation of the strategy to strengthen China' s manufacturing capabilities, machine vision, as a core pillar of intelligent manufacturing, is playing an unprecedentedly important role. Since its inception in 2006, OPT has focused on the field of machine vision, becoming an industry leader through years of technological accumulation and innovative breakthroughs.

In the area of corporate governance (G), OPT has established a robust decision-making mechanism and management system. From high-level strategic formulation to grassroots business execution, every step is closely monitored and interlinked, ensuring efficient and stable operations. In terms of strategic planning, OPT closely tracks industry trends and market changes, proactively laying the groundwork for new technology development and business expansion. The company effectively seizes market opportunities while managing potential risks. Furthermore, OPT strictly adheres to industry standards, regulations, and laws, actively promoting transparency in information disclosure. With a strong sense of responsibility and mission, the company has earned broad recognition from customers, partners, and society.

On the environmental (E) level, OPT has always integrated green concepts into its new product development.. While building a core technology platform for vision and motion solutions, OPT focuses on reducing energy consumption and improving resource utilization efficiency, aligning with the trends of industrial automation and green manufacturing. The company is committed to minimizing environmental impact, contributing to the transformation of the manufacturing sector toward sustainability.

In the realm of Social Responsibility (S), OPT has actively contributed to the expansion of the vocational education market by partnering with multiple academic institutions. The company provides practical training platforms, participates in curriculum development, and integrates cutting-edge industry technologies to cultivate professionals aligned with evolving industry needs. This initiative not only injects fresh talent into the machine vision industry and promotes the standardization of the sector, but also supports the holistic development of individuals, thereby creating greater value for society.

With a comprehensive core hardware and software product system, OPT serves well-known enterprises across various industries, helping them enhance their intelligent manufacturing capabilities. Innovation is the core driver of OPT' s growth. The company continues to increase investment in research and development, maintains close communication with clients, strengthens collaborations between academia, industry, and research, and makes significant progress in cutting-edge technologies such as Industrial AI..

Looking ahead to the future, OPT will continue to uphold the concept of high quality, high performance, and high reliability. Supported by a high-caliber R&D team, a well-established innovation system, strong external partnerships, and sharp market insight, OPT will steadily advance along the path of ESG principles. The company is committed to leading the machine vision industry to new heights, contributing to the high-end, intelligent, and sustainable development of manufacturing, and working together with all stakeholders to create a brilliant future.

Company Overview

Company Profile

OPT Machine Vision Tech Co., Ltd. (hereinafter referred to as "OPT" or "the Company"),established in 2006, is a national high-tech enterprise dedicated to the R&D, production, sales of core machine vision software and hardware products. Leveraging advanced technologies and innovative products, the Company empowers its clients to enhance Lean Produciton, reduce costs, improve efficiency and rapidly delivers intelligent, cutting-edge automation core products and solutions. With profound technological expertise in the machine vision field, a comprehensive product line portfolio and global market service capabilities,OPT has emerged as a leading enterprise in the industry. Committed to providing clients with efficient and intelligent automation solutions, the Company drives the continuous development of industrial intelligence to foster sustainable progress in manufacturing automation.

OPT aims to build a global first-class machine vision enterprise. Through technological innovation and product expansion, we strive to advance industrial automation and become a leading machine vision components and software supplier for factory automation globally .

OPT is committed to bringing vision products to the global stage, contributing to societal progress while fostering corporate prosperity and enhancing the well-being of all employees.

Company Overview

- **Products and Technologies**

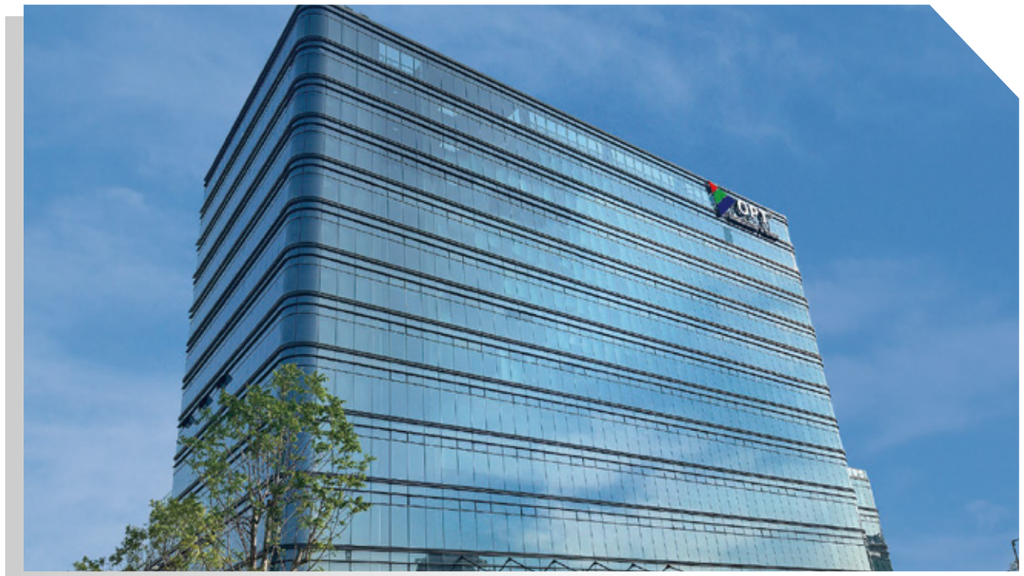
  OPT has a comprehensive portfolio of core hardware and software products for machine vision, encompassing visual algorithm libraries, intelligent vision platforms, industrial AI, light sources, light controllers, industrial lenses, industrial cameras, smart code reader, 3D laser profilers one-click measurement sensors. Anchored in its proprietary optical technologies, the company continues to intensify R&D efforts in the field of advanced industrial sensors. Leveraging capital advantages, OPT is also expanding into motion product lines, committed to becoming a leading machine vision components and software supplier for factory automation globally.

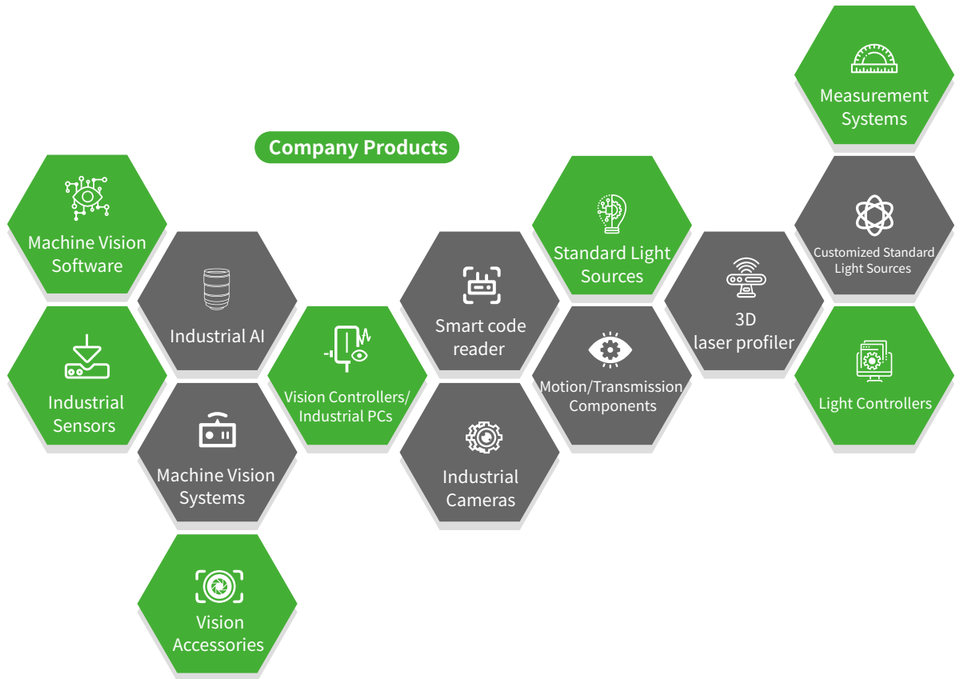
- **Markets and Clients**

  OPT’ s products and solutions have been applied in over 20 countries and regions, with more than 30 branches and distributors worldwide, we serve more than 15,000 clients, including numerous Fortune Global 500 companies and globally renowned equipment manufacturers, focusing on industrial automation.
  The company has become a trusted partner for global customers and is in a leading position in the field of machine vision application technology.

- **Team & Talent**

  As of the end of 2024, OPT employed 2,618 employees, including 1,034 in R&D, 1,088 in sales, and 374 in production. OPT places strong emphasis on technological innovation and talent development, and is committed to fostering an environment where employees can achieve their full professional potential.





Corporate Culture

Corporate Positioning

A leading machine vision components and software supplier for factory automation globally.

Corporate Vision

To build a world-class vision technology enterprise and create a platform where employees can realize their self-worth.
Be a global first-class machine vision enterprise and create a platform for our staff to succeed with self-value.

Corporate Mission

To advance automation technologies, contribute to national development and social progress, and achieve a win-win outcome between corporate growth and employee development.

Our Approach to Work

Do One Thing and Do It Well.

Core Values

OPT always adheres to the core values of "people-oriented" and is dedicated to fostering a dynamic, collaborative, and inclusive corporate culture.

Honors and Recognitions

Driving Product Excellence Through Research and Innovation

- Over 640 patents
- More than 120 software copyrights
- Over 1,300 image acquisition technologie
- Over 10,000 AI Models
- Stable quality
- 19 years of technological expertise
- Serving over 15,000 global customers
- Product pass rate of 99.62%
- Proven in more than 53,000 project application cases
- 150,000 optical imaging experiments

Service and Product Accessibility

- 24/7 on-site technical support
- Standard products in stock, customized products delivered within 3 days
- Based on customer needs, stock up as soon as there is an estimate
- Global service network to shorten delivery cycles

OPT's 2024 Honors Timeline

April 2024

National Manufacturing Single Champion Enterprise

December 2024

National High-Tech Enterprise (reaccredited at headquarters and newly certified for the Suzhou subsidiary)

August 2024

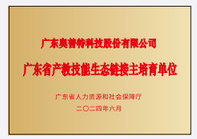
2023 Guangdong Provincial Science and Technology Progress Award (Second Class)

March 2024

Guangdong Provincial Key Laboratory of Industrial Intelligent Inspection Technology

December 2024

Ranked 350th among Guangdong Top 500 Manufacturing Enterprises 2024



June 2024

Guangdong Province Production Education Skills Ecological Link Main Cultivation Unit

December 2024

Provincial-level Enterprise Technology Center

2024

Member Unit, 2nd Council of Guangdong Robotics Association

2024

Dongguan Skill Master Studio

Development history and award experience of OPT

2006
• OPT Founded

2008
• Products obtained RoHS and CE certifications
• Pioneered light source controllers with automatic load detection technology

2009
• Became integrated machine vision imaging solution provider
• First certified as "National High-Tech Enterprise"

2010
• First participation in VISION Stuttgart (Germany)– Global machine vision exhibition

2011
•The products underwent a comprehensive upgrade, and the standard light source product line expanded to include 25 major series.

2012
• Launched self-developed SciVision Vision Development Kit and Smart Vision Software
• Introduced waterproof Light Sources

2013
• First obtained ISO9001 Quality Management System Certification

2014
• Awarded "Guangdong Famous Trademark"
• Founded Lens Division to specialize in machine vision lens R&D and production

2015
• Released Q2 Vision Controller
• Established R&D partnership with South China University of Technology
• Introduced multi-type high-energy UV curing Light Sources (point/line/area)

2016
• Completed joint-stock reform, officially renamed "OPT Machine Vision Tech Co., Ltd."

2017
• Selected as "Dongguan Key Enterprise Scale and Efficiency Doubling Plan Pilot Enterprise", driving local economic growth

2018
• Launched X3 Vision Controller
• Established Shenzhen R&D Center and subsidiary "OPT Vision Technology (Suzhou) Co., Ltd."
•Obtained GB/T29490-2013 Intellectual Property Management System Certification

2019
• Recognized as "National Intellectual Property Advantage Enterprise 2019", "Guangdong Top 500 Manufacturing Enterprises 2019" and "Top 100 Innovative Enterprises"
• Established "Dongguan Machine Vision Engineering Technology Research Center"
• Completed Dongguan "Doubling Plan" pilot enterprise targets ahead of schedule

2020
• Listed on Shanghai Stock Exchange STAR Market
• Accredited as "National Postdoctoral Research Station", "Guangdong Provincial Doctoral Workstation" and "Guangdong OPT Machine Vision Engineering Technology Research Center"

2021
• Led Guangdong Provincial Key R&D Program "Micron-level Real-time Visual Inspection Technology Research and System Development"
• Awarded "Guangdong Provincial Enterprise Technology Center" and "Innovative Dongguan Science and Technology Progress Award (Second Class)"

2022
Selected as a “Guangdong Enterprise for Industry-Education Integration” and a “Guangdong Intelligent Manufacturing Ecosystem Partner”
Approved for the establishment of the Dongguan Key Laboratory for Machine Vision
Awarded “Excellence Performance” Award

2023
• Received "First Prize of Science and Technology Award by Guangdong Mechanical Engineering Society", "Guangdong Manufacturing Single Champion Product"

2024
Honored as a National Manufacturing Industry Single Champion Enterprise; Winner of the Second Prize of the 2023 Guangdong Science and Technology Progress Award; Ranked among the Top 500 Manufacturing Enterprises in Guangdong Province in 2024; Designated as a Key Laboratory of Guangdong Province and recognized as a Master Studio for Skilled Talent in Dongguan; Successfully reaccredited under the GB/T 29490-2013 Intellectual Property Management System

Technology rewards obtained

Project Name	Award	Awarding Authority
Machine Vision Light Sources	National Manufacturing Single Champion Enterprise	Ministry of Industry and Information Technology
Machine Vision Light Sources	Guangdong Provincial Manufacturing Single Champion Product	Department of Industry and Information Technology of Guangdong
High-Compatibility Key Technologies and Applications for Industrial Visual Inspection	Guangdong Provincial Science and Technology Progress Award (Second Class)	People's Government of Guangdong Province
High-Compatibility Key Technologies and Applications for Industrial Visual Inspection	First Prize of Guangdong Machinery Industry Science and Technology Award	Guangdong Mechanical Engineering Society
High-Compatibility Key Technologies and Applications for Industrial Visual Inspection	First Prize of Science and Technology Award by Guangdong Mechanical Engineering Society	Guangdong Mechanical Engineering Society
Constant-Current Controller	2016 Dongguan Outstanding Patent Award	Dongguan Municipal People's Government
Key Technologies and Applications for Online 3D Measurement of Moving Objects Based on Structured Light	Second Prize of Scientific and Technological Achievements by Henan Education Department	Department of Education of Henan Province
Core Hardware and Software Technologies for Intelligent Visual Inspection	2021 Innovative Dongguan Science and Technology Progress Award (Second Class)	Dongguan High-Tech Industry Association
Sensors	Third Prize in Innovative Applications Category	China Instrument and Control Society
OPT HD 5MP Fixed-Focus Lens Series	Innovative Product Award	14th China Automation Annual Selection
OPT SCIvision Development Kit	Intelligent Control Award	15th China Automation and Intelligence Annual Selection
OPT SCI-M3 Smart Camera	Intelligent Inspection Award	17th China Automation and Intelligence Annual Selection

National, Provincial, and Municipal research and development platforms owned

Platform Name	Platform Level	Administrative Authority
National Postdoctoral Research Station	National Postdoctoral Research Station	National Postdoctoral Management Committee
Guangdong OPT Machine Vision Engineering Technology Research Center	Provincial-level Engineering Technology Research Center	Department of Science and Technology of Guangdong
Guangdong Provincial Key Laboratory	Provincial-level Key Laboratory	Department of Science and Technology of Guangdong
Guangdong Provincial Doctoral Workstation	Provincial-level Doctoral Workstation	Department of Human Resources and Social Security of Guangdong
Dongguan Machine Vision Key Laboratory	Municipal-level Key Laboratory	Dongguan Science and Technology Bureau
Dongguan Machine Vision Engineering Technology Research Center	Municipal-level Engineering Technology Research Center	Dongguan Science and Technology Bureau

Other qualifications and honors

Title	Honor Type	Level	Issuing Authority
High-Tech Enterprise	Technology-Based Enterprise	National	National Leading Group Office for the Certification Management of High-Tech Enterprises
Manufacturing Single Champion Demonstration Enterprise	Technology-Based Enterprise	National	Guangdong Provincial Department of Industry and Information Technology
Intellectual Property Demonstration Enterprise	Honor	National	National Intellectual Property Administration
Intellectual Property Advantage Enterprise	Honor	National	Promotion Department of the National Intellectual Property Administration
Enterprise Technology Center	Technology-Based Enterprise	Provincial	Guangdong Provincial Department of Industry and Information Technology
Engineering Technology Research Center	Technology-Based Enterprise	Provincial	Guangdong Provincial Department of Science and Technology
Manufacturing Innovation Center	Technology-Based Enterprise	Provincial	Guangdong Provincial Department of Industry and Information Technology
Manufacturing Single Champion Product Enterprise	Technology-Based Enterprise	Provincial	Guangdong Provincial Department of Industry and Information Technology
Intelligent Manufacturing Enterprise	Manufacturing Enterprise	Provincial	Guangdong Provincial Department of Industry and Information Technology
Model Enterprise for the Integration of Industry and Education	Honor	Provincial	Guangdong Development and Reform Commission, Department of Education of Guangdong Province, Guangdong Department of Industry and Information Technology, Guangdong Human Resources and Social Security Department, China Development Bank Guangdong Branch
Patent-Intensive Enterprise	Honor	Municipal	Dongguan Administration for Market Regulation
Smart Factory (Workshop) Cultivation Enterprise	Honor	Municipal	Dongguan Bureau of Industry and Information Technology
Key Laboratory	Technology-Based Enterprise	Municipal	Dongguan Bureau of Science and Technology
Smart Factory (Workshop) Project Enterprise	Manufacturing Enterprise	Municipal	Dongguan Bureau of Industry and Information Technology

Ranking on the list

Ranking List	Rank	Issuing Authority
Guangdong Top 500 Manufacturing Enterprises 2024	350th	Institute of Industrial Economics (Jinan University), Guangdong Manufacturing Association, Guangdong Academy of Development and Reform
Top 100 Dongguan Private Enterprises 2024	Not ranked	Dongguan Municipal People's Government, Dongguan Bureau of Industry and Information Technology
Top 100 Dongguan Private Industrial Enterprises 2024	Not ranked	Dongguan Municipal People's Government, Dongguan Bureau of Industry and Information Technology
2024 China Intelligent Manufacturing Comprehensive Competitiveness Top 50	49th	OFweek
2024 China Intelligent Manufacturing Market Share Leaders Top 50	29th	OFweek
China Enterprise Patent Strength Ranking	456th	China HuaFa Qixianqin National Intellectual Property Operation Platform, Guangdong Enterprise Brand Development Promotion Association
2024 China Automation + Digitalization Brands Top 50	50th	gongkong® (China Industrial Control Network)
2023 China Listed Companies Creditworthiness Top 500	233rd	China Enterprise Reform and Development Society, China Cooperative Trade Enterprise Association
2023 China Enterprise Creditworthiness Top 500	250th	China Enterprise Reform and Development Society, China Cooperative Trade Enterprise Association

Outstanding Sustainable Development Practice Case for Listed Companies, 2024

ESG Honors

- Top 10 ESG Performance in the Machinery Manufacturing Industry among A-share listed companies, 2024 by Huazheng
- Top 100 ESG Listed Companies in Non-Financial Sector, 2024
- Top 100 ESG Excellence Performance among A-shares listed companies, 2024
- Top 20 Best Practices in Corporate Governance (G) for A-shares Listed Companies, 2024
- Top 20 ESG Performance in the Industrial Sector among A-shares listed companies, 2024
- Dongguan City “Respect for Innovation” – Best ESG Practice Enterprise, awarded by the Dongguan Listed Companies Association, 2024
- 2024 ESG Pioneer, awarded by Gaogong Lithium
- Outstanding Sustainable Development Practice Case for Listed Companies, 2024

Sustainable Development Strategy and Management

OPT remains steadfast in promoting the concept of sustainability on a global scale, upholding its ambitious vision of “Be a global first-class machine vision enterprise and create a platform for our staff to succeed with self-value.” While continuously advancing technological capabilities and leveraging innovation to drive industrial progress, the company persistently refines and enhances its sustainability governance system, striving to achieve a balanced integration of economic, social, and environmental development.

Governance Structure

Sustainability Governance Structure

The company has proactively strengthened communication with stakeholders, working comprehensively to embed ESG principles throughout the entire value chain. This initiative is designed to enhance the company’ s sustainability capabilities and business resilience, fostering the stable creation and sustained growth of long-term value.

To improve ESG governance effectiveness, OPT has established a robust ESG governance system. The company has formed an ESG Committee under the Board of Directors, supported by an ESG Working Group, resulting in a three-tier ESG governance structure: the Board of Directors, the ESG Committee, and the ESG Working Group. This structure ensures a clear “decision-making — planning — execution” framework. The ESG Committee, in strict adherence to the company’ s “ESG Committee Work Guidelines,” convenes regular and ad-hoc meetings to review, decide on, supervise, and provide guidance on ESG-related matters. The ESG Working Group is responsible for the implementation of specific ESG tasks.

In the due diligence process, the ESG Working Group collects internal and external information and conducts in-depth analysis of potential sustainability risks. This information encompasses internal operations management, employee status, industry trends, as well as relevant policies and regulations. Using established evaluation standards and methodologies, the Working Group assesses the nature, magnitude, and likelihood of these risks. Identified major risk issues are promptly submitted to the ESG Committee for review. The Committee, considering the company’ s strategy, business characteristics, and stakeholder interests, determines the materiality and priority of these issues, enabling effective management of risks and negative impacts related to sustainable development, to achieve a balanced development of the company's economic, social, and environmental benefits

ESG Committee and Working Group Key Responsibilities

ESG Committee

- •Oversee the implementation and achievement of environmental, social, and governance (ESG) visions, strategies, goals, and frameworks, providing recommendations where necessary.
- •Guide and supervise the ESG Working Group in researching, analyzing, identifying, evaluating, and addressing ESG-related risks concerning the company’ s environment, social impact, and governance. Ensure that ESG risks are integrated into the company’ s overall risk management processes.
- •Guide and supervise the ESG Working Group in establishing communication channels and methods with the company’ s stakeholders, ensuring relevant policies are in place to effectively enhance relationships and protect the company’ s reputation.
- •Guide and supervise the ESG Working Group in identifying and evaluating environmental, social, and governance issues that may impact the company’ s operations and/or the interests of other key stakeholders. Review and determine the materiality and significance of identified ESG-related issues.
- •Review reports and significant matters related to the company’ s environmental, social, and governance activities and submit them to the Board of Directors for further consideration.

ESG Working Group

Responsible for the daily operations of the committee and the implementation of its decisions, including but not limited to preparing for the committee’ s decisions, handling daily communication, organizing meetings, and executing resolutions made during meetings.

Strategic Planning

OPT integrates sustainability into its corporate strategy, starting with the company’ s vision and focusing on three foundational aspects: internal control, compliance, and talent development, to strengthen its core competitiveness. Based on this foundation, and in alignment with the 17 United Nations Sustainable Development Goals (SDGs) and industry development trends, OPT conducted in-depth analysis in 2024, incorporating the International Sustainability Standards Board (ISSB) IFRS S1 & S2, while also benchmarking the Guidelines No. 4 for Self-Regulatory Supervision of Listed Companies on the Shanghai Stock Exchange – Preparation of Sustainability Reports. Following a dual-materiality analysis, OPT has further expanded the scope and focus of its sustainability strategy, contributing to global sustainable development.

Risk Management

OPT has established a comprehensive and multi-layered risk management system to ensure the company’ s sustainable development. At the governance level, the Board of Directors is responsible for overseeing the company’ s internal control and risk management systems to ensure their alignment with ESG strategic goals and their effective operation. The Board delegates the responsibility to the Audit Committee, which evaluates the ESG-related internal control and risk management systems for both the company and its subsidiaries, providing support for the Board’ s decision-making.

The company’ s “three lines of defense” in risk management play a crucial role in ESG practices. The first line of defense consists of various business units, which integrate ESG considerations into daily operations, such as factoring in environmental impacts during product development and maintaining the company’ s social reputation in market expansion. The second line of defense includes the company’ s internal control team, control teams at the second-tier units, and business management departments, which are responsible for establishing ESG risk management rules, organizing training to raise employees’ ESG awareness, and supervising the execution of these practices by business units. The third line of defense is the internal audit department, which conducts regular and ad-hoc internal audits to comprehensively examine the company’ s ESG efforts, including environmental compliance and social responsibility fulfillment.

Through this risk management system, OPT is able to effectively identify, assess, and address ESG risks, promoting the coordinated development of the company in economic, environmental, and social dimensions, while enhancing its long-term competitiveness and sustainability.

Risk Category	Specific Risks	Corresponing Opportunities
Policy and Regulation	Rising compliance costs due to stringent environmental standards	Capture green product markets; secure government subsidies
Technology and Innovation	Low domestic substitution rate	Achieve breakthroughs in independent R&D, replace imports, lead technological trends
Market and Competition	Increased competition pressure from carbon emission quotas	Leverage China's "Dual Carbon" strategy to deepen government-enterprise collaboration
Supply Chain	Profit margin fluctuations caused by volatile raw material prices	Deploy eco-friendly material to reduce resource dependency
Social Responsibility	Skills gap between employees and smart manufacturing demands	Establish "OPT Academy" to strengthen industry talent barriers

Topic Assessment

In 2024, the company organized a financial materiality assessment communication session with over 30 internal experts from key departments related to sustainability, as well as external specialists. Through three rounds of comprehensive evaluations by industry experts, the materiality assessment for 2024 was completed. OPT has developed a four-step materiality assessment methodology, which enables a full-process closed-loop from dynamic issue identification to strategic integration and management.

Value Chain and Stakeholder Identification

Based on the company' s business model, an analysis of the value chain composition is conducted, identifying stakeholders involved at each stage and their level of engagement.

Development of the Sustainability Issues List

A sustainability issues list is created based on disclosure standards and guidelines, relevant capital market rating requirements, industry disclosure practices, and trends in the sector. This list is further refined to align with OPT' s operational context, ensuring that it accurately reflects the company' s sustainability challenges.

Materiality Evaluation

Based on the sustainability issues list, an evaluation is carried out to assess the significance of each issue, considering factors such as the likelihood of occurrence, impact, and scope. This is done through surveys and questionnaires. A team of business and financial experts, alongside external sustainability experts, then conducts a financial materiality discussion based on the results of the impact significance assessment, culminating in the final dual materiality evaluation.

Reporting and Strategic Integration

The dual materiality evaluation results are submitted to the ESG Committee for review. These findings are disclosed in the annual sustainability report in compliance with regulatory requirements. Additionally, the results are incorporated into the company' s sustainability strategy, allowing for targeted management and continuous improvement in performance.

Materiality Topic Analysis

OPT integrates ESG concept with its own development strategy and operational characteristics by studying macroeconomic environments and policy trends both domestically and internationally. By benchmarking mainstream ESG disclosure frameworks and evaluation systems, 35 materiality topics have been identified. Through surveys, interviews, and management assessments, the boundaries and significance of these topics are clarified, serving as key inputs for enhancing the company' s ESG management. This guides the development of initiatives, allocation of resources, and information disclosure.

For topics deemed to be of high and moderate importance, responsible departments engage in multidimensional risk forecasting and opportunity identification, extending the impact of the company' s operations to its value chain. Regarding disclosure, priority is given to reporting the annual management actions for the most significant topics. In terms of practice, the company strengthens overall management of these topics, leveraging its internal control system and risk management capabilities to rigorously control related risks and actively seize relevant opportunities to achieve sustainable development.

Highly materiality	Moderately materiality	Less materiality
Clean Technology Opportunities	Governance Standardization	Water resource utilization
Carbon Emissions Management	Operational Stability	Rural revitalization
Innovation-Driven Growth	Compliance Management	Due diligence
Product Safety and Quality	Risk Management	Equal treatment of small
Data Security and Privacy	Business Ethics	and medium-sized enterprises
Customer Service	Disclosure Transparency	
Supply Chain Security	Social Contributions	
Digital Transformation	Employee Rights Protection	
Intellectual Property	Compensation and Benefits	
Human Capital Development	Anti-Corruption	
Occupational Health and Safety	Anti-Unfair Competition	
Chemical Safety	Technology Ethics	
Environmental Compliance	Climate Change Adaptation	
Investor Relations	Pollutant Emissions	
Energy Efficiency	Waste disposal	
	Circular Economy	

Stakeholder Engagement

OPT actively engages in dialogue and collaboration with stakeholders, maintaining diverse communication channels and methods to listen to their voices. This provides valuable insights for identifying sustainability opportunities, strengthening sustainability capabilities, and improving the quality of information disclosure. OPT has established smooth and diverse communication mechanisms with its stakeholders. Depending on the relevance of stakeholders to specific business areas, corresponding departments take the lead in communication efforts. After fully understanding the concerns and expectations of all parties, the company integrates stakeholder concerns, demands, opinions, and suggestions into its operational management, sustainability strategy, risk and opportunity identification and response, and the setting and management of goals and indicators, striving to achieve harmonious coexistence and mutual growth between the company and its stakeholders.

Key Stakeholders	Expectations and Demands	Communication Channels
Shareholders and Investors	Generate investment returns Safeguard shareholder rights Disclose materiality information Ensure operational stability	Regular disclosures Shareholders' meetings Investor roadshows Hotline and email
Suppliers	Build a responsible supply chain Adhere to business ethics Honest performance of contracts	Supplier audits Surveys Daily management
Customers	Product research and development innovation Product quality and safety management Occupational health and safety Adhere to business ethics	Needs surveys Complaints hotline On-site visits Account managers
Employees	Ensure basic rights and benefits Skills training Clear promotion channels Competitive compensation Safe working environment	Satisfaction surveys Leadership forums Manager mailbox Labor union
Government and Regulatory agencies	Create employment opportunities Environmental compliance Pay taxes in accordance with the law Energy saving and consumption reduction	Regulatory reporting Disclosures Briefings Policy meetings
Communities	Do not impact the ecological and living environment Provide employment opportunities Conduct public welfare activities	Public disclosures Community hotline Recruitment platforms
Public and Media	Protect the environment Compliance operations Information transparency	Media interviews Industry events Report disclosures

Sound Management Strengthening Corporate Governance

A sound corporate governance framework serves as the cornerstone and a vital safeguard for OPT' s sustainable development. We operate with integrity and full compliance, strictly adhering to national laws and regulations, requirements of regulatory authorities, and corporate governance policies. We emphasize robust risk management and internal controls, continuously strengthen our compliance system, and actively engage with investors to support the company' s long-term, steady development. We firmly believe that best governance practices help clarify responsibilities, protect shareholder interests, enhance corporate value, and enable the company to share the fruits of development with all stakeholders.

Our Actions

- Strengthened the corporate governance system, enhanced investor communication and information disclosure, and safeguarded shareholder interests.
- Improved internal control systems and business ethics guidelines, fostered a strong culture of compliance across the organization, and effectively mitigated operational risks.

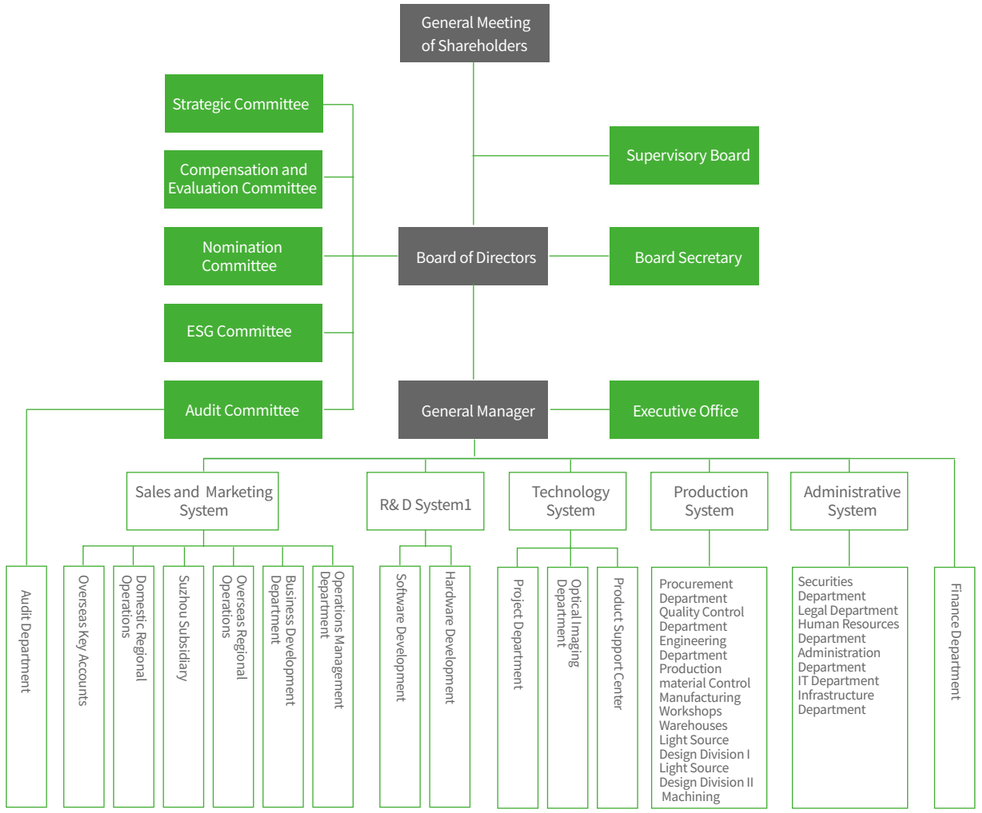
Our Achievements

- 194 investor engagement sessions organized
- 97 compliance training sessions conducted
- 0 corruption-related complaints received

Strengthening Corporate Governance

The company strictly adheres to relevant laws and regulations such as the Company Law of the People's Republic of China, the Securities Law of the People's Republic of China, the Corporate Governance Standards for Listed Companies, and the Shanghai Stock Exchange Science and Technology Innovation Board Listing Rules, and has established a sound corporate governance structure of "three meetings and one layer", standardized and compliant operations, and continuously improved the level of corporate governance. The board of directors establishes a strategic committee, audit committee, nomination committee, compensation and assessment committee, and ESG committee to assist the board in fulfilling its responsibilities and regularly report its activities and resolutions to the board. Under the board of directors is the general manager, who leads the general office. The company management is divided into five main systems, namely marketing system, research and development system, technology system, production system, and comprehensive system. The marketing system includes overseas strategic major clients, domestic regions, Suzhou subsidiary, overseas regions and operations management department; The R&D system includes software development and hardware development; The technical system includes the project department, optical imaging department, and product support center; The production system includes the procurement department, quality department, engineering department、PMC、Production workshop, warehouse, light source design department one, light source design department two, machining; The comprehensive system includes the Securities Department, Legal Department, Human Resources Department, Administration Department, Information Department, and Infrastructure Department.

Corporate Structure



Board Diversity

OPT’ s Board of Directors is committed to diversity and considers various dimensions such as age, education, ethnicity, and professional expertise to ensure well-rounded decision-making that strengthens sustainable development. In 2024, the Board welcomed a new independent director from an ethnic minority. Currently, the Board comprises seven members with diverse backgrounds in accounting, law, and other professional domains. Female directors account for 14.29%, and independent directors represent 57.14% of the Board.

Name	Position	Board	Audit Committee	Nomiation Committee	Compensation and Evaluation Committee	Strategic Committee	ESG Committee
Shenglin Lu	Chairman	√				√	√
Zhilin Lu	Director	√			√	√	
Xueliang Xu	Director	√					√
Yanqin Zhang	Independent Director	√		√	√		√
Dingyuan Deng	Independent Director	√	√	√		√	
Guilinn Chen	Independent Director	√	√		√		
Chunxiao Xie	Independent Director	√	√	√			

Key Performance(2024)

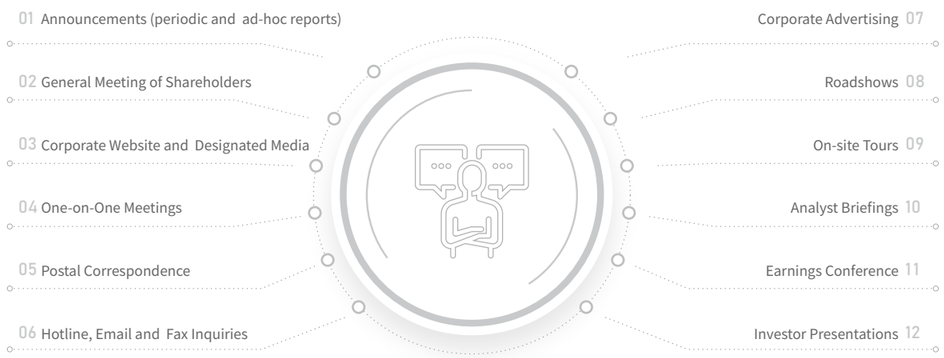
Board Meetings Held	Supervisory Board Meetings	Shareholder Meetings	Strategic Cimmittee Meetings
8 Times	7 Times	5 Times	1 Times

Nomination Committee Meetings	Compensation Committee Meetings	Audit Committee Meetings	ESG Committee Meetings
1 Times	2 Times	3 Times	1 Times

Investor Relations Management

To foster transparent communication with current and potential investors, enhance mutual understanding, and improve corporate credibility, OPT adheres to the principles of compliance, fairness, proactivity, and integrity. The company has established policies including the Investor Relations Management System and Investor and Media Reception Management Guidelines. To strengthen crisis response and media handling capabilities, OPT introduced a new Public Opinion Management System in August 2024 to manage the impact of public sentiment on stock performance and corporate reputation.

Investor Communication Channels



Investor Feedback

Q

Question:

Dear Secretary of the Board, we' ve noticed OPT' s ESG rating has not stood out in recent years. Does the leadership prioritize public concerns on ESG, especially in the social domain? Are there any improvement plans?

A

Response:

Dear investor, thank you for your attention and valuable feedback. OPT places great importance on ESG development. In 2023, we established an ESG Committee and formulated the ESG Working Rules for the Board of Directors to ensure ESG initiatives align with our corporate strategy. We actively engage with stakeholders such as employees and communities to understand their expectations and respond effectively. On the social front, OPT continues to enhance employee training and development opportunities and participates in community initiatives to fulfill its corporate social responsibility. We remain committed to strengthening ESG governance and benchmarking against industry best practices to enhance long-term sustainability.

Key Investor Relations Initiatives

To improve investor understanding of OPT' s operations, financial performance, and strategy, the company partnered with CICC Wealth Management to host an investor open-day event led by our Deputy General Manager and Board Secretary, Mr. Xu Xueliang. We also participated in the 2024 Guangdong Investor Relations Month and held online investor Q&A sessions after undergoing targeted investor protection training.

Key initiatives in 2024 include:

- In March, controlling shareholders and concerted actors completed a share purchase plan, acquiring 295,566 shares (RMB 27.41 million), representing 0.24% of total equity.
- In April, OPT announced a 2023 dividend payout of RMB 64.78 million (33.44% of net profit attributable to shareholders) and issued a three-year dividend return plan (2024–2026), ensuring sustainable dividend practices.
- In July, a mid-year dividend proposal was proposed to implementby controlling shareholders to reinforce our "Efficiency and Return" strategy and boost investor confidence.
- In August, a semi-annual dividend payout of RMB 15.89 million was announced (14.02% of net profit attributable to shareholders), and the efficiency-return action plan was evaluated for implementation.
- In September, The controlling shareholder, the actual controller, and their concerted parties proposed a share repurchase plan as part of the company' s "Enhancing Quality, Improving Efficiency, and Increasing Returns" initiative. In response, the company formulated and disclosed the repurchase plan and explanatory report. The repurchase process progressed in an orderly manner during the reporting period and was successfully completed in March 2025.

July 23, 2024: "Visit Listed Companies – OPT" event with CICC Wealth Management.

September 12, 2024: Online Collective Reception Day for Investors of Listed Companies in Guangdong Province

Information Disclosure and Transparency

OPT has established a robust system of information disclosure in compliance with applicable laws and regulations, which includes the Information Disclosure Management Policy, Accountability Policy for materiality Misstatements in Annual Reports, Insider Information Registration Management Policy, and materiality Information Internal Reporting Policy. The Company fulfills its information disclosure obligations lawfully, ensuring that all materiality information that could significantly impact the decisions of shareholders and other stakeholders is disclosed truthfully, accurately, promptly, completely, and fairly via the Company' s official website and the Shanghai Stock Exchange, thereby safeguarding shareholders' right to be informed.

In 2024, in addition to the release of regular periodic reports, OPT issued timely disclosures on various key matters, such as revisions and formulation of internal policies, performance briefings, profit distributions, termination of stock incentive plans, actual use of raised funds, equity investments, election of employee supervisors, share repurchase programs, and appointment of independent directors. These disclosures provided investors with deep insights into the Company' s operations and strategic direction, supporting sound investment decisions.

OPT has achieved remarkable results in information dissemination and promotional materials. Over 1,500 pieces of visual content were produced, including posters, social media graphics, and exhibition materials. The cumulative volume of product and corporate brochures exceeded 2,000 pages. The Company created and optimized 26 versions of corporate and product presentation slides, covering 11 product lines in both domestic and international markets.

By December, 24 articles had been published on social media platforms, reaching a total of 62,447 views, with an average of 2,974 views and 141 shares per article. Video platforms recorded 25 videos on the Company' s video account with 199,046 total plays, and 25 videos on Douyin with 198,373 total plays. On Kuaishou and Bilibili, 20 videos accumulated 16,426 plays. The Company' s Chinese website received 2,507,887 visits, resulting in 2,994 total inquiries, including 1,952 from new clients and 1,042 from existing clients. Offline, OPT actively participated in five domestic exhibitions, two overseas trade fairs, three industry forums, and hosted four salon-style roundtable events, significantly enhancing its brand visibility and stakeholder engagement.

Key Performance Metrics

Metric	Unit	Data(As of Dec 2024)
Investor Research Activities Organized	Times	194
Investor Hotline Response Rate	%	100%
On-site Institutional Investor Visits	Batches	76
Investor Engagement Sessions	Participants	1, 300+
Periodic Reports Published	Documents	4
Ad-hoc Announcements Issued	Documents	116

Building a Compliance Ecosystem

Institutional Framework

In 2024, OPT revised its Articles of Association twice and updated its Rules of Procedure for Board Meetings. The Company also established four new internal policies: Regulations on the Engagement of Accounting Firms, Guidelines for Independent Directors' Special Meetings, Management Measures for Deferred and Exempted Information Disclosure and Public Opinion Management System. Additionally, the Company launched initiatives aimed at enhancing returns to investors, including the 2024 Action Plan for Quality Improvement and Efficiency Enhancement and the Three-Year Dividend Return Plan (2024–2026), thereby continuously improving corporate governance.

Compliance Standards and Training

The Company regularly conducts comprehensive compliance training. All new employees received 100% coverage in compliance onboarding sessions. In addition to induction training, OPT offers periodic programs covering professional development, industry trends, and compliance requirements to enhance risk awareness and management capabilities among employees. Employees and their families are explicitly required to avoid conflicts of interest when holding shares, assuming positions, engaging in part-time roles, or recommending business. Through these measures, OPT is committed to strengthening corporate governance, advancing ESG integration, and creating long-term value for shareholders and society.

NO.	Date	Organizer	Training Content	Duration (h)	Participants	Total Hours
1	2024/1/24	SSE	ESG and Value Creation: Capital Market Training (Phase III)	7.67	1	7.67
2	2024/2/1	Guosen Securities	Continuous Supervision	1.00	10	10.00
3	2024/2/1	Securities Department	Utilization of Raised Capital	1.00	8	8.00
4	Jan-May 2024	OPT Departments	Corporate Culture, Fire Safety, Integrity, Environmental Protection	27.50	223	557.50
5	2024/5/10	CSRC and China Securities Association (CSA)	1. Independent Director Reform; 2. Corporate Governance Best Practices	16.33	2	32.66
6	2024/5/30	CSA	ESG and High-Quality Development of Listed Companies	2.50	1	2.50
7	2024/6/14	Ma Yongbin Capital	N/A	24.00	1	24.00
8	2024/6/14	OPT	Anti-Fraud and Integrity Training 2	2.00	13	26.00
9	2024/6/20	SSE	M&A and Restructuring Training (Guangdong)	2.50	1	2.50
10	2024/7/26	SSE	STAR Market Policy Workshop (Advanced Manufacturing)	8.00	1	8.00
11	2024/10/30	SSE	2024 STAR Market Board Secretary Certification (Phase IV)	18.60	2	36.12
12	2024/11/7	Guangdong Listed Companies Association	2024 Directors, Supervisors and Executives Training (Guangdong)	8.00	2	16.00
13	2024/11/20	China Quality Certification Center (CQC)	2024 ESG Report Launch and Training	2.00	25	50.00
14	2024/11/26	SSE	2024 Directors and Supervisors Training (Guangdong, Phase II)	8.00	8	64.00
15	2024/11/29	SSE	Bank-Enterprise Exchange (Guangdong)	2.00	1	2.00
16	2024/12/11	Dongguan Listed Companies Association	High-Quality Development Training (Dongguan)	2.00	1	2.00
17	2024/12/16	SSE	Anti-Fraud Responsibilities and Best Practices for Independent Directors	1.12	4	4.47
18	2024/12/26	SSE	Annual Report Preparation and Independent Director Training	8.00	1	8.00
			Total		305	861.42

Key Performmance Metrics

Compliance Training Sessions	Total Trainees	Average Training Hours per Employee
97 Sessions	2,618 Person-Times	2.08 Hours

Upholding Business Ethics

OPT is committed to the principles of honesty, integrity, and fair competition. The Company has implemented a robust internal system to ensure ethical conduct across all operations.

Anti-Fraud Measures

OPT has established a comprehensive Anti-Fraud Audit System, clearly defining audit scope—including verification of financial compliance, screening for business fraud risks, and internal checks and balances. A structured audit process is rigorously followed from lead identification and preliminary investigation to in-depth analysis and final reporting. More than 10 anti-fraud training sessions were held in 2024. Thanks to these preventative systems and procedures, no fraud incidents occurred during the reporting period

Anti-Fraud Training)

Anti-Bribery and Anti-Corruption

During the reporting period, OPT continued to enhance its anti-bribery and anti-corruption framework, covering prevention, monitoring, and resolution processes. Responsibilities and protocols were clearly defined for all departments and roles. From onboarding, new employees received training on workplace integrity, with additional targeted training for high-risk departments such as procurement. The Company regularly conducted risk assessments led by Internal Audit, in coordination with Legal and Compliance teams, ensuring risk mitigation across all business levels.

Strict approval mechanisms and compliance guidelines were applied to key business areas, including partnerships, procurement, and sales. Case analyses, industry risk reviews, and internal audits were used to identify and quantify potential risks. As of the reporting date, there were no bribery- or corruption-related legal proceedings involving the Company, its board, management, or staff.

Fair Competition

OPT adheres to voluntary, fair, equal, and honest business principles. The Company strictly complies with the Anti-Monopoly Law and Anti-Unfair Competition Law of the People' s Republic of China, actively fostering ethical conduct across its operations. No lawsuits or major penalties related to unfair competition occurred in 2024.

Whistleblower Protection

OPT has implemented a comprehensive Whistleblower Policy, offering multiple secure reporting channels including hotlines, email, and online platforms. A detailed investigation process ensures all reports are handled promptly, fairly, and effectively. Confidentiality is strictly enforced to protect whistleblower identities and prevent retaliation. A reward-and-penalty mechanism encourages participation: verified violations result in disciplinary action, while valid tips are incentivized. No whistleblower reports were filed during the reporting period.

Enhancing Risk Management

Robust Risk Control Framework

OPT places strong emphasis on risk management. A comprehensive risk control framework has been established, with quarterly audits covering key areas such as use of raised funds, related-party transactions, external guarantees, and investments. Routine audit reviews are systematically coordinated with future planning to ensure operational compliance and protect stakeholder interests.

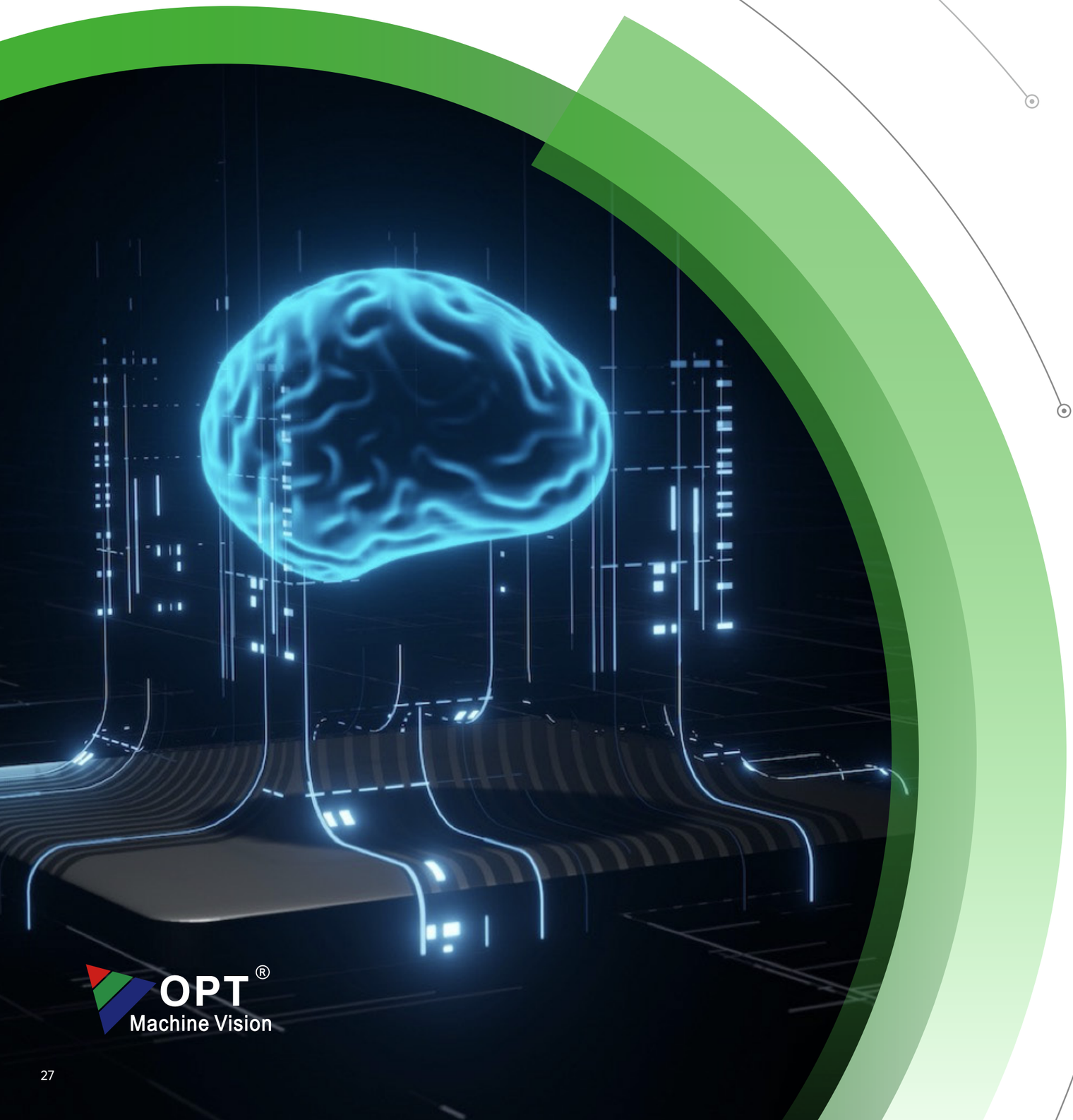
Enhanced Project Management

In response to the specific requirements outlined in the regulatory letter issued in 2024, OPT acted promptly and proactively adjusted its strategies. Regarding the management of raised funds, the company organized reporting meetings with directors, supervisors, and senior executives, strengthened communication with the sponsor institution, and enhanced internal staff training while conducting a comprehensive review. By promoting close collaboration between the audit and finance departments, the company ensured compliance in the use of funds. Strict accountability and criticism were imposed on those responsible for overspending beyond approved budgets, reinforcing the rigor of fund management.

In terms of project management, OPT vigorously advanced the rectification of the Marketing Network Center project, promptly disclosed updates regarding adjustments to the investment structure, and reallocated funds in a rational manner to optimize resource allocation. At the same time, the company scientifically planned other projects funded by raised capital, accelerated the construction progress of the project and promptly disclose the progress to the public—enhancing project management with greater precision, transparency, and efficiency.

Exit Audit Mechanism

OPT has established a formal Exit Audit System, covering financial compliance, handover integrity, intellectual property protection, and confidentiality obligations. A well-defined process begins at resignation, involving document collection, in-depth reviews, and final audit reporting. Resignation audit training were conducted to enhance auditors' professionalism and competence. This robust system effectively mitigated risks during personnel transitions, with no related incidents reported in 2024.



Innovation-Driven Delivering High-Quality Products

In high-tech industries, innovation is the core engine of sustainable development and competitiveness. OPT regards innovation as the cornerstone of ESG strategy, advancing initiatives in data security, customer privacy, technological innovation, product quality, brand development, and supply chain management.

Guided by ESG principles, the Company strives to enhance product quality through a multidimensional approach. In cybersecurity, OPT maintains robust governance structures and emergency response systems to ensure data integrity and operational safety. Customer service efforts focus on safeguarding privacy and promptly addressing client needs to boost satisfaction and loyalty.

On the innovation front, the Company harnesses cutting-edge models and assembles top-tier talent to reinforce its technological foundation. Product performance and user experience are continuously refined to enhance brand perception. Diverse branding strategies promote broader engagement and convey corporate values across platforms.

The supply chain is managed under the principle of responsible sourcing, supported by a sound risk control framework. This ensures quality assurance and stability in material supply. By integrating innovation, security, service, quality, branding, and supply chain resilience, OPT lays a solid foundation for premium product development while advancing sustainable growth under ESG imperatives.

Our Actions

- Adopt a demand-oriented R&D approach tailored to the features of our products and solutions to enhance development quality.
- Establish an Industry-Academia-Research Collaboration Center to improve talent development and recruitment mechanisms.
- Advance our green strategy by issuing verification reports on waste reduction, energy conservation, and emission reduction.
- Continuously refine our end-to-end supplier evaluation system to mitigate supply chain risks and drive ESG performance among partners through responsible practices.

Our Achievements

- Three technology projects—micron-level real-time visual inspection technology, 3D robotic vision grasping system, and industrial visual core technology and algorithm development for lithium battery manufacturing—were included in the municipal key technology project database.
- Recognized as the “Innovative Enterprise of the Year ” in the 2023 China Battery Industry Chain Awards (7th “Lithium Award”).

Data Security and Privacy Protection

Safeguarding Customer Experience with Information Security

OPT adheres to national and industry ethical standards in the field of intelligent technologies, resolutely preventing algorithmic bias and prioritizing data security and user privacy. We view cybersecurity as both a fundamental industry requirement and a cornerstone for driving innovation and delivering a safe, high-quality user experience. By providing reliable, secure products and services, OPT has significantly strengthened customer trust and loyalty, fostering a robust ecosystem that supports continuous innovation. In addition, we collaborate closely with partners to build a secure and resilient digital environment, integrating resources to enhance our product offerings and competitiveness in a rapidly evolving market.

Improving Cybersecurity Governance

We have established a cybersecurity governance framework led by our IT department and supported by comprehensive policies, including:

- Cybersecurity Management Policy
- Information Security Management Procedures
- Visitor Management System Notification
- Campus Access and Visitor Policy
- Computer Equipment Management Policy

We disseminate security awareness and risk alerts across the company and have achieved a 100% employee confidentiality agreement signing rate. These efforts significantly improve system security and reduce cybersecurity risks.

Advancing Cybersecurity and Digitalization

In terms of systems, the company has implemented key information systems, including ERP (Enterprise Resource Planning) for operational management, OA (Office Automation) for administrative affairs management, MES (Manufacturing Execution System) for production management, BI (Business Intelligence) platforms for data analysis, reporting, and application management, and CRM (Customer Relationship Management) systems. These systems centralize the management of supply chain, production, financial costs, human resources, documents, and business data, thereby optimizing operational efficiency. Additionally, the company has established a robust network security management framework and a comprehensive data security policy.

Regarding operational procedures, the company has adopted a clear and comprehensive internet usage policy, incorporating specific measures to mitigate cybersecurity risks. Employees are strictly prohibited from accessing illegal or high-risk websites, engaging in non-work-related internet activities during work hours, or utilizing unauthorized external software or tools. These measures ensure that internet usage is in compliance with the company' s security standards and minimize potential vulnerabilities. The company employs internet usage management tools to monitor employees' internet access and data traffic in real-time, with mechanisms in place to preemptively warn and block the transmission of sensitive data, thus safeguarding confidential corporate information.

Network access permissions are allocated based on employees' roles and responsibilities, adhering to the principle of least privilege. For instance, finance personnel are granted access to specific financial systems and databases relevant to their duties, whereas general employees do not have such access, reducing the risk of security breaches due to human error or malicious activities. No data security incidents have occurred during the reporting period.

Intelligent Technologies Empowering Customer Service

OPT is committed to becoming a world-class vision technology enterprise. The company actively explores new fields, develops cutting-edge technologies, and launches innovative products, providing customers with diversified solutions and a comprehensive portfolio of software and hardware to support their intelligent manufacturing upgrades.

R&D Investment and Innovation

Since its establishment, the company has consistently prioritized technological upgrades and innovation in product development. Over the past three fiscal years, the cumulative R&D investment accounted for 20.37% of the company' s cumulative operating revenue, ensuring ample resources are available for the exploration of emerging technologies and the development of new products. The company has built a high-caliber, specialized R&D team composed of experts and top talent in diverse fields such as computer vision, image processing, artificial intelligence, and mechanical engineering. On December 31, 2024, the total number of R&D personnel in the company was 1, 034, accounting for 39.50% of the total number of employees, providing a solid human resource guarantee for technological innovation.

Additionally, the company actively participates in industry standard formulation and technical exchange activities. At both international and domestic technical forums, seminars, and other relevant events, Opt has shared its technical experiences and innovative achievements, while also absorbing advanced ideas and technological trends from the industry. This continuous engagement has enabled the company to enhance its technological R&D capabilities and expand its influence within the industry.

Key Performance Indicat

Metric	Unit	2021	2022	2023	2024
By Role					
R&D Staff	Headcount	715	813	899	1,034
Non-R&D Staff	Headcount	1,110	1,285	1,369	1,584

Building an Information Platform

In the process of building an information platform, the company relies on information systems to proactively address a wide range of risks, accumulating a wealth of successful examples and well-established procedural documentation. In terms of the management processes for information systems, the company has implemented strict procedures, including the Information System Requirement Application Form, which accurately records and strictly approves various system requirements, including key functional and performance aspects; the System Development Progress Form, which closely tracks the entire system development process, clarifying each stage' s timeline and completion status; and the System Function Launch Application Form, which rigorously controls the process of launching new system functions, progressing according to functional testing results and launch plans. In the area of operations and maintenance (O&M) change management, the O&M change request form plays a crucial role. All system operation tasks such as configuration adjustments, software upgrades, and data migration are initiated through this form, which details the change specifics, timeline, responsible parties, and approval personnel. After rigorous approval, the changes are executed precisely according to O&M needs, effectively minimizing operational risks and ensuring the stable and efficient operation of the system, thereby laying a solid foundation for the core technology platform.

Guangdong Electromechanical Polytechnic Smart Vision Training Center Project

Global Exhibition Hall – Machine Vision Technology Application Center serves as a premier platform for technical exchange and collaboration

AI Empowering Machine Vision to Drive Smart Manufacturing Upgrades

- **3C Industry**
  The company develops high-precision and highly reliable AI solutions, covering a wide range of processes in mobile phone manufacturing, including screen production, assembly, and electronic recycling. In defect detection, such as small hole sidewalls, through-holes, knife marks, unseen light, scratches, and surface bruises on voice coil motors, the accuracy far exceeds industry standards. In the glue path reinspection project for mobile phones and earphones, using high-quality image generation technology, only 15 images are needed to generate a large batch of high-quality defect image data. The generation accuracy is controlled to 3 pixels, with a false detection rate kept below 0.1%.

- **Lithium Battery Industry**
  OPT has launched an industry-wide AI model that enables high-speed adaptive general inspection of key processes such as winding and stacking in lithium battery production. For the earlier processes in lithium battery manufacturing (such as coating, slitting, and die cutting), the company provides plug-and-play, high-speed, and high-precision industrial vision solutions. For the diverse processes in the middle and later stages (such as welding, packaging, and shelling), the company has developed adaptive transfer learning technology, which helps shorten the AI project implementation period by 40% when switching production lines.

- **Semiconductor Industry**
  For 12-inch wafers, the company offers precise and rapid AOI (Automated Optical Inspection) detection and counting, covering 16 types of defects such as dirt and scratches. The detection accuracy reaches micrometer-level precision. The system can accurately count and categorize up to 600,000 die, with overall visual processing time under 30 seconds, a missed detection rate of 0.1%, and a false detection rate of 2%.

- **Other Industries**
  The company’s AI technology is also applied in multiple industries, including logistics, transportation, and healthcare. For example, in the logistics industry, the AI solution assists sorting systems in accurately detecting 1,518 packages per hour, with a 100% successful capture rate and a low double-pick rate of 0.01%.

Optimizing Intelligent Security and Protection System

Automated Security Operations and Maintenance

By leveraging automation tools and technologies, the company has streamlined the security operations and maintenance (SecOps) processes, reducing human error and improving efficiency. For example, the implementation of the Data Leak Prevention System encrypts the devices of key departments (such as R&D, finance, procurement, and information) with file encryption. This ensures that even if files are leaked, their data remains inaccessible, effectively preventing sensitive information from being exposed.

Continuous Security Monitoring and Auditing

A continuous monitoring mechanism has been established to track the security status of networks and systems in real time, ensuring early detection and documentation of security events. Antivirus servers and all operational platforms automatically conduct daily virus and malware scans, generating comprehensive reports that include detection time, results, and recommendations for handling. This ensures system security and allows administrators to promptly assess the security status. No data breaches or abnormal data incidents occurred in 2024.

Emergency Response and Recovery

An intelligent emergency response plan has been developed, utilizing automation tools to quickly address security incidents, minimize losses, and ensure rapid business recovery.

Customer Data Privacy Protection

Institutional guarantee

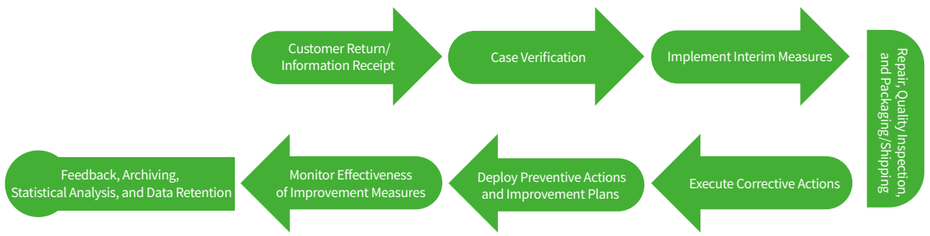
The company' s confidential information includes relevant plans, business data, operational materials, and technical documentation. OPT has established a comprehensive customer data privacy protection framework, ensuring effective implementation of privacy safeguards. The system explicitly prohibits the leakage of customer information and establishes a robust accountability mechanism, along with an approval system for access requests. The application process involves submitting an OPT System Access Request Form via the company' s OA system, which is reviewed and approved sequentially by the department supervisor, system management leadership, and the general management office, before the IT department grants access. This system effectively governs access to sensitive customer-related information, ensuring that privacy is strictly protected.

Technical Protection

At the equipment level, top-tier antivirus software is installed on servers and terminal computers. In terms of network security, the company is equipped with local firewalls, IPS/IDS devices, and uses advanced firewall filtering at the gateway, with daily updates to the rule database, ensuring comprehensive protection of customer privacy data. During the reporting period, the company did not experience any incidents of customer privacy data breaches.

Product Recall in Compliance with Regulations

In 2024, the company' s product recall process followed the Customer Complaint Return and Exchange Management Procedures. The company has established a clear system for after-sales service and product recalls, ensuring its effective implementation. A dedicated pathway for handling customer complaints has been set up, with a detailed process for resolution. The company remains committed to addressing all customer complaints promptly and effectively, ensuring a high-quality customer service experience and protecting customer rights. To date, the company' s product recall rate stands at 0%.



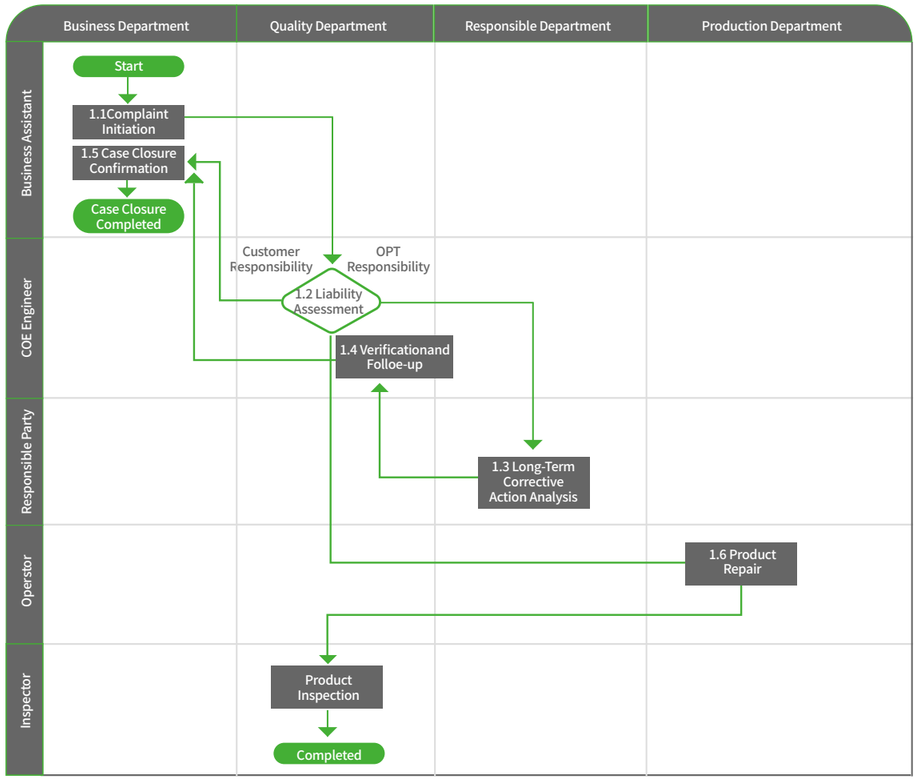
Process Flowchart: Product Return and Repair Procedure

Key Performance Indicators

Index	Unit	Date
Yield Rate	%	99.62%
Product Racall Rate	%	0

Standardized Handling of Customer Complaints

The company has implemented the Customer Complaint Handling Procedures to address complaints proactively. Complaints are analyzed in conjunction with feedback from business departments, the product' s operating environment, and product conditions to generate improvement plans. The repaired products are returned to the business department for follow-up with the customer. For products that are returned for repairs without complaints, both product repair and quality improvement are carried out simultaneously to resolve customer issues as swiftly as possible. Customer feedback is addressed within 4 hours with a temporary solution and within 72 hours with a long-term improvement plan. In 2024, the complaint resolution rate was 100%.



Customer Complaint Handing Process

Key Performance indicators

Customer Satisfaction Rate	%	90.81%
Complaint Resolution Rate	%	100%

Promoting Product and Technological Innovation

Innovation-Driven Approach

The company operates within a scientifically structured and effective institutional framework, backed by a comprehensive quality management system that continuously improves the supporting network. It clearly defines research and development (R&D) processes and models, driving the development of new products and the optimization of existing products, ensuring that products consistently meet market demands, industry advancements, and regulatory requirements. In the innovation development process of 2024, OPT has re-obtained the Intellectual Property Compliance Management System Certification, further demonstrating its commitment to technological innovation.

Intellectual Property Compliance Management System Certification

- Technology Innovation Strategy and R&D Goals

  Clear Strategic Direction and Measurable Targets

  Since its inception, OPT has placed significant emphasis on technological upgrades and R&D innovation. Currently, the performance and quality of its products have reached an industry-leading level and are widely recognized by top-tier domestic and international clients. In 2024, the company continued to focus on meeting the needs of downstream customers, with an increased investment in R&D. Key areas of focus include industrial AI, 3D processing and analysis, image perception and fusion, and hardware acceleration for image processing and analysis. Furthermore, the company strengthens its capabilities in areas such as light source control, lenses, smart cameras, and visual processing and analysis software. OPT also expanded into smart perception and fusion, intelligent data processing and analysis sensor technologies, and high-precision motion components and integrated drive control systems, enhancing its competitiveness in core automation components.

- R&D Support Measures

  Financial Support: R&D expenditures have shown a steady annual increase, providing material support for exploring new technologies, designing and developing new products, and optimizing and upgrading existing products.

  Talent Team: OPT attracts high-end talent through platforms such as national post-doctoral research stations, Guangdong Province post-doctoral workstations, OPT Research Institute, and global R&D projects, enhancing the strength and optimizing the structure of its R&D team. The company will continue to recruit and cultivate top talent, expanding the research institute and post-doctoral stations. By 2024, the total number of R&D personnel reached 1,034, accounting for 39.50% of the company’ s total workforce. In the future, the company will continue to recruit and nurture high-end talent, expanding the scale of the research institute and post-doctoral stations.

  Facilities and Industrial Parks: OPT is equipped with a world-leading machine vision laboratory, featuring a wide variety of optical components, high-precision optical platforms, and professional line array testing platforms. These facilities provide an excellent experimental and testing environment for R&D personnel, enabling them to conduct precise technical research and product performance validation. Additionally, the company is developing major projects such as the headquarters R&D center and East China R&D and technical service centers, which will significantly expand the physical space for R&D activities. These industrial parks will accelerate the conversion of technological research into practical productivity and provide strong hardware support and strategic backing for OPT’ s long-term development in the machine vision field.

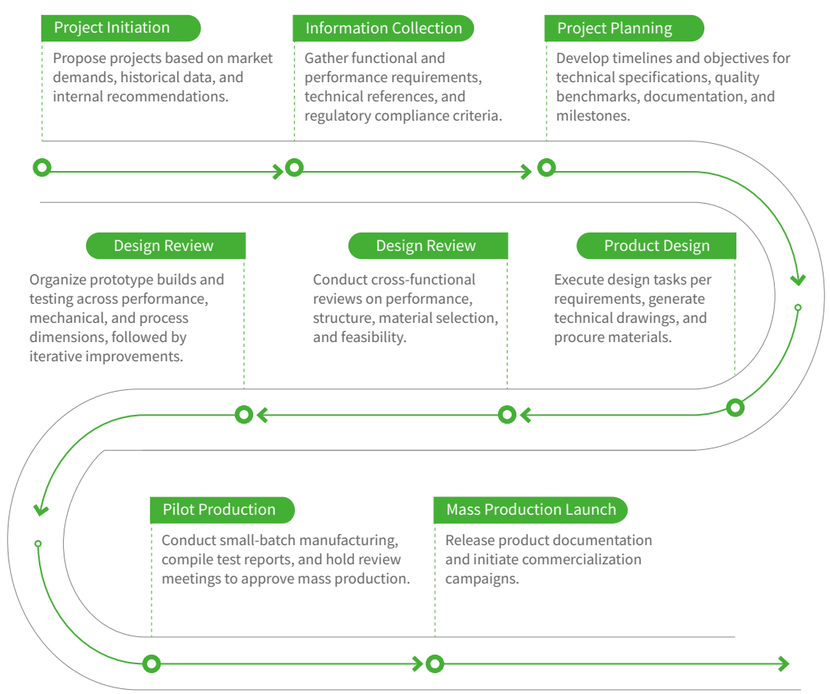
R&D Management

OPT has established a comprehensive internal management system that explicitly defines the ethical guidelines that must be followed in scientific activities. Before launching any R&D project, a technological ethics risk assessment is conducted to ensure that the project adheres to ethical norms. Regular checks and supervision are carried out throughout the project to ensure compliance. The company has developed a series of systems, including the Scientific Research Project Management Regulations, Departmental Management Methods, R&D Investment Accounting System, Technology Achievement Transformation and Reward System, R&D Personnel Recruitment, Training, and Performance Evaluation System, and the Equity Incentive Plan Implementation Management Measures, to fully regulate the R&D innovation process. Additionally, confidentiality agreements are signed with clients to ensure that customer data is collected and handled in compliance with privacy regulations.

Through the effective implementation of these systems, the company not only ensures the orderly conduct of R&D activities but also significantly enhances employees’ innovation enthusiasm and sense of responsibility, providing a solid foundation for the company’ s long-term development and competitiveness in the market. Moreover, the company has established a management structure where the General Manager-Technical Vice President-R&D Department oversees R&D activities, with the Chairman directly managing technological innovation. This structure ensures high-level attention and strong support for R&D activities, effectively improving the efficiency of technological innovation and product development, and fostering continued growth in the intelligent technology sector.

- R&D Process

  To standardize the full process from project initiation to output, and to ensure that new product development proceeds smoothly, the company has implemented a New Product Development Control Procedure. This procedure outlines the responsibilities of each department throughout the product development process, ensuring the planning and management of new product development, and enhancing R&D efficiency and product quality.



R&D Performance

In 2024, the R&D team made continuous improvements to the functionality and stability of various products. While meeting the diverse needs of different user groups, the team minimized the consumption of system resources, reduced computational energy consumption, and improved computational accuracy, contributing to reduced carbon emissions. Optimizations were made across various aspects, including the underlying software, functionality, and modules, enhancing stability, expanding feature sets, and improving processing efficiency. These improvements reduced product energy consumption per unit of output and promoted the green transformation of downstream products. Additionally, the products' applicability in industrial scenarios was enhanced, particularly in areas such as photogrammetry, production monitoring, and quality inspection. These advancements have optimized production processes and increased production efficiency, further ensuring the stability of industrial production and product quality, thus providing strong support for the stable operation of the social economy. This report primarily discloses OPT' s industrial cameras, 3D laser profiler, smart code reader , smart cameras, and visual software products.

Industrial Cameras

Product Overview: Launched in 2008, the industrial camera portfolio includes four major series: C1, H1, L1, and B1, offering a wide range of resolutions, from 400,000 to 150 million pixels for area arrays and 2K to 16K for line arrays. With over 200 models, the product line caters to diverse customer needs.

ESG Practices: In terms of safety, the products comply with both international and domestic standards, ensuring electromagnetic compatibility. They incorporate low-voltage and low-power consumption designs, using safe material and earning multiple international safety certifications. Regarding environmental sustainability, the material used are selected with eco-friendliness in mind. Suppliers are carefully screened, and energy efficiency is optimized during design and production processes, which also adhere to environmental protection standards.

3D laser profiler

Product Overview: Developed based on advanced vision technologies, the 3D laser profiler portfolio includes LP line lasers, FP stripe structured light, and LS speckle structured light, among others. These sensors are complemented by an integrated software platform, offering a complete product lineup.

ESG Practices: On safety, the LPF2 line laser series has a low power output of just 6mW, with a laser safety class rating of Class 2. In terms of environmental sustainability, components such as chips and cables are sourced from compliant suppliers, with a standardized production system in place. The company has achieved international certifications and is actively pursuing environmental certifications, creating job opportunities while focusing on employee health and social welfare initiatives.

Smart Code Reader

Product Overview: Used for barcode and QR code recognition, these smart code readers support businesses in automation and digital transformation. The product range includes over 400 models, offering both standard and custom solutions to address complex code reading scenarios.

ESG Practices: In terms of environmental risk management, the products have obtained CE and RoHS certifications. They are manufactured in cleanroom environments to reduce water and energy consumption, minimize emissions, and use eco-friendly material. In terms of social risk management, the company offers fair employment opportunities, a well-rounded compensation and benefits system, and organizes training programs to ensure occupational health and safety. The products assist customers in their production transformation and contribute to building a green supply chain.

Smart Cameras

Product Overview: Highly integrated, these cameras combine image acquisition, processing, and communication functionalities. They are used in automation production lines and other applications, driving advancements in the manufacturing sector.

ESG Practices: Regarding health and safety management, the company ensures the safety of hardware, software, services, and product usage. In R&D, climate risks are assessed, and eco-friendly material are used. The production process takes place in cleanroom environments, which enhances product quality. In application scenarios, energy consumption is optimized, and production risks are reduced. The products are certified with CE and FCC standards.

Vision Software

Product Overview: With a broad range of applications, the company continuously upgrades and iterates software features and algorithms. This includes expanding into 3D inspection and Industrial AL detection, optimizing the smart software platform and algorithm libraries.

ESG Practices: In terms of product safety, safety testing is conducted by departments and third-party organizations before release. Regarding product responsibility, the focus is on improving production efficiency, reducing costs, and achieving automated inspection and quality control, ensuring strong adaptability and reliability.

R&D Models

The company' s research and development efforts primarily focus on the development of machine vision products and solutions, industrial sensor products, and motion products. Based on the company' s R&D direction, OPT employs two primary research models to meet the diverse needs of development, thereby enhancing the overall quality of R&D outcomes.

- "Three Parallel Lines" Product Development Model:
  - Basic R&D: Deeply engaging in fields such as optical imaging, image processing, Industrial AI, 3D vision technology, heterogeneous computing, electronic circuits, and precision structures to solidify the technological foundation.
  - Product R&D: Closely aligned with customer needs, continuously improving existing products and optimizing user experience.
  - Forward-looking R&D: Combining business planning and industry trends, engaging in forward-thinking product development and strategic layout.

- "Three-Layer Design" Solution Development Model:
  - Personalized Solutions: Designing solutions tailored to specific customer needs and application scenarios, fully considering practical applications.
  - Universal Solutions: Summarizing and refining numerous customer application scenarios to form general solutions for specific environments, offering high-quality, convenient, and efficient services.
  - Productization Solutions: Using application data feedback to refine machine vision hardware and software, clearly defining product improvement and new product development directions, driving product R&D.

R&D Investment

Financial Resources

The company has established a scientific R&D budgeting system based on strategic planning and market demand. Priority is given to ensuring sufficient funds for core technology development and new product development projects. Reasonable allocation of funds is made for the purchase and updating of R&D equipment, procurement of experimental material, and patent applications. Over the past three years, the company' s R&D investment has steadily increased, and the proportion of R&D investment relative to operating revenue has also risen, reflecting the company' s strong commitment to R&D innovation and its increasing investment in technological research, aiming to enhance product competitiveness and lay a solid foundation for sustainable development.

R&D Investment Overview

The company possesses a professional R&D team that encompasses technical talents from multiple fields. Personnel allocation is flexible and based on the importance and urgency of projects. For key technical breakthroughs, top talent is concentrated to ensure smooth project progression. The company also focuses on talent cultivation and recruitment, enhancing R&D personnel' s professional skills through internal training, external learning exchanges, and other means. Additionally, the company actively attracts outstanding talent from the industry to inject new vitality into the R&D team.

R&D Investment Overview

Year	R&D Investment(CYN 10,000)	R&D Investment/Revenue(%)
2021	13,710.57	15.67
2022	19,102.18	16.74
2023	20,224.50	21.43
2024	21,695.99	23.81

R&D Capability Enhancement

R&D Technical Training

The company views employee education and training as an essential cornerstone for corporate development, placing great emphasis on improving employees' professional literacy and technical capabilities. Regular professional skill training is organized to enhance team competency. When new versions or products are released, offline concentrated training is typically conducted to provide employees with a more intuitive and in-depth understanding of the relevant content. For basic product knowledge training, the company primarily relies on the "R&D Classroom" format. Training covers areas such as basic applications, 3D applications, Industrial AI, product features, specialized technical topics, and hardware support, helping employees master the latest technologies, enhance application capabilities, and adapt to rapidly changing market demands and industry challenges.

Intellectual Property Protection

OPT strictly complies with intellectual property laws and regulations, including the Patent Law of the People' s Republic of China, Trademark Law, and Corporate IP Management Standards. A comprehensive IP management system has been established, supported by institutional documents like the Intellectual Property Management Regulations. The company implements incentive mechanisms for IP creation, enhances protection frameworks, safeguards innovations, and encourages employees to develop and protect intellectual property, thereby strengthening market competitiveness.

Key Performance Indicators

Total Valid Patents: 640 Patents	Total Valid Software Copyrights: 124 Items	Newly Granted Patents: 100 Patents	New Software Copyrights: 8 Items
New Invention Patents: 33 Patents	New Utility Model Patents: 57 Patents	New Design Patents: 10 Patents	Certified as a National Intellectual Property Demonstration Enterprise

Industry-Academia Cooperation

The company implements a multi-dimensional talent strategy to build a sustainable talent ecosystem, laying a solid foundation for long-term development. Recruitment follows the principles of fairness, justice, and transparency, ensuring equal employment opportunities. The company actively promotes technological knowledge sharing, deeply integrates industry-academia-research collaboration, and consolidates resources from multiple parties to complement each other' s strengths in nurturing high-quality talent. The company has established deep strategic partnerships with universities and vocational training institutions to create diverse internship and training programs. It provides students with practical platforms, accelerating the transformation of theory into practice, injecting innovative energy, fostering local talent growth, and contributing to regional economic prosperity.

Deepening Industry-Academia-Research Cooperation, Accelerating the Transformation of Research Achievements

The company actively builds an industry-academia-research integration center, with a strong focus on the key area of transforming research outcomes. By deeply integrating resources from universities, research institutions, and businesses, the company works to break down the barriers between academia and industry, enabling efficient conversion of scientific research from theoretical to practical applications. This initiative has significantly driven the company' s technological innovation and product service upgrades, while also contributing to the technological advancement and industrial upgrading of the industry. It has successfully established a virtuous cycle between scientific innovation and industrial development, providing strong momentum for promoting sustainable social development.

Educational Partnerships and Talent Development

Collaborates with Guangdong Electromechanical Polytechnic and Jiangxi Industrial Trade Vocational College to establish industry-tailored classes, nurturing professionals aligned with sector needs. OPT experts teach courses at Dongguan Polytechnic and Guangzhou Panyu Polytechnic, enhancing students' practical skills through industry-education integration.

Curriculum Design and material Development

Publishes textbooks such as Fundamentals of Computer Vision Technology and Industrial Machine Vision Applications, promoting technical standardization and resource sharing. Develops courses like Intelligent Sensing and Inspection Technologies at Shenzhen Polytechnic University to elevate teaching quality.

Research and Technological Innovation

Supports industry-sponsored projects including LOGO character detection systems and metallographic inspection systems, driving industrial upgrades. Participates in R&D initiatives like cylindrical metal surface inspection and glass machining path positioning, advancing industry technologies.

Skills Competitions and Training Labs

Sponsors competitions at Hangzhou Technician College and Guangzhou Electromechanical Technician College to enhance practical abilities. Collaborates on lab construction with Guangdong Electromechanical Polytechnic and Jiangxi Industrial Trade Vocational College, improving training infrastructure.

Industry Standards and Vocational Development

Leads drafting of Machine Vision System Maintenance Technician occupational standards. Partners with Shenzhen Robotics Association to establish skill certification systems, fostering industry standardization.

Public Training and Industry Forums

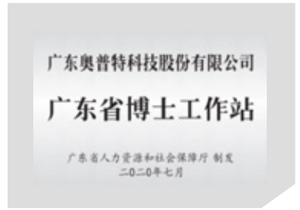
Participated in the Robotics Development and Challenges Seminar to promote the exchange of cutting-edge industry technologies; took part in the national-level vocational education training base project to promote the high-quality development of vocational education.

In 2024, OPT actively engaged in industry-university cooperation, undertaking a total of 60 industry-academia collaboration projects. To date, the company has collaborated with 156 universities on various industry-university projects. Key initiatives include:

Joint Graduate Training Base with South China University of Technology and Postdoctoral Innovation Practice Base,
• Graduate Joint Training Base with Dongguan University of Technology,
• Graduate Training and Research Cooperation with Shantou University, Dongguan University of Technology, Guangdong University of Technology, Henan University of Technology, University of Electronic Science and Technology of China, and others.

- Key collaborative projects with academic institutions include:
  Cooperation with Guangdong Provincial Institute of Standardization, Tianjin University, and Foshan University of Science and Technology on the Guangdong Provincial Key Research Project: “Research and System Development of Micrometer-Level Real-Time Visual Inspection Technology.”
- Cooperation with the University of Macau, Guangdong University of Technology, Dongguan South China Design Innovation Institute, and Dongguan Zhongke Cloud Computing Research Institute on the Guangdong Provincial Technology Plan: “Core Technology and Algorithm Research in Industrial Vision During Lithium Battery Manufacturing and Its Industrialization.”

Program Name	University	college	Student Type	Discipline
Guangdong Industry-Education Integration Program	South China Normal University	College of Electromechanical Engineering	PhD	To be determined
Guangdong Industry-Education Integration Program	Dongguan University of Technology	College of Mechanical Engineering	Master	Mechanical Engineering
Guangdong Engineering Graduate Program	Dongguan University of Technology	College of Mechanical Engineering	Master	Mechanical Engineering
Guangdong Engineering Graduate Program	Shenzhen University	College of Electronics and Information Engineering, Computer Science and Software	Master/PhD	To be determined
/	Shenzhen University	College of Engineering	Master	Mechanical Engineering
/	Guangdong Polytechnic Normal University	College of Electromechanical Engineering	Master	Mechanical Engineering
/	Henan University of Technology	College of Information Science and Engineering	Master	Computer Science and Technology
/	University of Electronic Science and Technology of China	College of Computer Science Electronics, Information, Communication and Engineering	Master	Computer Science, Information and Communication Engineering



On April 8, 2024, OPT held an industry-academia-research symposium with Hezhou University’ s AI School, discussing new pathways for integration, platform infrastructure, "AI+" initiatives, and curriculum development.

On September 9, 2024, OPT partnered with Hunan Vocational College of Science and Technology to explore talent development models, aiming to: revamp 1 academic program ; build 2 training labs; certify 50 professionals annually; provide 50 internships and 10 full-time positions; cultivate 10 pre-employees and complete 2 R&D projects.

Industrial Machine Vision Technology Applications, co-authored by OPT’ s CTO He Zhenzhen and the Education Division, has been published, demonstrating the company’ s commitment to advancing technical education

Promoting Knowledge Sharing, Empowering Rural Revitalization

OPT views knowledge sharing as an important social responsibility and integrates it into the industry-academia-research innovation ecosystem, promoting collaborative development between industry and education. Actively responding to the rural revitalization strategy, the company provides internship opportunities for students in rural schools, helping them accumulate experience, improve skills, and lay the foundation for their careers. Additionally, the company actively participates in charitable donations to improve rural education conditions, earning recognition from the Yunxi District Education Work Committee in Yueyang City with the honor of being a “Company with Outstanding Contributions to Educational Funding and Student Assistance.” This honor recognizes the company’ s fulfillment of its social responsibility and motivates the company to take on an even greater mission in public welfare and rural revitalization.

Industrial Machine Vision Technology Applications, co-authored by OPT’ s CTO He Zhenzhen and the Education Division, has been published, demonstrating the company’ s commitment to advancing technical education.

Improving Product Quality and User Experience

Product Categories

OPT offers a complete core product line for machine vision, including visual algorithm libraries, intelligent vision platforms, Industrial AI, Standard Light Sources, light source controllers, industrial lenses, industrial cameras, Smart code reader, 3D laser profiler, one click measuring instrument and more. Based on core optical technology, the company continuously increases investment in the research and development of advanced industrial sensor products, while also leveraging its capital advantage to expand the motion product line. Below are some of the company' s products with notable energy-saving features:

Industrial Cameras

In terms of product safety, OPT' s industrial cameras adhere strictly to international and domestic safety standards from the design stage. The cameras perform excellently in electromagnetic compatibility, effectively controlling electromagnetic interference. The low voltage and low power consumption design eliminates the risk of overvoltage, and the material selection is strictly monitored to ensure the absence of harmful substances. The products have obtained multiple safety certifications, including EMC, ROHS, FCC, and REACH, ensuring user and environmental safety.

For environmental protection, the company emphasizes eco-friendly material, carefully selecting suppliers and designing for energy efficiency, such as low-power platforms with consumption as low as 1.7W, and the 10G Ethernet camera' s fiber optic interface for carbon reduction. The production process is continuously optimized, incorporating a digital and intelligent system to increase efficiency and reduce emissions, fully implementing environmental protection principles and leading the industry toward green development.

To address issues such as heat noise caused by high power consumption and temperature, OPT' s cameras offer multiple cooling methods, including fans, water cooling, and TEC active cooling. Additionally, OPT has introduced hardware upgrades, code restructuring, and new low-power platforms, reducing power consumption by over 20% compared to previous generations, effectively reducing camera thermal noise and significantly improving image signal-to-noise ratio.

The company' s 10G Ethernet line-scan cameras integrate FPGA edge computing technology, enabling real-time image preprocessing and target detection. By applying algorithms such as binarization filtering, morphological processing, edge detection, and blob analysis, system detection speed is significantly improved, reducing the load on the PC side. The camera also supports time-division strobing technology, allowing four different lighting effects to be captured in a single scan, reducing camera workstation requirements and lowering the cost of vision solutions.

3D laser profiler

In terms of product safety level, the LPF2 laser line series stands out with its low power of 6mW and Class 2 laser safety level certification, offering high safety and meeting environmental requirements, providing a secure option for users.

From an environmental perspective, OPT sources material from high-quality suppliers for components such as chips, cables, and prisms, strictly adhering to national and international environmental regulations. The process is orderly and aligns with the EMVA1288 international standard, earning multiple certifications. The company actively creates job opportunities, protects employee welfare and rights, and engages in public welfare efforts, achieving a synergistic development of economic, social, and environmental value.

Smart code reader

a. The Smart code reader improves NPU computing power and ISP throughput while optimizing NPU scheduling strategies, achieving a 20% reduction in power consumption and a 5°C decrease in operating temperature.

b. By upgrading the FPGA platform, the intelligent barcode reader ensures high-resolution data acquisition within 150 milliseconds and increases frame rate by 30%.

c. The smart code reader has fine-tuned its model to accommodate the unique material and reflective properties of photovoltaic film barcodes. Through extensive annotated data training, the model can effectively differentiate between the barcode and the film background, ensuring accurate recognition even in low-contrast or complex lighting conditions.

The product has passed CE and ROHS certifications, with a clean workshop environment, low emissions, efficient resource utilization, carbon footprint assessment for optimized carbon emission reduction, and eco-friendly material driving the greening of the supply chain. It deeply aligns with the vision of green manufacturing and supports the Industry 4.0 and "Made in China 2025" strategies.

Smart Cameras

In terms of health and safety management, the intelligent cameras undergo rigorous electrical and mechanical design, software vulnerability prevention, comprehensive service support, and scientific usage design, fully reducing safety risks and protecting both personnel and equipment.

In climate risk management, the company evaluates climate impacts and incorporates energy-efficient designs and eco-friendly material, reducing energy consumption and minimizing environmental impact, fulfilling its responsibility for sustainable development.

The production process is managed within clean rooms of class 1000 and class 10000 to ensure quality control. During application, energy-efficient designs help reduce energy consumption and lower human risks. The company has received CE and FCC certifications, expanding its global market reach and promoting the intelligent and green transformation of manufacturing.

Vision Software

All software releases undergo strict scans by antivirus software such as 360 Anti-virus, Small Red Umbrella, and 360 Security to ensure zero threats before market entry, establishing a solid foundation for safe use.

The software drives efficiency improvements, cost reductions, precise quality control, strong adaptability, and zero damage in various industries. The functional algorithms are continuously iterated and expanded, with multi-platform compatibility, effectively driving the intelligent leap in various industries.

Product Quality

Optimizing Quality Management

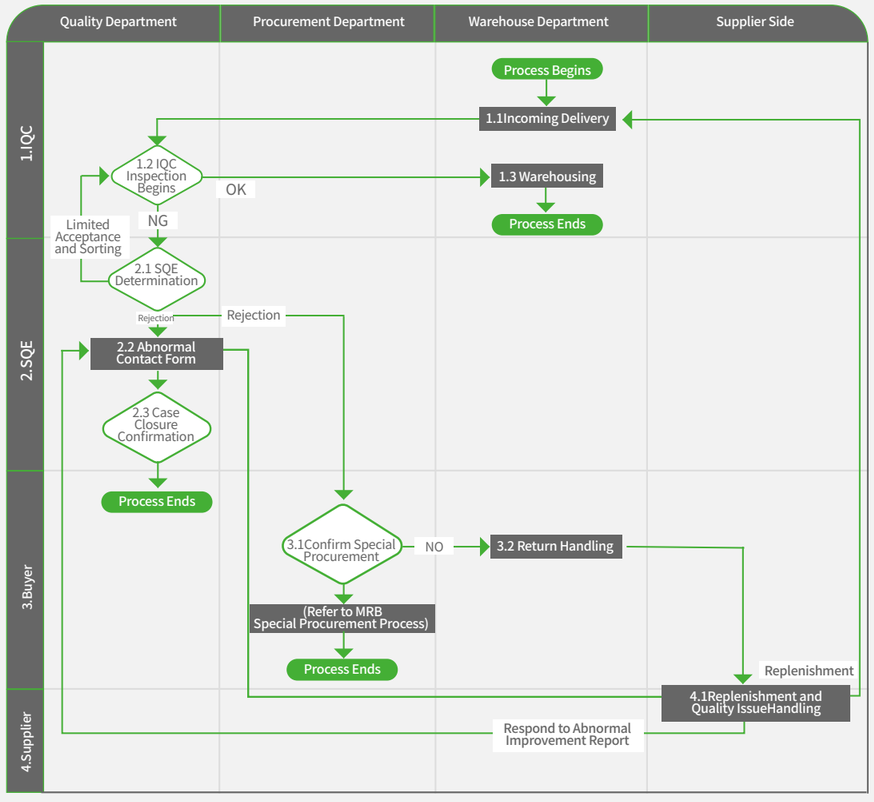
In 2024, OPT strictly adhered to a comprehensive suite of quality management protocols, including the Product Inspection Management Procedure, Incoming material Inspection Guidelines, In-Process and Finished Goods Inspection Procedure, Shipment Inspection Procedure, and Quality Patrol Inspection Guidelines, thereby establishing a robust, multi-layered quality control system. The company has been re certified under the ISO 9001 Quality Management System. During the reporting period, OPT implemented several key initiatives to enhance product quality:

- Process Exception Communication Mechanism: A daily, weekly, and monthly meeting system was established to address production anomalies. This high-frequency, structured communication model ensures real-time issue tracking, effective corrective actions, and enhanced process control, enabling refined and dynamic quality management.
- Comprehensive Document Overhaul: All quality and process documentation across product lines was thoroughly reviewed and revised to ensure operational consistency and excellence. This initiative reinforced procedural standardization and laid a solid foundation for quality assurance across the product lifecycle.
- MES Traceability Integration: The Manufacturing Execution System (MES) was upgraded with equipment and personnel traceability modules. This digital advancement significantly improved the accuracy and depth of quality control by enabling rapid source tracing and accountability when quality issues arise, thereby mitigating potential quality risks.
- Supplier Quality Empowerment: OPT intensified supplier engagement through targeted support and introduced specialized training programs on process quality standards. These initiatives have strengthened supplier quality awareness and capabilities, thereby ensuring consistent high-quality input material and fostering end-to-end quality collaboration across the supply chain.

In terms of product safety and incident risk management, OPT strictly implements the Environmental Substance Risk Management Policy, maintaining rigorous standards and precision in all operational tasks. In 2024, the company recorded zero product safety or quality incidents and no major liability accidents, underscoring its commitment to responsible operations and product excellence.

- Incoming material Anomaly Handling

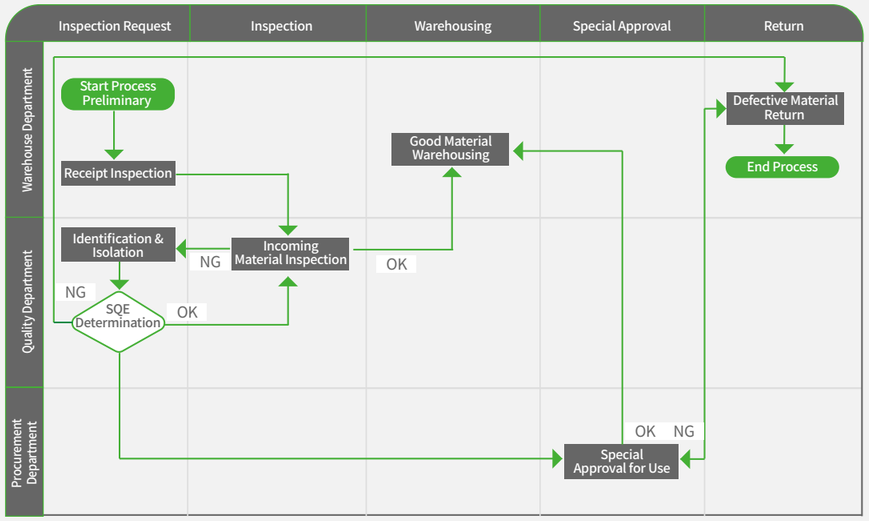
  OPT established a streamlined anomaly resolution workflow via the OA system, utilizing the Incoming material Inspection Anomaly Form and Process Anomaly Form to address and rectify non-conforming material. These workflows enable thorough root cause analysis and preventive action planning. Dedicated personnel follow up on corrective measures to ensure closure and prevent recurrence.



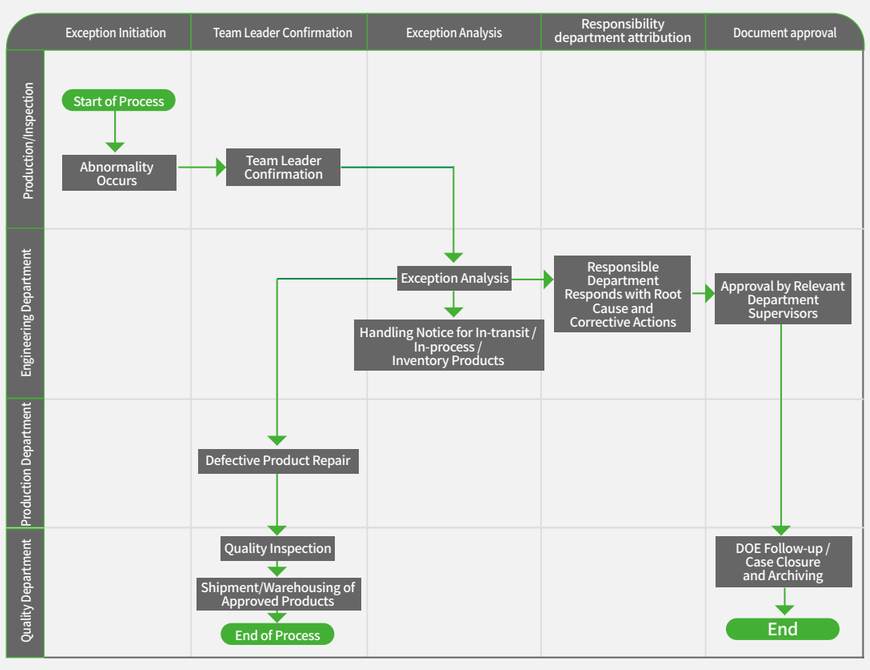
Incoming material Anomaly Handling

- Non-Conforming Product Control

  OPT enforces the Non-Conforming Product Control Procedure, and all incidents are managed in accordance with the Quality Anomaly Management Policy. Employees receive dedicated training focused on proper handling of non-conforming products. Training covers rework procedures, special approvals, identification and segregation techniques, and failure severity assessments. Root cause analysis extends to upstream inventory checks and supplier batches. When customer-affecting issues are identified, immediate communication is triggered. This approach strengthens workforce capability and safeguards product integrity.



Incoming Material Inspection Exception Flowchart



Process Exception Report Flowchart

- Advancing Product Certifications
  OPT has established a rigorous and standardized manufacturing system, ensuring that every process step aligns with operational safety and eco-efficiency principles. The company successfully obtained certification under the EMVA1288 standard from the European Machine Vision Association, bringing its image sensor and camera performance testing in line with international benchmarks. Additionally, OPT proactively advances environmental certifications across all headquarters and subsidiaries, securing national fire safety certifications and ensuring that waste disposal practices comply fully with legal requirements. No penalties or regulatory actions were issued by governmental authorities during the reporting period.

Product Applications

OPT' s products primarily serve a range of industries, including consumer electronics, lithium batteries, semiconductors, automotive, and photovoltaics. During the reporting period, the total revenue from products related to renewable energy and energy efficiency exceeded RMB 240 million, accounting for over 27% of the Company' s total operating income.

- Consumer Electronics: OPT' s intelligent sensors integrate cutting-edge optical technologies, advanced chipsets, an extensive algorithm library, and proprietary software into a single platform. With the advantages of high speed and high precision, they enable rapid and accurate situational awareness and inspection during critical stages of industrial manufacturing, thereby improving production quality and efficiency. Through high-precision 3D scanning and industrial AI processing, the sensors obtain the relative positioning data of modules and glue paths, enabling robotic systems to perform AOI defect detection, glue path guidance, and dispensing quality analysis. This significantly reduces manual operation errors and defect rates while enhancing production efficiency and product quality.

- Lithium Battery Industry: As a core global supplier of machine vision systems for lithium battery inspection, OPT provides comprehensive visual inspection solutions covering the entire lithium battery production process. By deeply integrating 2D and 3D vision technologies with Industrial AI algorithms, OPT has successfully tackled industry-wide challenges in critical inspection steps such as electrode tab burr detection, tab welding appearance analysis, and blue film inspection on battery cells. Utilizing 3D perception to capture detailed object data, paired with advanced algorithms for precise defect detection, OPT' s systems have reduced missed detection rates by over 50% on key production lines for leading lithium battery manufacturers.

- Semiconductor Industry: OPT' s machine vision products are widely deployed in semiconductor applications, including wafer inspection, chip packaging analysis, and chip surface defect detection. For example, AOI systems equipped with high-resolution cameras, precision lenses, and tailored illumination modules can detect minute defects such as particulate contamination, scratches, twin structures, and crystal protrusions. OPT delivers reliable and stable visual solutions that empower the semiconductor industry to enhance production throughput and ensure consistent quality.

- Automotive Industry: OPT has developed a suite of advanced vision technologies tailored for smart manufacturing in the automotive sector. Its Smart code reader are extensively used on automated production lines. In automotive parts manufacturing, these readers efficiently scan 2D codes on components, enabling accurate traceability and material flow control throughout the production cycle. Real-time monitoring and process optimization help prevent downtime and energy waste caused by material shortages, excess inventory, or process bottlenecks.

- Photovoltaic Industry: OPT' s smart code reader is integrated across multiple photovoltaic production stages, including silicon wafering, slicing, cell manufacturing, and module assembly, enabling full-process information traceability. For example, in photovoltaic module production, OPT' s readers effectively address barcode scanning challenges during lamination, film application, and hot pressing stages, ensuring seamless data acquisition and traceability.

Empowering Brand Promotion Through Innovation

Brand promotion is a vital driver of OPT' s product innovation and a catalyst for advancing industry progress, delivering remarkable outcomes throughout the reporting period.

To lead industry trends, OPT took a proactive stance by sponsoring key industry events and participating in high-profile exhibitions. These initiatives significantly enhanced brand visibility and drew widespread attention from industry peers. The increased exposure fostered knowledge and technology exchange across the sector, offering valuable insights and technological support to fuel further product innovation.

In terms of knowledge sharing, OPT hosted both online and offline seminars and made internal technical resources accessible to the broader ecosystem. This not only elevated the overall knowledge level across the industry but also cultivated an environment conducive to innovation, sparking creativity in product R&D.

As part of ecosystem building, OPT upheld an open and collaborative philosophy, leveraging its brand influence to attract high-quality partners. By establishing close cooperation with upstream and downstream enterprises, the company effectively integrated industrial resources and achieved mutual benefits throughout the supply chain. OPT also remained actively engaged in industry associations, further solidifying its position as a sector leader.

On the front of stakeholder engagement, OPT utilized brand promotion as a vehicle to communicate its corporate strategies, innovation achievements, and ESG commitments to investors, clients, and other stakeholders. These efforts have strengthened trust and support, providing a solid foundation for product innovation, market expansion, and funding assurance.

Industry Forums

July 1-3, 2024 – 17th Gaogong Lithium Battery Industry Summit (2024)

November 20-22, 2024 – Gaogong Lithium Battery Annual Conference

November 11, 2024 – Industrial Robot Technology Frontiers and Semiconductor Manufacturing Integration Symposium

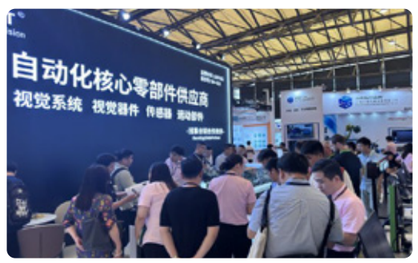
November 28, 2024 – Camera Salon Even

Industry Exhibitions	
March 28–March 31, 2024	25th Shenzhen International Industrial Manufacturing Technology and Equipment Exhibition & 2024 Shenzhen International Robotics and Automation Exhibition
June 13–June 15, 2024	SNEC 2024 18th International Photovoltaic and Smart Energy (Shanghai) Exhibition
June 19–June 21, 2024	South China International Industrial Expo
July 3–July 5, 2024	Shanghai International Automotive Manufacturing Technology, Equipment and material Exhibition
July 8–July 10, 2024	Vision China (Shanghai)
October 8, 2024	VISION Stuttgart (Germany)
December 4-December 6, 2024	International Technical Exhibition on Image Technology and Equipment (ITE 2024)

March 28–March 31, 2024
25th Shenzhen International Industrial Manufacturing Technology and Equipment Exhibition &
2024 Shenzhen International Robotics and Automation Exhibition

June 13–June 15, 2024
SNEC 2024 18th International Photovoltaic and Smart Energy (Shanghai) Exhibition

July 8–July10, 2024
Vision China (Shanghai)



July 3-July 5, 2024
Shanghai International Automotive Manufacturing Technology, Equipment, and material Exhibition

June 19-June 21, 2024
South China International Industrial Expo

October 8 2024
VISION Stuttgart (Germany)

Special Feature

November 14–22, 2024 – OPT hosted an Open House at its newly established office in Cupertino, California, USA. Industry clients and experts gathered to witness the company' s cutting-edge innovations in machine vision and localization strategies through facility tours and in-depth discussions. Clients highly praised OPT' s technical expertise and innovation capabilities, noting that the new office and laboratories will significantly enhance collaboration efficiency and quality.

Strengthening the Foundation of Supply Chain Management

As a committed member of the Responsible Business Alliance (RBA), OPT places a strong emphasis on supply chain risk management and is dedicated to ensuring the safety, resilience, and sustainability of its supply chain operations. The company has set clear objectives for managing supply chain risks—namely, establishing a comprehensive supplier management framework to safeguard the quality of procured goods and services while minimizing risks and advancing long-term sustainability across the value chain.

To achieve these goals, OPT has developed and implemented policies such as the Standard Procurement Contract, Supplier Control Procedures, and Procurement Control Procedures. These guidelines are complemented by targeted plans that include the continuous optimization of governance systems, enhanced supplier training and oversight, and the deployment of effective risk mitigation mechanisms.

Supply Chain Risk Management

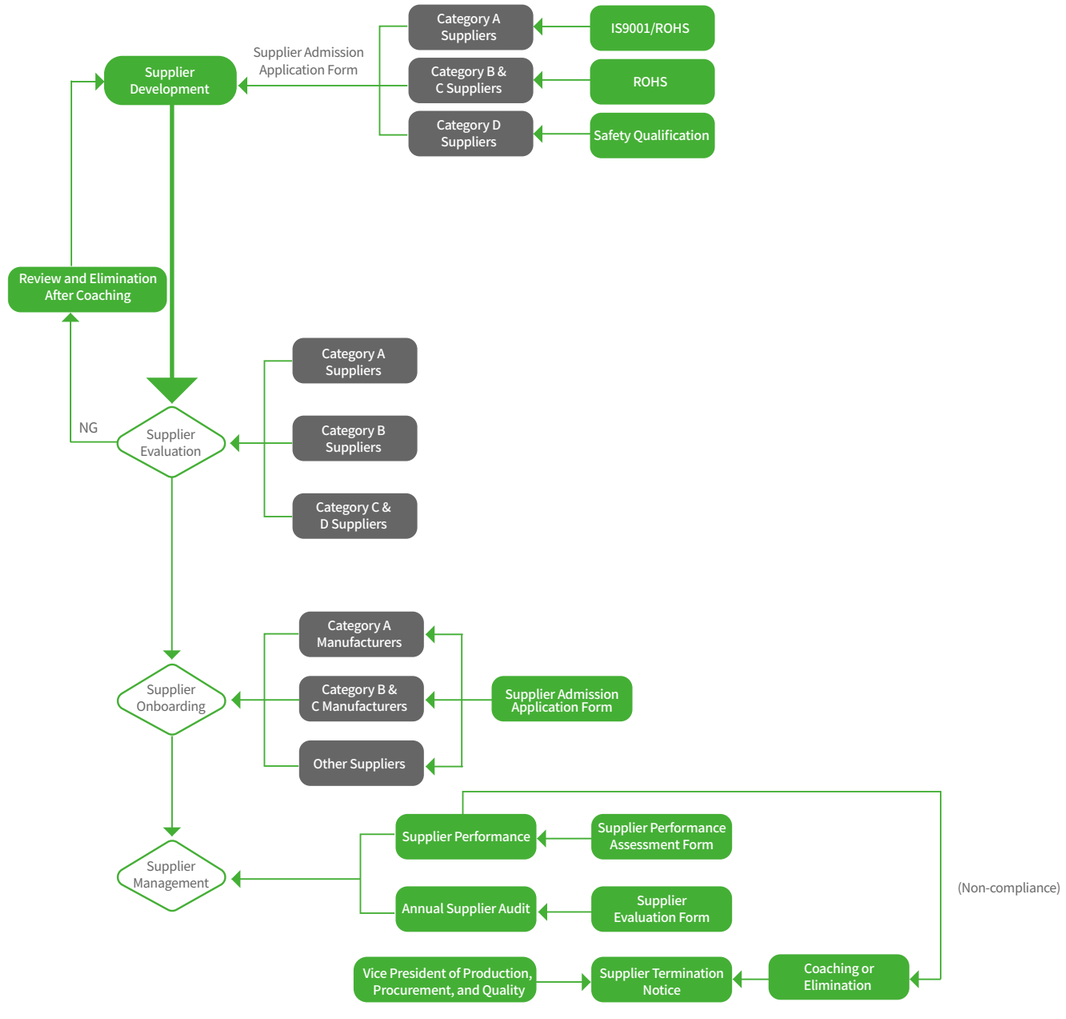
- OPT continuously updates its core supplier governance frameworks, including the Standard Procurement Contract, Supplier Control Procedures, and Procurement Control Procedures, to build a robust supplier management system. During supplier onboarding, the company rigorously audits certifications such as ISO9001 and RoHS, as well as safety qualifications. Preference is given to suppliers that demonstrate commitment to environmental protection, social responsibility, human rights, and sustainable development, thereby reducing risk at the source. In 2024, a total of 42 suppliers were newly added to OPT' s approved supplier list, bringing the total to 392 core suppliers.

- The company has established a stringent supplier performance evaluation system based on the Supplier Rating Management Guidelines, which includes quarterly and annual assessment plans. Quarterly assessments cover quality, cost, technology, delivery, hazardous substances free (HSF), and social responsibility, while annual audits focus on environmental, health, and safety performance. Suppliers are rated as A, B, C, or D, with tailored management approaches. Non-compliant suppliers are required to implement corrective actions; those failing to improve face termination. In 2024, OPT conducted 28 supplier audits, ensuring the stability and quality of its supplier network.

- To strengthen supplier oversight, OPT has developed procedural tools such as the Supplier Admission Form, Supplier Assessment Form, and Supplier Evaluation Table. The company requires all suppliers to sign an Environmental Protection and Occupational Health Notification Letter as well as an Anti-Corruption Commitment, reinforcing ESG principles and ethical conduct. For key procurement projects, OPT adopts a multi-stakeholder supervision and review mechanism to ensure transparency and compliance in the procurement process.

- In cases where a supplier is found to have committed serious violations involving product quality, delivery delays, environmental breaches, or social responsibility failures, they are promptly removed from the supply chain to mitigate adverse impact.

Through these robust governance measures, OPT achieved significant results in 2024. Over 90% of suppliers signed ESG-related agreements, and 12 supply chain training sessions were conducted, effectively enhancing ESG awareness and management capacity among suppliers. No major product quality or delivery issues were reported due to supplier misconduct, thereby safeguarding the company' s product integrity and brand reputation, while also reinforcing the overall resilience and competitiveness of the supply chain.



Technological Innovation

Technological Innovation

OPT leverages its technological strengths to empower suppliers and industry partners in upgrading resources and enhancing capabilities. Through technical exchange and collaboration, the company helps improve suppliers' production technologies and product quality, thereby strengthening the overall resilience of the supply chain. In critical technology areas, OPT engages in joint R&D with suppliers to enhance product performance and quality, ensuring the reliability and stability of the supply chain.

Managerial Innovation

OPT fully integrates the principles of responsible sourcing across the entire procurement lifecycle. Supplier Quality Engineers (SQEs) conduct regular evaluations based on the Supplier Performance Evaluation Form, encompassing on-site inspections and document-based audits. The evaluations cover multiple dimensions, including quality systems, production capacity, delivery performance, cost, and pricing. These assessments drive continuous improvement among suppliers, ensuring the stable supply of high-quality, cost-effective products and services, thereby reinforcing the competitive edge of the supply chain.

Supplier Training

In 2024, OPT organized a series of targeted training programs for suppliers. The training content covered raw material control, standardized production processes, issue management, ,and quality standards. These programs enhanced suppliers' capabilities in raw material selection, operational practices, and problem-solving, effectively improving the consistency and quality of the entire supply chain and contributing to its sustainable development.

Key Performance Indicators

Metric	Unit	Performance
Number of Suppliers	Units	392
Supplier Audits Conducted	Times	28
Supply Chain Training Sessions	Times	12
Suppliers Signed ESG Agreements	%	90

Note: Only includes core suppliers of the company, i.e. frequently cooperating suppliers

Shared Growth Creating Value Together

Our Actions

- Conducted regular employee satisfaction surveys to gather feedback and respond to employee needs through continuous improvements;
- Fostered a supportive environment for work, learning, and personal life, and offered a wide range of comprehensive benefits to share development achievements with employees;
- Prioritized occupational health and safety, providing a secure and healthy workplace for all staff;
- Built a symbiotic platform for co-development between employees and the company, offering comprehensive career development plans and training to fully unlock employee potential and work jointly toward shared goals.

Our Achievements

- Zero safety incidents reported;
- 100% employee health check pass rate;
- 82.87% employee satisfaction rate achieved;
- The annual donation amount reached RMB 290,000.

Attracting and Cultivating Talent

Recruitment and Talent Development

The company actively practices ESG concept in its recruitment work to ensure compliance, fairness, and transparency in the recruitment process. To this end, the company has formulated the "Employee Recruitment Management Measures" and "Labor Protection Management Measures", which cover recruitment policies and procedures, establish fair recruitment and evaluation mechanisms, follow non discrimination principles, and strengthen transparency and record management. In terms of talent recruitment and social employment promotion, the company has built a complete system and is committed to opening up broad career paths for local community labor. The company values the diversity and potential of talents, ensures fair competition in the recruitment process, and promotes the common improvement of personal value and social value. Specifically, the company leans towards rural job seekers, providing them with abundant employment and training opportunities, and strengthening the cultivation of rural students to contribute to rural revitalization. For example, the company works closely with Dongguan School of Mechanical and Electrical Engineering and Electronic Technology to jointly prepare for the construction of an internship base. In addition, the company has carefully designed onboarding training courses for each new employee to ensure that they can quickly integrate into the team and be competent in their work. For existing employees, the company has also implemented a continuous and regular training program to continuously improve their professional skills and overall quality. With the continuous expansion of our company's business and changes in the market environment, we will continue to optimize and improve these training and development plans.

Talent Pipeline

By advancing university-industry partnerships, enhancing recruitment transparency, and facilitating the transfer of technical knowledge, OPT demonstrates a holistic commitment to ESG principles. The company has built a range of diversified internship and training programs in collaboration with universities and vocational institutions, offering students hands-on experience and equipping them with relevant professional skills.

These partnerships foster deeper integration between education and industry, contributing to the development of high-caliber, skilled talent. In doing so, OPT not only advances innovation and talent development but also drives industry standards and social responsibility forward—solidifying its leadership in ESG practices.

March 26, 2024 – A delegation from Guangzhou Panyu Polytechnic visited OPT for an enterprise collaboration and job expansion initiative, marking the beginning of an in-depth industry-academia partnership in the field of intelligent vision.

Participation in the Seminar on Robot Development and Challenges

April 10, 2024 – A team from the School of Information Engineering, Jiangmen Polytechnic visited OPT Machine Vision Tech Co., Ltd. for research and job expansion discussions.

June 3, 2024 – The Machine Vision Custom Training Program, co-hosted by OPT and Guangxi Water Resources and Electric Power Polytechnic, successfully commenced.

June 23, 2024 – The Guangdong Postgraduate Academic Forum – “OPT” Cup Mechanical Engineering Sub-Forum successfully concluded.

September 26, 2024 – A delegation from the School of Modern Information Industry, Guangzhou College of Commerce visited OPT for a special enterprise collaboration and job expansion event.

August 4, 2024 – The “National Training Program: Industrial Robot and Machine Vision System Application for Vocational Education”, organized by the Guangdong Provincial Department of Education and jointly hosted by OPT and Dongguan Polytechnic, was successfully completed.

October 14, 2024 – The Smart Manufacturing Industry Academy Custom Training Program, co-organized by OPT and Qingyuan Polytechnic, successfully held its introductory session.

November 8, 2024 – A team from the School of Computer Science, Guangzhou Maritime University visited OPT for research and discussions. Moving forward, both parties will continue to deepen industry-academia collaboration, promoting the integration of education, research, and industry to cultivate more highly skilled technical talents and contribute to high-quality economic and social development.

Other Industry-Academia Collaborations

Safeguarding Health and Safety

Quality, Environmental, and Occupational Health and Safety Policy:
Accident prevention, safety first.

Occupational Health and Safety Objectives:

0
Zero workplace accidents

100%
100% health screening pass rate.

Management Capabilities

OPT places great emphasis on employee health and safety and follows the principles of sustainable development. In 2024, the company successfully passed certification for the ISO 45001 Occupational Health and Safety Management System, and continues to meet all regulatory standards through ongoing audits, demonstrating its structured and stable approach to occupational health and safety governance.

Environmental Monitoring

The company attaches great importance to environmental monitoring, with a specific focus on air and noise levels. Professional third-party testing confirmed that all monitored indicators met applicable standards.

Occupational Health

For roles with identified occupational hazards—such as soldering (exposure to solder fumes), cleaning operations (chemical vapors), and equipment operation (noise and dipping in molten solder)—OPT strictly complies with legal requirements. All employees are provided with personal protective equipment (PPE), and preventive measures are fully implemented. Periodic occupational health examinations are also conducted, tailored to the specific risks of each job role.

These comprehensive actions ensure a safe work environment and reflect OPT' s firm commitment to social responsibility and employee wellbeing.

Occupational health examination individual report book

Workplace Safety

Safety System Assurance

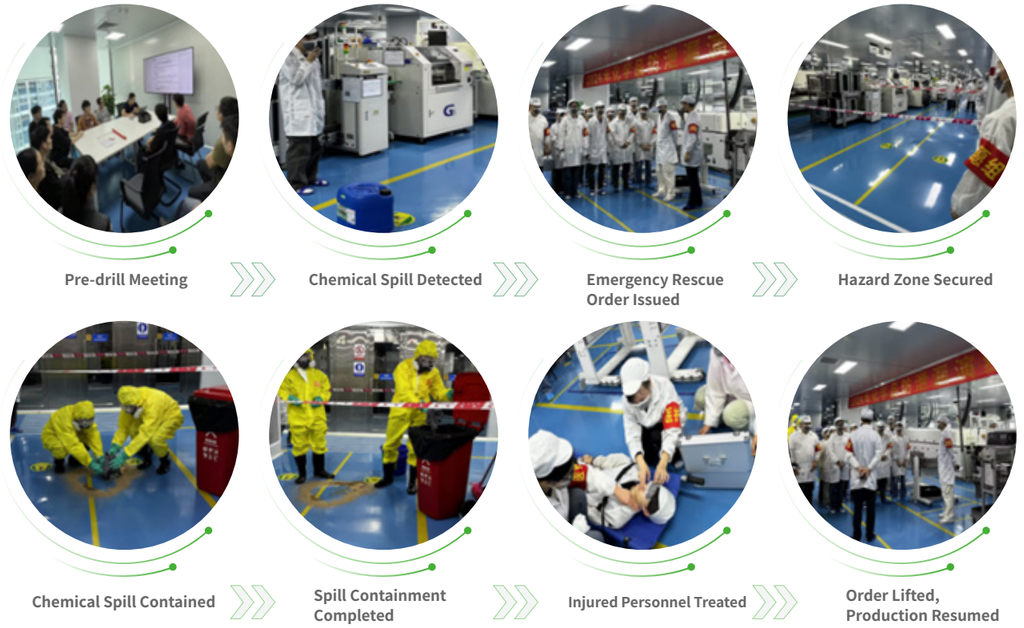
The company has established institutional documents including the Health and Safety Operation Management Procedures, Workplace Safety Management Program, Notice on Corporate Safety Hazard Inspections, OPT Fire Emergency Response Plan, and OPT Occupational Health Emergency Plan.

Safety Training and Drills

To enhance employee awareness of fire evacuation safety and improve emergency response capabilities, the company conducted specialized training titled Fire Safety Knowledge Training during the 2024 Fire Safety Month. The training covered fire prevention, fire classification, types and usage of fire extinguishers, identification of firefighting facilities, emergency response procedures, evacuation rules, and facility management requirements. Two fire drills were organized, including simulated fire evacuation scenarios, hands-on fire extinguisher and hose drills, and outdoor hydrant operation training.

Chemical leakage drill：On December 11, 2024, an annual emergency drill for chemical leak prevention was held in the company's production workshop. According to the requirements of the chemical leak prevention emergency drill plan, a meeting was held before the drill to discuss the drill process, assign various drill tasks, propose drill requirements and various precautions.

OPT 2024 Chemical Spill Emergency Drill Summary



Key Performance Indicators

Metric	Unit	Data (as of Dec 2024)
Workplace injuries/accidents due to improper chemical use or management	cases	0
Chemical safety training participants	people	16

Ensuring Rights and Benefits

OPT focuses on technological R&D and product planning, leveraging its strengths to solidify market presence. The company legally provides all employees with social insurance and housing funds, safeguarding their basic social security rights and actively fulfilling social responsibilities in employment promotion. No major labor disputes occurred during the reporting period.

Building an Inclusive Workplace

OPT is committed to fostering a diverse and inclusive work environment that fully protects employees' legal rights. Across management, culture, and practices, the company ensures equal opportunity in employment, freedom of association and expression, and strict protection of employees' personal privacy while maintaining a zero-tolerance policy against unfair treatment, child labor, and forced labor. OPT strictly adheres to local labor laws, International Labour Organization (ILO) core conventions, and global labor standards. Upholding a "people-oriented" core value, the company actively cultivates a vibrant and cooperative corporate culture. Internally, human rights protection is integrated into all business processes, with established grievance and reporting channels to address employee concerns promptly.

- Anti-Discrimination Compliance

  To ensure a fair and unbiased recruitment process, OPT has implemented policies such as the Anti-Discrimination Management Policy, Employment Freedom and Career Choice Management Policy, Employee Religious Belief Survey Form, and Women' s Rights Protection Policy. The company strictly prohibits discrimination or harassment at any stage of employment—recruitment, salary, training, promotion, rewards, salary payment, dismissal, or retirement—based on factors such as race, ethnicity, skin color, social status, nationality, age, pregnancy, disability, gender, sexual orientation, marital status, religious beliefs, political affiliation, membership in social organizations, veteran status, protected genetic information, or trade union membership.

- Implementing a Scientific Performance Management System

  OPT has established a scientifically sound and reasonable performance management system, conducting monthly assessments for management personnel in the production and R&D departments and quarterly evaluations for all employees. A continuous improvement mechanism has been put in place to ensure alignment with the company' s strategic objectives, with any relevant updates promptly communicated to employees.

  The performance evaluation philosophy focuses on optimizing management and business processes, enhancing both organizational and individual capabilities as key means to drive performance, and ensuring the effective implementation of corporate strategic goals as the ultimate objective. This comprehensive approach aims to improve overall company performance.

  To maintain the scientific rigor and adaptability of the performance evaluation system, updates will be made under the following circumstances: when the company undergoes overall strategic planning adjustments or shifts in direction; when supervisors redefine or adjust the job scope of evaluated employees; when an employee' s position or job responsibilities change significantly; or when discrepancies arise between performance evaluation results and actual work performance, necessitating refinements to evaluation criteria, rules, and scoring standards.

Empowering Employee Development

Product Knowledge Speech Competition

OPT implemented its ESG principles by organizing the "Mastering Products, Delighting Customers"Product Knowledge Speech Competition. Through preparation, employees deepened their understanding of company products, significantly improving their grasp of product features and application scenarios, which laid the foundation for precisely meeting client needs. The competition also honed public speaking skills, enhancing presentation and stage performance abilities, thereby equipping employees with valuable career development tools. With over 300 participants, the event fostered a proactive learning culture and strengthened cross-departmental collaboration. This initiative exemplifies OPT' s ESG commitments, and as the productization strategy advances, more activities will be launched to drive sustainable growth and realize the vision of "every employee as a product manager."

Internal Training

The OPT Academy, as the company' s internal training platform, plays a vital role in employee professional development and skill enhancement under its ESG strategy, reflecting the company' s commitment to staff growth. The platform integrates Alibaba Cloud for video-on-demand services with features such as previews, progress tracking, and file uploads. Live streaming supports HD quality, real-time interaction, and digital whiteboard teaching, while multi-device accessibility and session recording ensure flexible learning. Online assessments include practice tests, simulations, and certification exams, complemented by progress monitoring and knowledge-sharing forums. Courses are categorized into seven departments, including technical R&D and production management, designed to foster innovation, operational efficiency, and market expansion. Specialized programs include 13 skill-enhancement courses for engineering teams, 9 leadership modules for managers, and general courses for all employees. Since its launch, the platform has achieved 14,244 course views, 146 assessment questions, 87 on-demand courses, and 752 participating employees, providing high-quality resources and a robust learning environment that advances both employee and organizational sustainability in line with ESG social responsibility requirements.

Deepening Employee Care

- Cultural and Recreational Activities

  OPT organizes diverse activities to enhance employee well-being, foster belonging, and stimulate team cohesion and creativity. Initiatives include gender equality programs for female employees and family open days to strengthen familial support and workforce stability. These efforts integrate ESG principles into corporate operations, driving sustainable development.

"Exploring Technology, Shaping the Future"
– OPT 2024 Family Open Day

Unity in Strength"
– OPT Tug-of-War Competition

"Youth in Motion, Boundless Dreams"
– OPT 2024 Basketball Cup

"Blooming Spring, Radiant Lives"
– OPT International Women' s Day Flower Arrangement Event

Employee Satisfaction

The company upholds a people-oriented philosophy and places great importance on employee feedback, conducting employee satisfaction surveys on a quarterly basis. By combining systematic questionnaires with in-depth employee interviews, the company gains comprehensive insights into employees' perceptions and needs across various dimensions, such as work environment and career development. The survey data is professionally analyzed to support strategic decision-making, helping optimize management practices and allocate resources more effectively. As a result, employee satisfaction has steadily increased over the past three years.

Living Facilities

OPT provides free apartment housing with full amenities and maintains a free hygienic cafeteria offering nutritious, diverse meals tailored to dietary preferences.

Development of Recreational and Entertainment Facilities

OPT has established a diverse range of recreational and entertainment facilities, including a gym, basketball room, badminton court, and hair salon, to enrich employees' leisure activities. Through these multi-dimensional employee care and rights protection measures, OPT has effectively enhanced employee satisfaction and loyalty, actively fulfilling its social responsibilities and laying a solid foundation for the company' s sustainable development.

Contributing to Social Development

Fulfilling Social Responsibilities

OPT has always regarded giving back to society as a vital corporate mission, actively encouraging employees to participate in various public welfare activities and fulfill corporate social responsibilities. Employees enthusiastically respond by engaging in volunteer services and diverse interest activities. Through community service, environmental protection initiatives, and caring for disadvantaged groups, they embody the spirit of public welfare, spreading love and warmth. These efforts not only enrich their own spiritual well-being but also inject positive energy into the community and society, fostering a culture of harmony and mutual assistance.

In the field of educational philanthropy, OPT is deeply committed to the development of education, recognizing its fundamental role in social progress. In 2024, the company actively fulfilled its social responsibilities, donating a total of 290,000 RMB. This includes a donation of 200,000 RMB to Yunxi Middle School to improve educational facilities and teaching quality, 50,000 RMB to Dongguan University of Technology to support scientific research and talent cultivation, and 40,000 RMB to the Wujiang District Charity Foundation in Suzhou to contribute to regional educational welfare. Looking ahead, OPT will continue to explore more diverse avenues for social welfare, increasing its investment in social development. Through concrete actions, the company aims to create a fairer, more harmonious, and better society, allowing its corporate social responsibility initiatives to flourish in broader fields.

Ensuring Fair Treatment of Small and Medium-Sized Enterprises

In its business operations, OPT adheres to the principles of equality and fairness, placing great importance on its relationships with small and medium-sized enterprise (SME) clients. The company is dedicated to providing high-quality and efficient services to all customers. For clients with limited visual capabilities or a lack of understanding of visual applications, OPT proactively takes on the role of knowledge dissemination and technical support. When clients require assistance, OPT not only offers a diverse range of visual products and application cases to help them understand the applications and advantages of machine vision technology but also dispatches professional engineering teams to provide comprehensive technical support—from installation and debugging to maintenance. Through this all-encompassing service model, OPT empowers SME clients to enhance their technological capabilities and market competitiveness, fostering mutual growth and promoting the sustainable and healthy development of the industry.

Co-Building and Sharing Protecting Beautiful Homeland

Against the backdrop of accelerating global climate change and increasingly severe environmental challenges, OPT firmly upholds the philosophy of green development. The company continuously improves its environmental management system,seizes opportunities in clean technology development, and reduces resource consumption and environmental impact in production and operations through innovative practices and refined management. By taking concrete actions, OPT actively responds to the “dual-carbon” goals, striving to drive coordinated economic and environmental development, promote harmony between humans and nature, and contribute its expertise and solutions to sustainable development.

Our Actions

- Strengthening environmental protection, actively responding to the “dual-carbon” goals, and comprehensively enhancing the company’ s green operations.
- Prioritizing resource recycling and deeply refining the corporate green management system.
- Practicing energy conservation and emission reduction, comprehensively optimizing the green production model in factories.

Our Achievements

- Recognized as an “Outstanding Sustainable Development Practice Case” by the China Association for Public Companies in 2024.
- The Suzhou BIPV project was completed and put into use by the end of December 2024.

Special Topic: Green Transformation Driving Innovation - Strategic Upgrade for Sustainable Enterprise Reform

In 2024, OPT followed the direction of “green transformation driving innovation and change” by fully advancing its green strategy upgrade. This initiative significantly enhanced the innovation vitality of its business units, improved product sustainability, and strengthened market competitiveness.

• Production Process Optimization: OPT introduced cutting-edge green technologies and intelligent equipment to deeply reform its production processes. This resulted in a significant reduction in energy consumption, a notable decrease in pollutant emissions, and simultaneous improvements in both production efficiency and product quality.

• Resource Management: The company established a comprehensive resource recycling system, strengthening resource control throughout the entire process from raw material procurement to product recycling. This not only ensured sustainable resource supply but also reduced production costs.

• Promoting Sustainability: OPT deeply integrated sustainability into its corporate culture and daily operations. Additionally, the company collaborated with partners across its supply chain by hosting seminars and training sessions to share green development experiences and jointly build an eco-friendly industrial ecosystem, leading the industry toward a more sustainable future.

- Production Process Optimization: The Core Engine of Green Transformation

  To address issues such as the easy loosening of six-core connector screws on cameras and code readers, the company innovatively adopted an adhesive process and considered replacing traditional washers with elastic alternatives. This effectively enhanced product stability, reducing the need for repairs or replacements due to component loosening, thereby minimizing resource waste and environmental impact.

  In the PCB manufacturing process, OPT worked closely with R&D teams to ensure suppliers accurately positioned thermal copper blocks, preventing unnecessary stencil openings. This reduced material waste and energy loss in production, improved efficiency, and increased the product qualification rate, ensuring green production at the source.

- Precision Resource Management: The Solid Foundation for Green Transformation

  OPT implemented refined resource management measures:

  • material Packaging: The company set standardized packaging requirements for connectors, chips, and other incoming material based on actual production needs. By transitioning certain material from tape-and-reel or bulk packaging to tray packaging and increasing the number of pallets for better logistics, OPT improved production efficiency while reducing packaging waste.

  • Equipment and Tool Optimization: OPT actively upgraded energy-saving technologies. A modified high-precision wire automatic board loader was adapted for small-size PCB production, preventing energy waste due to equipment incompatibility. Additionally, software upgrades for controller aging tests enabled multiple products to undergo aging tests simultaneously, significantly improving energy efficiency and reducing operational energy consumption.

- Deep-rooted Sustainability Awareness: The Internal Drive for Green Transformation

  Sustainability is deeply embedded in OPT’ s corporate operations. Employees actively participate in continuous improvement activities, proposing and implementing numerous green optimization solutions across various production stages. These include reducing connector insertions and removals during testing, optimizing material handling processes for lens assembly, and adjusting external packaging workflows. These initiatives enhance production efficiency while minimizing resource consumption and environmental impact. Through these collective efforts, OPT has cultivated a corporate culture where all employees contribute to green transformation. This strong commitment to sustainability has significantly advanced the company’ s sustainable development journey, setting a benchmark for green growth in the industry.

Green Operation

Environmental Management System Certification

- Environmental Management Mechanism

  The company consistently upholds a strong commitment to environmental protection, ensuring the stable and effective operation of its existing environmental management mechanisms. In line with the principles of continuous improvement and modernization, the company has meticulously revised and refined certain environmental management policies to enhance their effectiveness.

- Certification Status

  - The company maintains the effective operation of its ISO 14001 Environmental Management System certification. In 2024, in accordance with the requirements of the certification body, the company conducted regular internal audits and management reviews. These internal audits covered all departments and environmental management-related activities, with a particular focus on evaluating the compliance and effectiveness of the environmental management system.
  - The company successfully passed the surveillance audit conducted by an external certification body. During this audit, the certifying organization conducted a comprehensive review of the company’ s environmental policies, progress toward environmental objectives, and the overall performance of the environmental management system.

Image: Environmental Management System Certification

Environmental Protection

- Emergency Response to Environmental Risk Incidents

  The company has established the Environmental Safety Emergency Response Control Procedure, which clearly defines the responsibilities of relevant departments, response procedures, and emergency drills for sudden environmental risk incidents. This ensures that emergency responses are well-regulated, systematic, and legally compliant.

- Identification and Control of Significant Environmental Factors

Management of “Three Wastes” (Waste gas, Wastewater, and Solid Waste)

Waste gas

The company’ s main sources of air pollution are volatile organic compounds (VOCs) released during the production process, which fall under the category of unorganized emissions. To manage this, the company has established the Air Pollution Control Procedure, under which annual monitoring and measurement of waste gas are conducted in accordance with national emission standards and measurement methods. The results are documented in the waste gas Monitoring and Measurement Report and evaluated based on the Integrated Emission Standard of Air Pollutants (GB 16297-2004) and the Environmental Factors Identification, Evaluation, and Control Procedure. If emissions exceed the regulatory limits, the company promptly investigates the causes and requires relevant departments to implement corrective actions. In cases where stakeholders raise concerns or complaints regarding air pollution, the company follows the Information Exchange Control Procedure to address the issue and, if necessary, cooperates with government agencies for guidance and supervision.

Organic waste gas is mainly low concentration and odorous organic waste gas, and the content of combustible substances in the waste gas is relatively low, so it is not suitable for technologies such as condensation, membrane separation, and combustion. Therefore, it is suitable to use biological methods, adsorption methods, and other technologies for waste gas treatment. In addition, using adsorption alone is relatively simple. To improve the efficiency of VOCs treatment, it is proposed to adopt the treatment method of activated carbon adsorption (the overall treatment facility is: water spray+secondary activated carbon adsorption, where water spray mainly cools the organic waste gas, and the secondary activated carbon adsorption device mainly plays the role of organic waste gas treatment), to ensure that the efficiency of organic waste gas treatment is stable at over 85%. The cafeteria fumes are treated with an electrostatic fume purifier.

Wastewater

The company manages wastewater in accordance with the Energy and Resource Consumption Control Procedure and the Wastewater Control Procedure, categorizing it into production wastewater and domestic sewage for separate treatment.

• Domestic sewage undergoes preliminary treatment in a three-stage septic tank before being discharged into municipal pipelines, which direct the wastewater to the Chang’ an and Chang’ an New District Joint Sewage Treatment Plant in Dongguan for further processing.

• Cleaning wastewater is collected and disposed of by a certified hazardous waste recycling company, as per the administrative department’ s periodic notifications.

To ensure compliance, the company engages environmental monitoring stations or other government-approved environmental monitoring agencies to conduct annual assessments of key pollutants, including Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD5), ammonia nitrogen, and oils from animal and plant sources. If production conditions change, additional monitoring is conducted, with extra parameters measured in accordance with the Integrated Wastewater Discharge Standard (GB 8978-2004). In cases of non-compliance, the company follows the Non-Conformity, Corrective, and Preventive Action Control Procedure.

In 2024, the company implemented water source protection measures as follows:

1)The project is located at No. 66-1, Xingfa South Road, Chang’ an Town, Dongguan City, Guangdong Province, which does not fall within a drinking water source protection area.

2)The project site is not within the environmentally sensitive zones of the East River main stream, East River North Branch, East River South Branch, Zhongtang Waterway, major reservoir catchment areas, or key water supply channel protection zones.

Solid Waste

To conserve energy, reduce resource depletion, and minimize landfill demand, the company classifies waste into general waste (recyclable and non-recyclable) and hazardous waste, each managed through distinct processes:

• Recyclable general waste is sent to recycling companies for resource recovery.

• Hazardous waste that cannot be effectively treated by the company is collected and disposed of by a certified hazardous waste recycling company, ensuring proper recycling and compliance with environmental regulations.

• Non-recyclable general waste is handled by sanitation departments, achieving a 100% waste collection and disposal rate.

• For hazardous waste, the company has implemented the Hazardous Waste Management Plan and the Solid Waste Control Procedure. Hazardous waste disposal is outsourced to licensed waste management companies that hold both an Environmental Bureau-issued Hazardous Waste Operating Permit and a business license.in 2024, a total of 3.99 tons of hazardous waste will be generated and processed, with a hazardous waste treatment rate of 100%. The specific data is shown in the table below.

Waste Type	Waste Code	Annual Disposal (tons)
Waste Packaging	SW99-20	0.1
Lead-Free Solder Dregs	SW99-20	0.0377
Defective Products and Scraps	SW99-15	3
Slag Residue	SW99-20	0.00036

Responding to Climate Change

The company actively addresses climate change and is committed to implementing the national “Carbon Peak and Carbon Neutrality” strategy. It promotes the green and low-carbon development strategy through governance structures, institutional improvements, and the application of clean energy, focusing on energy conservation and emissions reduction.

Governance Structure

The company has established a “Dual Carbon” Working Leadership Group, led by the Deputy General Manager, to oversee carbon reduction initiatives. Employees receive specialized training to enhance their awareness of emissions reduction, and action plans are implemented to ensure that carbon reduction measures are effectively executed.

Institutional Improvements

The company continuously strengthens its energy management system and has developed the Energy and Resource Consumption Control Procedure, which defines the energy management responsibilities of relevant departments and promotes energy conservation at all levels. Additionally, the company has introduced the Paper, Water, and Electricity Management Regulations to efficiently manage paper, water, and electricity consumption. This initiative not only minimizes environmental impact but also enhances the company’ s energy efficiency.

Paper, Water, and Electricity Management

Paper Usage

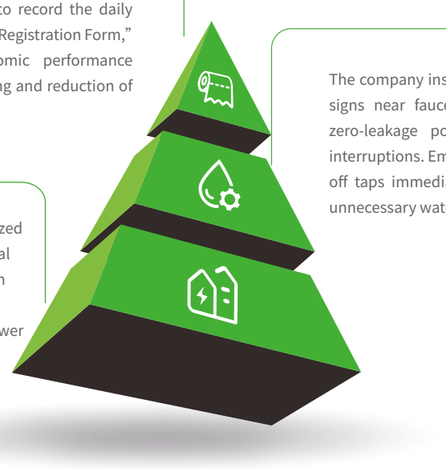
To reduce paper consumption, the company continuously upgrades its paperless office system, actively minimizing the use of paper and encouraging double-sided printing or copying for internal documents whenever possible. In addition, each department is required to record the daily volume of copied materials on the "Copy Registration Form," which serves as part of the economic performance assessment, enabling effective monitoring and reduction of paper usage.

Water Usage

The company installs "Save Water" reminder signs near faucets and strictly enforces a zero-leakage policy during water supply interruptions. Employees are required to turn off taps immediately after use to minimize unnecessary water wastage.

Electricity Usage

The company strictly prohibits unauthorized wiring and the use of high-power electrical appliances, reducing energy consumption and eliminating potential safety hazards. These measures not only contribute to lower energy usage but also enhance overall workplace safety.



Use of Clean Energy

The company continuously explores the use of renewable and clean energy, actively developing solar photovoltaic (PV) power generation projects. Currently, it operates two major solar projects:

• Changan Photovoltaic Project: A 261.82kW distributed PV power generation system at OPT Machine Vision Tech Co., Ltd. By 2024, the project had generated a total of 232,900 kWh of electricity, with a cumulative total of 316,500 kWh since its inception, reducing CO_2 emissions by approximately 315.55 tons.

• Suzhou BIPV Project: A Building-Integrated Photovoltaic (BIPV) rooftop system at the East China Machine Vision Industrial Park, completed and put into operation by December 2024.

Looking ahead, the company will continue to expand solar power generation capacity, enhance PV system efficiency, and increase the use of green energy.

Energy Conservation and Emission Reduction of Chang'an Photovoltaic Projects in 2024

Energy Conservation and Emission Reduction of Chang'an Photovoltaic Projects in 2024

Metric	2024 year
Power Generation (kWh)	232,900
Equivalent Standard Coal Saved (kg)	93,160
Diesel Saved (L)	88,269.1
CO_2 Emissions Reduced (kg)	232,201.3
SO_2 Emissions Reduced (kg)	6,987
NOX Emissions Reduced (kg)	3,493.5
Particulate Matter Reduced (kg)	63,348.8
Water Saved (L)	931,600

Note: The above 2024 data is converted based on the energy-saving and emission reduction calculation table of Changan Photovoltaic Project

Green Products

The company actively integrates environmentally friendly material and clean production technologies into its manufacturing processes. This approach minimizes energy consumption and pollutant emissions, promotes resource recycling, and reduces environmental impact, driving the industry' s green transformation. Products are made from eco-friendly, recyclable, and biodegradable material, reducing harmful substances and minimizing environmental impact throughout their lifecycle. This aligns with strict environmental regulations and meets customer demand for sustainable products, enhancing the company' s market competitiveness. In 2024, the company was recognized as an Outstanding Sustainable Development Practice Case by the China Listed Companies Association.

Industrial Cameras

• To reduce thermal noise, OPT cameras incorporate fan cooling, water cooling, and TEC active cooling. With hardware upgrades, code restructuring, and a low-power platform, the new generation reduces power consumption by over 20% while enhancing image quality.

• The 10-Gigabit Ethernet line-scan camera integrates FPGA edge computing, enabling real-time image processing and detection. This improves system inspection speed and reduces PC workload, supporting time-sharing strobe technology to lower costs.

Smart code reader

• Enhanced NPU computing power and optimized ISP processing, reducing power consumption by 20% and lowering external casing temperature by 5°C.

• Upgraded FPGA platform reduces high-resolution image capture time to within 150 milliseconds, increasing frame rates by 30%.

• Customized model adjustments for photovoltaic barcode recognition, ensuring accurate reading even under low contrast or complex lighting conditions.

Green Initiatives

ESG Themed Training

To ensure that departmental auditors thoroughly understand the ISO management systems (including quality, environmental, and occupational health and safety standards) and to maintain effective system operation, the company invited external experts to conduct ESG training.

Key training topics included:

• ISO 14001 Environmental Management System – Its framework, key components, and implementation to drive continuous environmental improvement.

• Environmental Impact Assessment Methods – Teaching employees to identify and evaluate environmental factors (e.g., energy consumption, raw material use, pollutant emissions) and determine critical environmental risks for targeted environmental management strategies.

Energy-Saving Measures

Security personnel conduct daily energy-saving patrols after working hours, ensuring lights, air conditioning, and other equipment are turned off to prevent waste. Any violations are reported to encourage compliance.

Installation of motion-sensor lights and automatic faucets to reduce unnecessary energy and water consumption.

Air conditioning optimization:AC minimum temperature set at 26°C.

Departmental energy managers are assigned to oversee and enforce energy-saving practices within their teams.

ESG Key Performance Indicators

Environmental Performance

Energy Management		
Energy Consumption Density	kWh/m^3	128.73
Renewable Energy Consumption[1]	kWh	232,900
Proportion of Renewable Energy Used	%	3.95
Greenhouse Gas Emissions		
Total Greenhouse Gas Emissions	tCO_2e	6,369.26
Greenhouse Gas Emission Intensity	tCO_2e/m^3	0.1225
Scope 1 Greenhouse Gas Emissions	tCO_2e	2,832.35
Scope 2 Greenhouse Gas Emissions	tCO_2e	3,536.91
Pollution Prevention and Control		
Wastewater Discharge Volume	m^3	0
Non-hazardous Waste Recycled	t	3.14
Hazardous Waste Discharge	t	3.99
Hazardous Waste Discharge Intensity	kg/m^2	0.0808
Hazardous Waste Recycled	t	3.99
Environmental Management		
Number of Operational Sites with Environmental Certifications	count	1
Number of Environmental Management Meetings Held	times	4
Number of Environmental Trainings Conducted	times	28
Total Participants in Environmental Training	person-times	271
Employee Coverage Rate of Environmental Training	%	10.35
Environmental Penalties Due to Excess or Non-compliant Emissions	10,000 CNY	0
Number of Environmental Incidents	cases	0

Indicator	Unit	2022	2023	2024
Environmental Protection Investment	CNY 10,000	26.13	65.71	91.57
Electricity Consumption	kWh	2,189,481	5,674,133	5,894,847.60
Diesel Consumption	L	11,237.73	64.23	0
Gasoline Consumption	L	37,202	50,648	40,606.47
Natural Gas Consumption	m^3	\	39,806.40	40,729.68
Total Energy Consumption	kWh	2,626,228.58	6,473,583.22	6,694,064.60
Total Water Consumption	m^3	26,598	69,819	71,593.00

[1] Includes emissions from all operational activities such as pror tion and daily use, including solar-power. streetlights.

Social Performance Metrics

Indicator	Unit	2022	2023	2024
Employee Management				
Total number of employees	persons	2,098	2,268	2,618
By gender				
Number of male employees	persons	1,665	1,844	2,165
Number of female employees	persons	433	424	453
Proportion of female employees	%	20.64	18.69	17.30
By age				
Aged 30 and below	persons	1,413	1,510	1,775
Aged 31 to 50	persons	672	731	810
Aged 51 and above	persons	13	27	33
By education level				
Bachelor' s Degree or Higher	persons	711	787	1,016
Associate degree	persons	942	1,074	1,127
Vocational high school and senior high school	persons	279	244	308
Junior high school and below	persons	166	163	167
By function				
Number of R&D personnel	persons	813	899	1,034
Number of non-R&D personnel	persons	1,285	1,369	1,585
Production staff	persons	327	319	374
Sales staff	persons	862	943	1,086
Finance staff	persons	16	19	20
Administrative staff	persons	79	88	104
Employee Benefits				
Employees entitled to leave	persons	2,098	2,268	2,618
Maternity and paternity leave	persons	62	61	86
Male employees on paternity leave	persons	16	21	64
Female employees on maternity leave	persons	46	40	22
Number of employees returning to work after maternity/paternity leave	人	62	61	86
Return-to-work rate after maternity/paternity leave	%	100	100	100
Retention rate after maternity/paternity leave	%	100	100	77
Pension insurance coverage rate	%	100	100	100
Employee turnover rate				
Overall turnover rate	%	4.04	3.97	5.57
Employee Rights Protection				
Employee satisfaction rate	score	82.40	82.80	82.87
Employee labor contract signing rate	%	100	100	100

Indicator	Unit	2022	2023	2024
Labor union				
Number of employee representative meetings or other democratic communication meetings	times	3	2	2
Employee union membership rate	%	10	15	34
Number of employee proposals received by the union	cases	5	8	2
Employee activity expenditure	CNY 10,000	\	\	1.63
Union subsidies for employees in need	CNY 10,000	0.3	0.6	2.5
Training and Development				
Number of new employees receiving onboarding training	persons	\	536	223
Occupational Health and Safety				
Number of work-related fatalities	persons	\	0	0
Work-related fatality rate	%	\	0	0
Number of work-related injuries	persons	\	19	28
Occupational health and safety training	Sessions	\	50	7
Number of participants in occupational	persons	\	\	436
health and safety training Number of emergency drills conducted	times	\	3	3
Number of internal auditors trained in environmental management systems	sessions	\	\	4
Number of participants involved in the environmental management system	person-times	\	\	20
Work injuries or accidents due to improper chemical usage or handling	times	\	\	0
Number of chemical safety training participants	person-times	\	\	16
Public Welfare and Charity				
Charitable donations	CYN 10,000	50	50	29
Research and Innovation				
Number of R&D personnel	persons	813	899	1,034
Proportion of R&D personnel	%	39.18	39.64	39.50
R&D investment	CYN 10,000	19,102.18	20,224.50	21,695.99
R&D investment as a percentage of revenue	%	16.74	21.43	23.81
Total number of valid invention patents (cumulative)	items	433	540	640
Total number of valid software copyrights (cumulative)	items	87	116	124
Total number of newly filed patent applications	items	126	168	210
Total number of newly granted patents	items	157	107	100
Number of newly granted invention patents	items	21	46	33
Number of newly granted utility model patents	items	152	60	57
Number of newly granted design patents	items	5	1	10
Number of newly registered software copyrights	items	14	29	8

Indicator	Unit	2022	2023	2024
Supply Chain Management				
Number of suppliers	units	645	350	392
Suppliers in mainland China	units	\	340	377
Suppliers outside mainland China	units	\	10	15
Number of supplier audits	times	35	28	28
Number of supply chain management training sessions conducted	times	5	16	12
Proportion of suppliers signing ESG-related agreements	%	38.45	90	90
Quality Management				
Product recall rate	%	\	0.02	0
Product yield rate	%	\	99.93	99.62
Customer satisfaction results	%	94.49	96.82	90.81
Customer complaint resolution rate	%	\	80.35	100
Number of returned satisfaction questionnaires[2]	份	343	773	98

[2] From 2024 onwards, satisfaction questionnaires are only distributed to the top 100 customers.

Corporate Governance

Metric	Unit	2022	2023	2024
Corporate Governance				
Number of Shareholdersâ€™ Meetings Held	sessions	2	4	5
Number of Board Meetings Held	sessions	6	9	8
Number of Supervisory Board Meetings Held	sessions	6	6	7
Number of Strategy Committee Meetings	sessions	1	1	1
Number of Nomination Committee Meetings	sessions	4	1	1
Number of Remuneration and Appraisal Committee Meetings	sessions	2	2	2
Number of Remuneration and Appraisal Committee Meetings	sessions	5	4	3
Number of ESG Committee Meetings	sessions	\	1	1
Number of Board Members	persons	6	6	7
Number of Independent Directors	persons	3	3	4
Number of Independent Directors	%	50	50	57.14
Number of Female Board Members	persons	1	1	1
Proportion of Female Board Members	%	16.67	16.67	14.29
Investor Relations				
Number of Investor Research Events Organized	events	365	352	194
Number of On-site Institutional Investor Visits Received	visits	52	240	76
Number of Online Investor Meetings Organized	events	313	112	118
Number of Investor Engagement Activities	person-times	2,000+	2,000+	1,300+
Investor Hotline Answer Rate	%	100	100	100
SSE e-Interaction Platform Response Rate	%	100	100	100
Number of Periodic Reports Published	copies	4	4	4
Number of Ad Hoc Announcements Published	copies	81	96	116
Compliance Management				
Number of Compliance Training Sessions	sessions	4	74	97
Number of Participants in Compliance Training	participan	80	931	2,618
Average Duration of Compliance Training per Employee	houes	\	2.71	2.08
Number of Complaints and Reports Received	cases	\	0	0
Number of Reports Investigated or Acted Upon	cases	\	0	0
Number of Cases Under Investigation or Involving Litigation	cases	\	0	0

Reporting Standards Index

Reporting Framework	GRI Standards	SASB	上交所
About This Report	GRI 2-2: Entities included in the sustainability report GRI 2-3: Reporting period, frequency, and contacts		
Company Overview	GRI 2-1: Organizational details GRI 2-6: Activities, value chain, and relationships GRI 2-28: Membership in associations		
Sustainable Development Strategy and Management	GRI 2-13: Delegation of responsibility for impacts GRI 2-14: Role of governance bodies in sustainability reporting GRI 2-16: Communication of critical issues GRI 2-17: Collective knowledge of governance bodies GRI 2-22: Sustainability strategy statement GRI 2-29: Stakeholder engagement approach GRI 3-1: Process for determining materiality topics GRI 3-2: List of materiality topics		Articles 13–18, 51–53
Sound Management - Strengthening Corporate Governance			
Strengthening Corporate Governance	GRI 2-9: Governance structure and composition GRI 2-10: Nomination and selection of governance bodies GRI 2-11: Chair of governance bodies		Article 12
Building a Compliance Ecosystem	GRI 2-12: Governance oversight of impact management		Articles 54–56
Upholding Business Ethics	GRI 205-1: Operations assessed for corruption risks GRI 205-2: Anti-corruption policy communication and training GRI 205-3: Confirmed corruption cases and actions GRI 206-1: Legal actions for anti-competitive practices		Article 54
Enhancing Risk Management	GRI 1: Foundation	TC-HW-440a.1	Articles 14, 18
Innovation-Driven - Delivering High-Quality Products			
Data Security and Privacy Protection	GRI 2-25: Procedures to remediate negative impacts GRI 2-26: Mechanisms for advice and concerns GRI 418-1: Verified complaints on privacy breaches	TC-SI-220a.1 TC-SI-220a.2 TC-SI-230a.2 TC-HW-230a.1	Articles 48
Promoting Product and Technological Innovation	GRI 417: Marketing and Labeling GRI 418: Customer Privacy		Articles 42–43
Product Quality and Enhancing Product Quality and User Experience	GRI 416-1: Health and safety impact assessments GRI 416-2: Health and safety violations	TC-HW-410a.1 TC-HW-410a.2 TC-HW-410a.3 TC-HW-410a.4	Article 47
Empowering Brand Promotion Through Innovation	GRI 417: Marketing and Labeling GRI 418: Customer Privacy		Article 41
Strengthening the Foundation of Supply Chain Management	GRI 203-2: Significant indirect economic impacts GRI 204-1: Local procurement spending ratio GRI 308-1: New suppliers screened with environmental criteria GRI 308-2: Environmental impacts in supply chains GRI 414-1: New suppliers screened with social criteria GRI 414-2: Social impacts in supply chains	TC-ES-320a.2 TC-ES-320a.3 TC-ES-440a.1 TC-HW-430a.1 TC-HW-430a.2 TC-HW-440a.1	Article 45
Attracting and Cultivating Talent	GRI 2-7: Employees GRI 401-1: New Employee Hires and Employee Turnover	TC-HW-330a.1	Article 50
Safeguarding Health and Safety	GRI 403-1: Occupational health and safety systems GRI 403-2: Hazard identification and risk assessment GRI 403-3: Occupational health services GRI 403-5: Worker health and safety training GRI 403-6: Promotion of worker health GRI 403-7: Prevention and mitigation of occupational health and safety impacts in business relationships GRI 403-8: Coverage of occupational health and safety management systems GRI 403-9: Work-related injuries GRI 403-10: Work-related health issues		Article 50
Ensuring Rights and Benefits	GRI 2-7: Employees GRI 2-8: Workers beyond employees GRI 201-3: Defined benefit plans and retirement schemes GRI 401-1: New hires and employee turnover GRI 401-2: Benefits for full-time employees GRI 401-3: Parental leave GRI 405-1: Diversity in governance bodies and employees GRI 406-1: Incidents of discrimination and corrective actions GRI 408-1: Operations and suppliers at significant risk for child labor GRI 409-1: Operations and suppliers at significant risk for forced labor	TC-ES-310a.1 TC-ES-320a.1 TC-ES-000.C TC-SI-330a.1 TC-SI-330a.2 TC-SI-330a.3	Articles 49-50
Empowering Employee Development	GRI 404-1: Average training hours per employee annually GRI 404-2: Employee skill enhancement and transition assistance programs		Article 50
Deepening Employee Care	GRI 403: Occupational Health and Safety GRI 404: Training and Education GRI 405: Diversity and Equal Opportunity GRI 406: Non-Discrimination GRI 407: Freedom of Association and Collective Bargaining GRI 408: Child Labor GRI 409: Forced or Compulsory Labor		Article 50

Reporting Framework	GRI Standards	SASB	SSE Guidelines
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Co-Building and Sharing- Protecting Our Beautiful Homeland			
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Green Operations	GRI 201-2: Financial implications of climate change and related risks/opportunities GRI 301-2: Recycled input material used GRI 301-3: Reclaimed products and packaging GRI 302-1: Direct energy consumption GRI 302-4: Energy consumption reduction GRI 302-4: Energy consumption reduction GRI 303-1: Water as a shared resource GRI 303-2: Water discharge management GRI 306-1: Waste generation and impacts GRI 306-2: Waste impact management GRI 306-3: Waste generated	TC-ES-140a.1 TC-ES-150a.1 TC-ES-410a.1 TC-SI-130a.1 TC-SI-130a.3	Article 35-37
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Feedback and Suggestions

Dear Reader:
Thank you very much for taking the time to read the OPT Machine Vision Tech Co., Ltd. 2024 Annual ESG Report! To continuously improve our ESG reporting and management, we sincerely value your feedback. Kindly assist us by completing the following questionnaire and returning it to the provided contact details:

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Feedback Questionnaire

(Please check "√" your responses)
1. How would you rate this report' s reflection of OPT' s significant impacts on the economy, society, and environment?
☐ Excellent ☐ Good ☐ Average ☐ Poor ☐ Very Poor

2. How would you rate this report' s responsiveness to and disclosure of stakeholders' key concerns?
☐ Excellent ☐ Good ☐ Average ☐ Poor ☐ Very Poor

3. How would you rate the clarity, accuracy, and completeness of the information, metrics, and data disclosed in this report?
☐ Excellent ☐ Good ☐ Average ☐ Poor ☐ Very Poor

4. How would you rate the readability of this report?
☐ Excellent ☐ Good ☐ Average ☐ Poor ☐ Very Poor

5. Overall evaluation of the OPT Machine Vision Tech Co., Ltd. 2024 Annual ESG Report:
☐ Excellent ☐ Good ☐ Average ☐ Poor ☐ Very Poor