PLAYNITRIDE

# 2024

## PlayNitride Inc. Sustainablity Report

# PLAYNITRIDE

## Message from the Chairman

PlayNitride upholds the philosophy of "Entrepreneurship with Perseverance" and focuses on the breakthrough and innovation of MicroLED technology. In 2024, driven by the sustained growth in demand for MicroLED displays and the diversification of applications, PlayNitride's revenue from existing product lines reached a new high. Furthermore, the company successfully expanded into the research, development, and manufacturing of MicroLED-specific equipment, creating a new source of revenue. Total Operating Revenue for the year reached NT$1.768 billion, an 88% increase compared to 2023, and the company achieved the important operational milestones of reaching monthly, quarterly, and annual break-even.
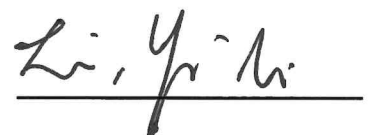
In terms of product innovation, focusing on key application fields including transparent displays and micro-displays for AR wearable devices, the company launched several technologically breakthrough innovative products that received recognition at numerous international exhibitions. Among these, the "9.38-inch adjustable transparency MicroLED panel," the first transparent MicroLED display with adjustable transmittance, won the "Best MicroLED Technology Award" at the 2024 SID Display Week and the "Outstanding Technology Award" at the Gold Panel Award 2024. Furthermore, the 0.18-inch monolithic full-color micro-displays received high customer affirmation and are planned for mass production in 2025-2026. By continuously promoting innovation in MicroLED display technology, the company provides customers with various potential new product development directions, transforming them into end products with market potential and expanding actual application scenarios.

In the face of climate change, MicroLED's characteristics of high efficiency, low power consumption design, and long lifespan give it a distinct advantage in the low-carbon economy. In 2024, PlayNitride continued to systematically identify the risks and opportunities posed by climate change in accordance with the TCFD framework, further strengthening its climate resilience management capabilities. This included planning emergency response measures for potential physical risks and a continued commitment to low-carbon sustainable products and process decarbonization. Additionally, the company voluntarily completed the 2024 greenhouse gas inventory and passed third-party verification. Through more efficient process optimization, the company effectively reduced chemical waste, thereby mitigating environmental impact from the manufacturing process. In 2024, greenhouse gas emissions were reduced by 5.15% compared to 2023.

We continued to strengthen our Governance foundation. In 2024, the company completed the inventory and optimization of multiple management systems, including the enhancement of the internal control mechanism and the introduction of an operational risk assessment process, further improving Corporate Governance effectiveness. Concurrently, the first Human rights due diligence was completed, and mitigation measures were formulated for the preliminarily identified human rights risks, laying the foundation for establishing a fairer, more inclusive, and talent-respecting environment. We continuously optimized our Online education and training system for internal Talent Development, introducing a digital training platform, establishing competency-oriented learning modules, and encouraging employees to continuously improve and innovate through self-selected courses and cross-departmental exchange activities, thereby realizing the philosophy that "people are the core assets for corporate sustainability" and jointly building the corporate vision.

Sustainability is continuous innovation. PlayNitride will continue to uphold the spirit of innovation, refine the development of key core technologies, and remain committed to translating innovative technology into commercial value, while also integrating ESG into its operational strategy to meet the support and expectations of all parties. We will persistently pursue excellence and make unremitting efforts toward sustainable development.

Chairman and CEO

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# About the Report

This report is the 2023 Sustainability Report (hereafter "the Report") of PlayNitride Inc. , disclosing PlayNitride's environmental (E), social (S), and governance (G) planning and practical actions for sustainability. As a global pioneer in the MicroLED industry, we are also the first company listed on the "Taiwan Innovation Board". As our operations develop and to respond to stakeholders' expectations, we have initiated the sustainable development promotion plan and periodically issue the Sustainability Report. Relevant information is as follows

| | |
|---|---|
| **Scope of disclosure** | The reporting boundary covers PlayNitride's important operating locations. The economic performance covers all operating activities of all entities in the consolidated financial statements (including PlayNitride's Taiwan Branch, the subsidiary PlayNitride Display Co., Ltd., and the US subsidiary PlayNitride America Corporation). The implementation performance in social and environmental aspects is mainly based on the main operating site, Zhunan Science Park, Zhunan Town, Miaoli County. Information that has not been disclosed yet will take into consideration of the accuracy and completeness of the information collected. We will develop a collection mechanism and will include the disclosure scope in the coming years. The scope of disclosure will not be explained in subsequent reports. In addition, taking into account the comparability of the information, the principle is to disclose the data of the past three years. Except for some performance information that has not been systematically collected, only the data of 2023 is disclosed, |
| **Reporting period and frequency** | This is the fourth issue of the Sustainability Report of PlayNitride. The report is issued once a year. The reporting period of this report is from January 1, 2024 to December 31, 2024. Previous issue: September 2024 Current issue: August 2025 |
| **Applicable standards** | The Technology and Communications - Semiconductors in the GRI Standards of the Global Reporting Initiative (GRI) of the Sustainability Accounting Standards Board (SASB) has been used as the basis for the preparation of the Report. |
| **Management approach** | The data and financial performance disclosed in the Report are based on the consolidated financial statements certified by CPAs. All financial figures are denominated in NTD and the financial data are disclosed based on the IFRSs. All other data in the report were obtained through internal compilation and statistics. Values are rounded to the nearest whole number and expressed in generally accepted numerical terms. The data and information disclosed in the report were provided by the responsible departments to the report working groups for the compilation of this report. The completed report was sent to each department head and the Chief Sustainability Officer for verification. After the Report was reviewed by the Chairman & CEO, the internal review process was completed and the Report was submitted to the Board of Directors for approval prior to disclosing the Report on PlayNitride's official website. |
| **Contact information** | If you have any questions regarding this report or any suggestions for PlayNitride, please do not hesitate to contact us through the following methods. Company address: No. 13 Kezhong Rd., Hsinchu Science Park, Zhunan Township, Miaoli County Company Tel. : +886-37-586610 Mr. Yeh E-Mail: esg@playnitride.com Company website: https://www.playnitride.com/ |

# 1. About PlayNitride

## 1-1    Company Profile

PlayNitride was listed on the Innovation Board of TWSE in August 2022, making it the first company listed on the Innovation Board. PlayNitride Inc. was established in February 2014 and an investment holding company was set up in the Cayman Islands. "PlayNitride Inc. Taiwan Branch (Cayman)" was set up in June of the same year. In 2016, we established subsidiary "PlayNitride Display Co., Ltd." and in May 2023, PlayNitride America Co. was established.

As a global leader in MicroLED technology and applications , we focus on the R&D, manufacturing, and sales of MicroLED displays, which can be applied to ultra-large displays, vehicles, and wearables. Through innovative R&D and diversified business models, we have now become one of the leading manufacturers in the field of MicroLED technology to provide customers with maximized value.

| Company Name | PlayNitride Inc. |
|---|---|
| Stock Code | 6854 |
| Chairman | Charles Li |
| Established | February 25, 2014 |
| Publicly Listed | August 18, 2022 (listed on TWSE's "Taiwan Innovation Board") |
| Business Headquarters | No. 13 Kezhong Rd., Hsinchu Science Park, Zhunan Township, Miaoli County, Hsinchu Science Park |
| Operating Locations | Taiwan, USA |
| Service | R&D, manufacturing, and sales of MicroLED displays |
| Goods/Services | ✧ Pixel-type Chip-on-Carrier (COC)<br>✧ Technical services<br>✧ Turnkey solution (production line construction service) |
| Registered Capital | NTD 1.072 billion (as of the end of 2024) |
| Employees | 496（end of 2024） |
| Revenue | NTD17.68 million（2024） |

### Vision and Mission

Guided by our vision, mission, and core values, PlayNitride Inc.  will strive to achieve breakthroughs and applications in MicroLED technology , bringing people a brand new visual experience, driving technological advancement, emphasizing sustainable development, and creating a better future.

**Vision**

• Become the world's leading supplier of MicroLED technology and products, and lead the transformation of the world's technology and display technology. We will be driven by technological innovation to develop the most advanced, high-quality MicroLED display solutions and apply them to various fields, from consumer electronics to various commercial and industrial applications.

**Mission**

• Through innovation and exceptional technology, we provide outstanding MicroLED products and services to customers around the world. We are committed to promoting breakthroughs in display technology to provide people with an excellent visual experience and comprehensive solutions.

## Locations of Product Sold in 2024

Oher, 3.68%

Korea, 9.18%

Taiwan, 87.14%
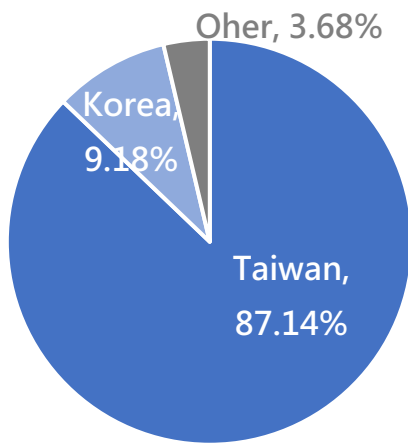
PlayNitride Inc. is a provider of the emerging MicroLED display technology. Its major clients include domestic and international display terminal brands, automotive manufacturers, automotive display assembly suppliers, and major panel manufacturers. The relevant terminal applications encompass ultra-large displays, smart cockpit automotive displays, wearable devices, and AR/VR displays. Operating Revenue in 2024 reached $1.77 billion, an increase of approximately 87.53% compared to 2023, primarily due to the record-high revenue from COC pixel-type chip carrier sales, as well as the signing of Turnkey Solution (production line construction service) contracts and the sale and authorization of proprietary equipment to clients.

In 2024, PlayNitride Inc. continued to strengthen product innovation and technology deployment, launching products such as a 9.38-inch transparent display with adjustable transparency and a 0.18-inch 5644 PPI ultra-high-resolution full-color MicroLED display, expanding the possibilities for wearable devices, in-car displays, and AR/VR displays application scenarios (See Section 3-1 Product Advantages for details). The company continues to enhance the capacity of the overall industry chain through the Turnkey

**Mass Transfer Equipment Development/Sales**

**Turnkey Solution Construction Services**

**Technical Services**
- Automotive Display POC
- AR/VR Display Co-development
- Transparent Display Co-development
- PCB-based Indoor Signage Co-development

**CoC**
Over 90% market share, the only company in the world certified by the largest manufacturer of consumer electronics in Korea

**Business Deployment**

Solution (production line construction service) business model, meeting customer demands for MicroLED televisions and MicroLED watches. In terms of new product deployment, the company is acquiring new customers by manufacturing products such as transparent displays, high-resolution automotive displays, wearable devices, and high-resolution full-color micro-displays that can be applied to the Metaverse. Furthermore, in 2024, the company accelerated the vigorous development of the MicroLED industry by selling and licensing the independently developed Mass Transfer equipment and mass repair equipment, establishing another revenue stream for the company's sustainable development.
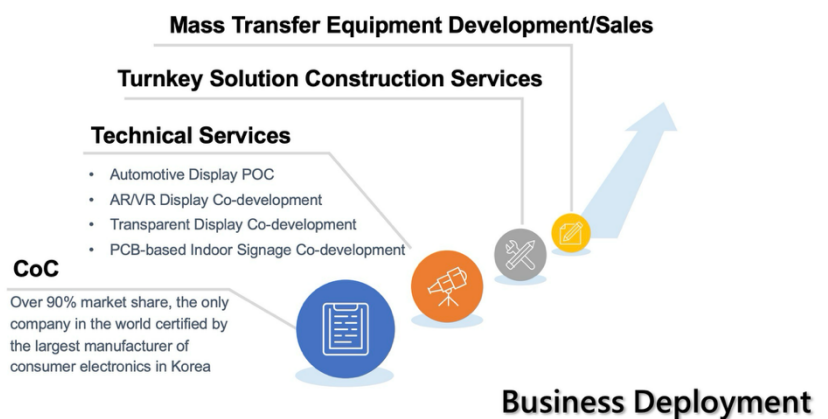
## 1-2　　Product and Service

### What is MicroLED

MicroLED is achieved by miniaturizing and arraying the structure of Light-Emitting Diode (LED), removing the LED's packaging and substrate, and retaining only the epitaxial film, which allows the MicroLED chip size to be reduced from 1mm down to 50μm* or less (a reduction in length of more than 20 times), and each pixel can be individually addressed and driven to light up.
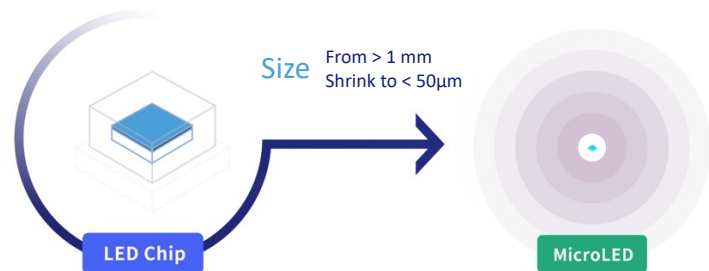


Hundreds of millions of micrometer (μm)-sized MicroLED chips are transferred onto a driver backplane with circuit structure design using Mass Transfer, and coupled with different driving technologies, they create display applications of various sizes and fields.

MicroLED displays can be applied to various display scenarios, covering ultra-large displays, in-car displays, and wearable devices. Whether it is an upgrade to the user experience of existing displays or entirely new, yet-to-emerge applications, MicroLED demonstrates bright specifications and product advantages that make it the "bridge between the past and the future" for new generation display technology.

Note: 1 millimeter (mm)=0.1 centimeter (cm),1 micrometer (μm)=0.001mm, and the diameter of a single human hair is approximately 50–100 μm.

### MicroLED Manufacturing Process

In the production process of MicroLED displays, the R (Red), G (Green), and B (Blue) chips of the three colors must first be transferred from their respective epitaxial wafers to a temporary substrate. The chips are then arranged in the correct positions according to the pixel size of the display, to facilitate the subsequent Mass Transfer process.

The aforementioned temporary substrate is the Chip on Carrier (COC) pixel-type chip carrier, invented by PlayNitride, which has become an industry standard.

For detailed information, please refer to the PlayNitride official website.
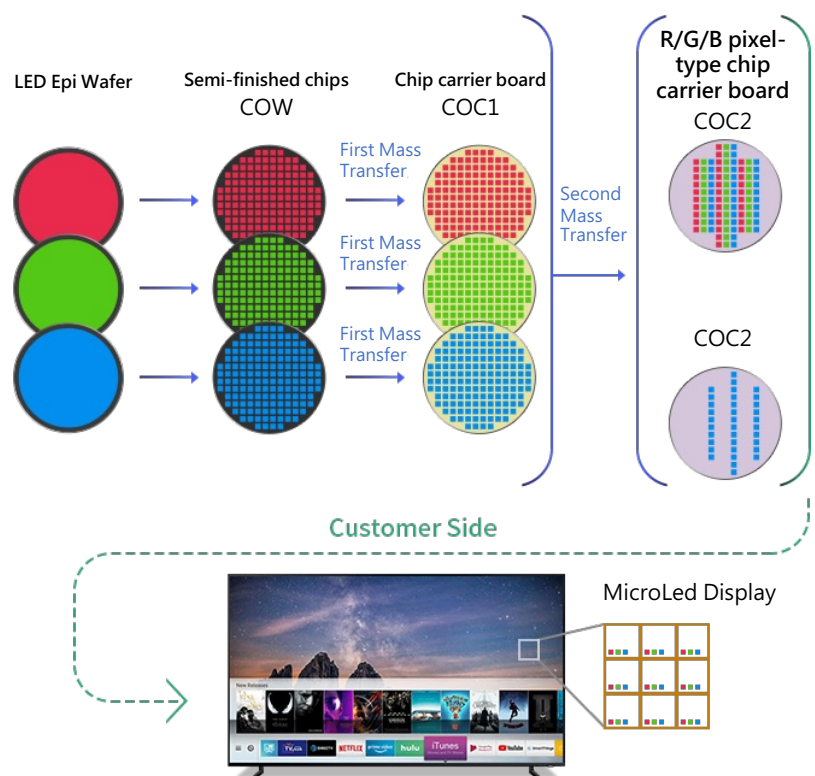
**Product/Service Introduction**

PlayNitride's products primarily include 6-inch Chip on Carrier (COC) pixel-type chip carrier and MicroLED displays samples. The company also offers technical service and Turnkey Solution (production line construction service) to customers. Through an innovative business model, the company is gradually expanding its MicroLED production capacity to meet customer needs. Starting in 2024, sales services for Mass Transfer equipment have been added.
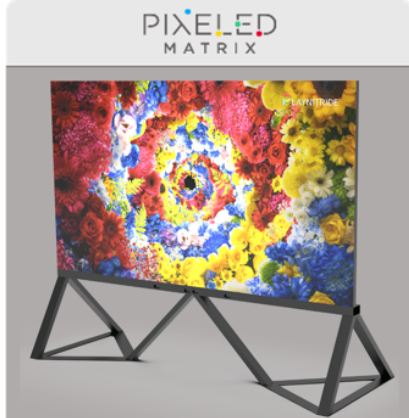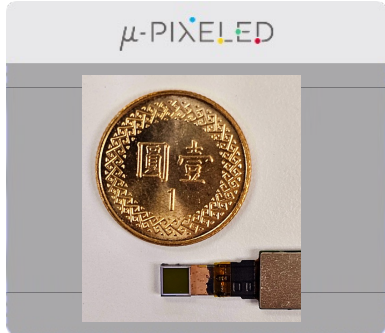
As a leader in MicroLED solutions, PlayNitide annually develops MicroLED applications in various fields and collaborates with globally renowned brand customers to jointly explore more application areas that have yet to receive attention. The company also develops standard products for sale for key application types, while evaluating and discussing the possibilities for customized products, to accelerate the commercialization of MicroLED and expand the future market scale of MicroLED.

**Historical value of production and production volume**
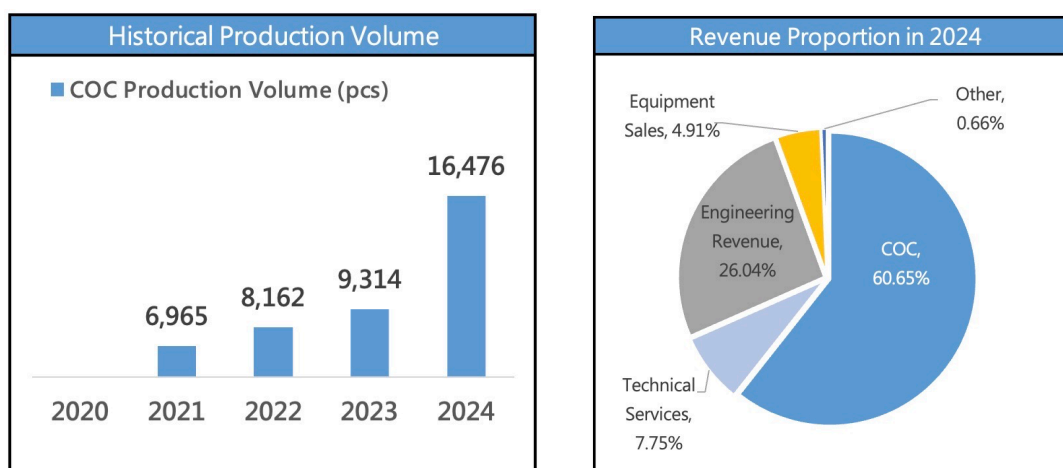


Note 1: In addition to the production and sale of finished products, the output of the Company's production lines includes internal R&D use.

Note 2: The unit of COC is pcs (pieces). As there is no consistent unit of measurement for technical service, engineering revenue, and other products, the production volume could not be counted.

| Products and Services | Main Application Areas |
|---|---|
| **COC（Chip on Carrier）** | |
| **6" Red MicroLED COC** <br> **6" Green MicroLED COC** <br> **6" Blue MicroLED COC** | The COC (Chip on Carrier) process is key to MicroLED. PlayNitride utilizes its excellent epitaxial and Mass Transfer technology to transfer MicroLED chips from the original epitaxial wafer onto a temporary substrate, arranging them according to customer requirements. This high-yield, high-flexibility process helps enhance production efficiency and reduce resource waste , supporting customers in sustainably creating competitive MicroLED displays. |
| **Different Drives for Different Applications** | |
| **PixeLED Display MicroLED Display** | It features multiple characteristics including high transparency, high contrast display, flexibility, high reliability, and ultra-high brightness. In 2024, an adjustable transparency MicroLED display was launched, where the light transmittance can be switched from 1% to 40%. The low-transparency mode can effectively shield objects in the background of the screen without affecting display quality. <br> |
| **PixeLED Matrix MicroLED Display （unit module）** | It supports seamless splicing with a pixel pitch from P0.3 to P0.9 (0.3 to 0.9 mm). It allows for flexible splicing of arbitrary resolutions and sizes, and can be assembled according to the needs of specific dimensions for large shopping malls, hotels, airports, and museums. <br> |
| **µ-PixeLED MicroLED Display** | The µ-PixeLED MicroLED displays possess characteristics of being ultra-lightweight, ultra-thin, high brightness, and high resolution, making it a key technology for AR glasses6. In 2024, a 0.18-inch 720×720 full-color micro-displays was launched, specifically designed for AR glasses7. The pixel density was significantly increased from 4,536 ppi to 5,644 ppi8. It has been promoted to several AR glasses manufacturers for evaluation, actively moving towards the product mass production stage. <br> |
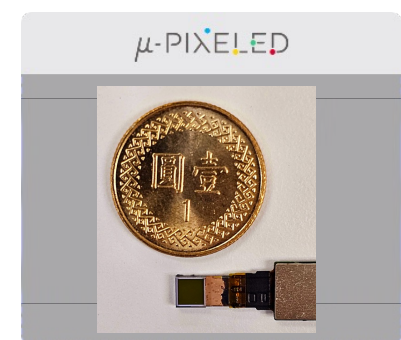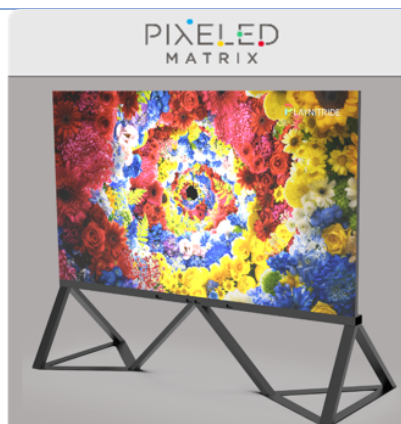
## 1-3    Value Chain

To ensure the development of the terminal sales market for MicroLED products, PlayNitride substitutes cooperation for competition with its upstream and downstream supply chain, forming a tightly linked MicroLED supply chain through Strategic Alliance. Furthermore, drawing on years of R&D experience and collaborative relationships with customers, the company provides customized R&D and design services to continuously meet future market demand, develop products with mass production feasibility, and maintain its leading advantage. 。

### Industry Chain Connections

MicroLED industry mainly focuses on the research and development, manufacturing, and sales of nitride semiconductor material related applications. Alternatively, based on customer-required specifications, customized R&D and design is conducted to provide R&D samples to customers for test production. Products that pass the testing are then moved to mass production and sales. The upstream, midstream, and downstream relationships in the MicroLED industry are as follows：

| Upstream | Midstream | Downstream |
|---|---|---|
| • **Raw Material Suppliers:** Glass, sapphire substrates, sputtering targets, and semiconductor-related chemicals<br><br>• **Display Control Chip Suppliers:** Display Control Chip Suppliers: Driver ICs, timing controllers, system chips, etc. | • **Chip Manufacturers and Display Module Manufacturers:** Mass Transfer, inspection, and repair<br><br>• **MicroLED Thin-Film Transistor Liquid-Crystal Display Manufacturers (TFT-LCD):** Epitaxy wafers and MicroLED | • **Manufacturers of Terminal Demands for Various Displays:** 3C electronic products, electric vehicles, AR glasses, and public displays, etc., in various sizes and application fields. |

## 1-4 Participation in Public Associations

At PlayNitride, we hope to gather the strength of the upstream and downstream of the industry chain to develop the MicroLED business ecosystem in Taiwan. Therefore, we actively participate in relevant associations and organizations to gather strength and accelerate the pace of technological innovation and market promotion.

| Participation in Associations and Organizations | Roles |
|---|---|
| Taiwan Optoelectronics Semiconductor Industry Association (TOSIA) | Vice Chairman |
| TOSIA - Industry Development and Technology Committee of Taiwan MicroLED SIG | Chairman of the Committee |
| Taiwan Display Union Association (TDUA) | Supervisor |
| Taiwan Panel & Solution Association (TPSA) | Executive Director, Vice Chairman of the Technical Committee, Vice Chairman of the International Committee |
| Taiwan Display Materials & Devices Association (TDMDA) | Executive Director |
| Society for Information Display (SID Taipei Chapter) | Director |
| Taiwan Electronical and Electric Manufacturers' Association (TEEIA) | Member |
| The Society for Information Display（SID） | Member |
| Smart Display Industrial Alliance (SDIA), the Industrial Development Administration, MOEA - Smart Mobility SIG Group | Member |
| Taiwan Photonics Society (TPS) | Member |
| Photonics Industry & Technology Development Association (PIDA) | Member |
| Maskless Lithography Industry Alliance | Member |
| SEMI | Member |
| International Commission on Illumination (CIE) | Member |

## 1-5    Milestones

| Year | Important Milestone |
|------|---------------------|
| **2024** | • Launched the first fundraising plan since listing, including the issuance of NT$800 million in total guaranteed convertible bonds (CB) and 12,000 shares of capital increase through cash offering.<br>• Sold the self-developed Mass Transfer equipment to external parties for the first time.<br>• Won the "Best MicroLED Technology Award" and Best Medium-sized Booth Award at the SID Display Week.<br>• Won the Bronze Award in the Advanced Technology Group of the "2024 SDIA Award - Advanced Display Grand Award". |
| 2023 | • General Enterprise Award in the Information and Communication category of "The 8th National Industrial Innovation Award of the Ministry of Economic Affairs" (2023)<br>• Won the "Best MicroLED Technology Award", "Best AR/VR/MR Module/Product Award" and "Best Medium-sized Booth Award" at SID Display Week<br>• Subsidiary, PlayNitride Display Co., Ltd., signed a cooperation contract with AUO to assist AUO in the construction of a 6-inch MicroLED COC production line. |
| 2022 | • PlayNitride Inc. was listed at NTD 105 per share on August 18, 2022, becoming the first company listed on the Innovation Board of the Taiwan Stock Exchange (stock code: 6854).<br>• Subsidiary, PlayNitride Display Co., Ltd., signed a cooperation contract with Epistar to assist Epistar in the construction of a 6-inch MicroLED COW production line. |
| 2019 | • First MicroLED production line opened. |
| 2014 | • PlayNitride Inc. was established. |

**Product Development History**

| Year | Item | Description |
|------|------|-------------|
| **2024** | **The 0.18-inch single-panel full-color MicroLED display for AR with the world's highest pixel density.** | MicroLED technology for AR glasses continues to advance. The newly launched 0.18-inch 5,644ppi full-color MicroLED micro-display in 2024, which participated in the Display Component Product Technology Awards (Gold Panel Awards 2025) organized by the Taiwan Display Union Association (TDUA), won the Outstanding Technology Award. |
| 2023 | **9.38" ultra-clear, high-brightness, high-resolution (114 PPI), 65% transparency, greater than 2000 nits ultra-high brightness MicroLED transparent display** | In collaboration with the Industrial Technology Research Institute (ITRI), we have introduced the transparent display products of ITRI at Xpark in Taoyuan to create "moving deep-sea specimens" through brand-new methods. Visitors are able to bring the originally static specimens back to life through motion sensory interaction. |
| 2022 | **0.49" Single-Panel AR Full-color MicroLED Display with Highest Pixel Density in the World** | Developed the first 0.49-inch 4,536 PPI high-resolution AR full-color MicroLED display, which won the Best New Display Technology award at the 2022 Smart Display Exhibition. |
| 2021 | **World's First 89" Ultra-wide Curved Stitched MicroLED Display** | The first 89" ultra-wide curved stitched MicroLED display in the world was made from 5" unit modules. Large signage can be custom-built to customer requirements. The product won the Hsinchu Science Park Product Innovation Award. |
| | **0.39" Single-Panel AR Full-color MicroLED Display with Highest Pixel Density in the World** | The first 0.39" 1141ppi high-definition AR full-color MicroLED Display was unveiled at 2021 Touch Taiwan as our formal entry into the Metaverse industry. |
| 2020 | **9.4" Flexible Active MicroLED Display** | The 9.4" flexible active MicroLED display was revealed in partnership with AUO for applications such as automotive displays. We also took part in the 2020 Gold Panel Awards organized by the Taiwan Display Union Association (TDUA) and received the best technology award. |

# 2. Sustainability Topic Management

## 2-1 Sustainability Policy and Operations

**Sustainability Committee**

PlayNitride has established the "Sustainable Development Best Practice Principles" and formed the Sustainability Committee in 2021, which serves as the highest-level sustainable development decision-making center within the Company. It is set up under the Office of the Chairman and CEO , and is presided over by the Chairman and CEO. The Chief Sustainability Officer (concurrently serving as the Chief Operating Officer) is responsible for the actual execution. Committee members include director-level executives from various functional departments, who are responsible for formulating the Company's sustainable management policies and goals, setting medium-to-long-term sustainable development plans, and proposing relevant management guidelines and implementation. The Chief Sustainability Officer reports the implementation status and future work plans to the Board of Directors quarterly, with reports scheduled for March, May, August, and November in 2024. The content covers the results of the execution of the annual goal plans across the three major aspects: Environment, Social, and Governance. The Board of Directors regularly reviews the management team's reports and strategic planning, evaluates the probability of strategic success, examines strategic progress, and urges the management team to make adjustments when necessary. Furthermore, in accordance with the Sustainable Development Action Plan for Listed Companies, a functional committee for sustainable development is expected to be established under the Board of Directors in 2025.

The Sustainability Committee is a cross-departmental organization with vertical integration and horizontal connection, divided into five working groups: Corporate Governance, Climate Governance, Product Development, Environmental Sustainability, and Social Sustainability. Work meetings are held once every quarter, with the Chief Sustainability Officer serving as the general convener and the Occupational Safety and Health Department serving as the executive secretary. The committee regularly confirms the quarterly progress of each department's 2024 ESG goals and plans, the progress and results of the greenhouse gas inventory, action plans, and execution results. It also shares the latest domestic and international policies or trends to strengthen the consensus and sustainability knowledge of all executives, ensuring that sustainable development strategies are fully integrated into the Company's daily operations. This ensures that the impact on the economy, Environment , and Social aspects is considered while creating corporate value, fulfilling the corporate mission , and creating value for all stakeholders.

**Organizational Chart of the Sustainability Committee**



**Corporate Governance Taskforce :**
Corporate Governance Office、Intellectual Property Legal Affairs and Public Relations Division, Panel Technology Development Division, Photovoltaic Component Development Division, Advanced Technology Development Division, Forward-Looking Display Business Division, Module System Development Division, Information Technology Department , Industrial Safety Department

**Climate Governance Taskforce :**
Industrial Safety Department , Administrative Division, Panel Technology Development Division, Photovoltaic Component Development Division, Advanced Technology Development Division, Forward-Looking Display Business Division, Module System Development Division, Human Resources Division

**Product Development Taskforce :**
Panel Technology Development Division, Photovoltaic Component Development Division, Advanced Technology Development Division, Forward-Looking Display Business Division, Module System Development Division, Procurement Division, Quality Division , Industrial Safety Department

**Environment Sustainability Taskforce :**
Industrial Safety Department , Facility Department, Panel Technology Development Division, Photovoltaic Component Development Division, Advanced Technology Development Division, Forward-Looking Display Business Division, Module System Development Division, Administrative Division

**Social Sustainability Taskforce :**
Human Resources Division 、 Industrial Safety Department 、 Procurement Division 、 Quality Division 、 Administrative Division

CEO — ESG Committee — Executive Secretary

**PLAYNITRIDE**

**Sustainable Development Goals and Achievements - Governance Issues**

| Issue | Sub-issue | Short-term Targets (2024) | Implementation Status | 2025 Targets |
|---|---|---|---|---|
| **Operational Performance** | Sustainability Disclosure | • Complete and externally release the 2023 Chinese and English reports before the end of August and the end of December, respectively | • Completed within the expected timeframe | • Complete and externally release the 2024 Chinese and English reports before the end of August and the end of December, respectively |
| **Integrity Management** | Business Ethics | • Continue to promote integrity management principles to new hires and conduct retraining for current employees | • 100% completion rate for new hires, and 100% completion rate for all personnel | • Regularly issue internal announcements and emails to promote integrity cases |
| **Innovation Management** | Sustainable Design | • Shrink the size of main mass-produced chips to less than 70% of the original size<br>• Maintain high luminous efficiency despite chip miniaturization | • In 2024, continuously advanced MicroLED chip miniaturization design, shrinking the size of main mass-produced chips to less than 70% of the original size, significantly improving wafer utilization efficiency.<br>• Luminous efficiency of blue and green chips increased by approximately 7-12% compared to the previous generation. | • Continued shrinking of chip size<br>• Maintain high luminous efficiency despite chip miniaturization<br>• Introduce non-cadmium series materials into modules |
| **Sustainable Supply Chain** | Supply Chain Management | • Formulate and issue the supplier self-assessment form<br>• Increase the signing rate of the Supplier Code of Conduct commitment letter by suppliers | • 100% signing rate of the self-assessment form by key suppliers<br>• The Supplier Code of Conduct is completed, with a 100% signing rate by key suppliers | • Establish carbon emission data for key suppliers |
| **Information Security** | Information Security Management Measures | • Formulate and announce the Information Security policy<br>• CIM system VM backup plan, 100% backup rate, 100% restoration confirmation<br>• 100% completion rate for Information security education and training for all Company employees | • Completed the formulation of the Information Security policy and published it on the official website<br>• CIM system VM weekly scheduled backup and restoration rate of 100%<br>• 100% completion rate for Information security education and training executed in the second half of the year | • Include industry comparison items in the third-party Information Security health check rating<br>• Join new Information Security joint defense |

| Strengthen Information Security Management Process and Hardware Architecture | • Social engineering drill plan, with a passing rate of 95% or more.<br>• Virus protection plan, with fewer than 10 ransomware incidents and a virus infection rate of less than 1%. | • Completed one social engineering drill in the first half and one in the second half of the year, with a passing rate of 98.02%.<br>• 0 ransomware incidents and 0% virus infection rate in 2024. | • Social engineering drill plan, with a passing rate of 96% or more. |

**Sustainable Development Goals and Achievements - Environmental Issues**

| Issues | Sub-issue | Short-term Targets (2024) | Implementation Status | 2025 Targets |
|---|---|---|---|---|
| **Climate Change** | Climate Strategy | • Complete the periodic greenhouse gas inventory and pass external verification.<br>• Establish carbon reduction goals and concrete action plans.<br>• Complete the TCFD climate risk assessment mechanism, and formulate strategies and goals based on the assessment results. | • Greenhouse gas emissions for 2024 (Scope 1, 2, 3) were 5,710.17 tonnes $CO_2e$, and have passed external verification.<br>• Established a carbon reduction target: a 17% reduction compared to the base year of 2023 by 2030.<br>• Completed the TCFD climate risk assessment mechanism, and control measures for high-risk items have been proposed and completed. | • Complete the periodic greenhouse gas inventory and pass external verification.<br>• Execute concrete action plans, including evaluating the installation of Local Scrubbers for the abatement of fluorine-containing gases.<br>• Calculate product carbon footprint. |
| **Energy Management** | Energy Management | • Reduce electricity consumption for the operation of outdoor air handling units.<br>• Reduce gas consumption for the operation of the VOC (Volatile Organic Compounds) treatment system. | • Completed the adjustment of operating parameters for outdoor air handling units, saving 2,018 kWh of electricity annually.<br>• Completed the adjustment of operating parameters for the VOC treatment system while maintaining the original combustion efficiency, saving 34,309 cubic meters of natural gas annually. | • Optimize operating parameters of air pollution control equipment to reduce natural gas (gas) consumption by 30,000 cubic meters/year. |

| Water Resource Management | Water Resource Management | • Continuously implement improvements for process water conservation.<br>• Strengthen water-saving measures, such as promoting water conservation to all units and inspecting pipelines and facilities for leaks.<br>• Ensure industrial wastewater discharge complies with standards.<br>• Improve the water consumption per effective output unit of COC. | • Industrial wastewater passed two sampling tests conducted by a third-party impartial unit.<br>• Average water consumption per COC output piece decreased by 8.4% compared to 2023. | • Improve manufacturing performance and production efficiency.<br>• Reduce the amount of cleaning water consumed per piece/per chip. |
|---|---|---|---|---|
| Waste and Recycling | Waste Management | • stablish waste reduction goals and implement improvement plans: plan reduction schemes for acetone and photoresist stripper. | • The generation of waste solvent per COC produced in 2024 decreased by 32.37% compared to 9.33 kg in 2023. | • Improve manufacturing performance and production efficiency.<br>• Reduce the amount of cleaning chemical solution consumed per piece/per chip. |
| | Material Management | | | |
| Product Management | Product Supervision | • Conduct an inventory of the use of "Per- and Polyfluorinated Alkyl Substances" (PFAS) by suppliers with potential risks and formulate a hazardous substance reduction or elimination plan. | • Completed the inventory of material suppliers, and the materials provided do not contain PFAS hazardous substances. | • Expand the scope of the supplier PFAS survey.<br>• Add mica to the conflict minerals investigation to ensure prohibition. |

**Sustainable Development Goals and Achievements - Social Issues**

| Issues | Sub-issue | Short-term Targets (2024) | Implementation Status | 2025 Targets |
|---|---|---|---|---|
| Human Rights Management | Human rights due diligence | • Conduct Human Rights Due Diligence (HRDD) analysis and formulate relevant supporting measures based on the investigation results.<br>• Establish Human Rights Due Diligence procedures and define the implementation frequency. | • Completed Human Rights Due Diligence (HRDD), and formulated mitigation and remediation measures for high-risk items, including regular review of relevant regulations and arrangement of training. | • Review the anti-bullying and harassment policy, and update it in line with legal adjustments.<br>• Hold awareness courses on human rights, integrity management, and sexual harassment prevention. |

| Talent Development | Development of human capital | • Achievement rate for the education and training plan ≥85%.<br>• Course satisfaction ≥88%. | • Achievement rate for the 2024 education and training plan was 76%.<br>• Average course satisfaction for 2024 reached 92.1%. | • Achievement rate for the education and training plan ≥85%. |
|---|---|---|---|---|
| Talent Attraction and Retention | Talent Attraction and Retention | • Annual retention rate for indirect personnel ≥85%.<br>• Annual retention rate for direct personnel ≥75%.<br>• Average monthly turnover rate for indirect personnel ≤1.5%.<br>• Average monthly turnover rate for direct personnel ≤4%. | • Annual retention rate for indirect personnel was 82.73%.<br>• Annual retention rate for direct personnel was 80.95%.<br>• Average monthly turnover rate for indirect personnel was 1.9%.<br>• Average monthly turnover rate for direct personnel was 5%. | • Annual retention rate for indirect personnel ≥85%.<br>• Annual retention rate for direct personnel ≥75%.<br>• Average monthly turnover rate for indirect personnel ≤1.5%.<br>• Average monthly turnover rate for direct personnel ≤4%. |
| Occupational Health and Safety | Health and Safety | • Maintain zero occupational injuries and continue to implement hazard assessment education and training across all departments.<br>• Continuously hold activities that promote the physical and mental health balance of employees.<br>• Introduce food products from charitable organizations into employee benefits. | • 0 lost time injury incidents, 2 near-miss incidents.<br>• Conduct health checks for all employees that exceed legal requirements annually, and complete a total of 4 health promotion activities, including health lectures and sports competitions. | • Maintain zero occupational injuries and conduct hazard assessment at least once in each department.<br>• Update and strengthen the operating procedures for the four major plans. |
| Product Responsibility | Product quality and recall management | • Plan to complete IATF 16949 Quality Management System certification in 2025, aligned with the mass production schedule of customer product development. | • Executed according to the procedure documents, and produced execution records for MSA and PFMEA. | Confirm the completion time for IATF 16949 customer requirements and plan for implementation. |

## 2-2　Identification of Key Stakeholders

**Identification of Key Stakeholders**

PlayNitride values engagement with its stakeholders. In accordance with the AA1000 SES Stakeholder Engagement Standard, the Company identifies its key stakeholders based on five dimensions: "Accountability, Influence, Tension, Diverse Perspectives, and Dependency." The four categories of key stakeholders are employees , customers , suppliers , and shareholders. After discussion by the Sustainability Committee in 2024, it was confirmed that there were no significant changes to the existing stakeholder identification results.

**Significance of Key Stakeholders to PlayNitride**

Through diverse communication channels, PlayNitride continuously communicates and engages with various stakeholders on material issues during its operational processes, ensuring their concerns and expectations are incorporated into PlayNitride's operational strategies and goals, and responding to stakeholders with tangible operational results. The results of stakeholder engagement are also reviewed by the CEO and reported to the Board of Directors, along with the Sustainability Report.

**Communication Channels and Frequency for Key Stakeholders**

| Stakeholder | Significance to PlayNitride | Communication Channels | Communication Frequency | Communication Effectiveness | Issues of Concern | Responding Section |
|---|---|---|---|---|---|---|
| **Employees** | • emonstrating diverse expertise and an innovative spirit is the core force driving technological breakthroughs and operational growth. | • Occupational Safety and Health Committee<br>• Labor-Management Conference<br>• Employee Welfare Committee<br>• Mental health care/Employee counseling<br>• Employee suggestion box, Sexual harassment/Workplace bullying complaint box | • Quarterly<br>• Quarterly<br>• Quarterly<br>• Ad hoc<br>• On demand | • Four meetings convened in 2024<br>• Four meetings convened in 2024<br>• Four meetings convened in 2024<br>• Four employee interview cases were opened in 2024 and all cases are now closed.<br>• Ten suggestions were received in 2024 and all cases are now closed. | • Innovation Management<br>• Integrity Management<br>• Talent Attraction and Retention | • 3-2 Technological Advantages<br>• 4-2 Integrity Management<br>• 6. Friendly Workplace |

| Stakeholder | Significance to PlayNitride | Communication Channels | Communication Frequency | Communication Effectiveness | Issues of Concern | Responding Section |
|---|---|---|---|---|---|---|
| **Customers** | • **Supporting the commercialization of innovative technologies and providing market insights drives product innovation and industry pioneering.** | • Customer visits, Con-call<br>• Electronic mail<br>• Project meetings<br>• Customer satisfaction survey<br>• QTR、QBR | • Ad hoc<br>• On demand<br>• Ad hoc<br>• Yearly<br>• Quarterly | • Developed over 10 new customers in 2024.<br>• Customer satisfaction survey score reached 89.2 in 2024.<br>• Customers successfully commercialized products and achieved market sales in 2024. | • Sustainable Supply Chain<br>• Quality Management<br>• Information Security | • 3-5 Supply Chain Management<br>• 3-6 Quality Management<br>• 4-5 Information Security |
| **Suppliers** | • **Providing high-quality raw materials and services, working together to create a sustainable partnership for the industry value chain.**。 | • New supplier evaluation<br>• Supplier audit<br>• EHS risk assessment | • Ad hoc<br>• Yearly<br>• Ad hoc | • Verification and review of new and alternative materials all required the submission of hazardous substance reports.<br>• Conducted key audits for Tier 1 raw material suppliers.<br>• Evaluated occupational safety and health and environmental matters for suppliers performing construction or services on site. | • Integrity Management<br>• Quality Management<br>• Sustainable Supply Chain | • 4-2 Integrity Management<br>• 3-5 Supply Chain Management<br>• 3-6 Quality Management |
| **Shareholders** | • **The foundation that supports the company's value growth and sustainable development with trust and resources.** | • Convening the Annual General Shareholders' Meeting<br>• Spokesperson system<br>• Company website - Investor relations section | • Yearly<br>• Quarterly<br>• Ad hoc<br>• Ad hoc | • Held the Annual General Shareholders' Meeting regularly each year in accordance with the Company Act and the Articles of Incorporation.<br>• Communicated with shareholders or potential investors through institutional investor conferences, holding 6 in 2024.<br>• Updated company information irregularly for investor inquiries. | • Innovation Management<br>• Quality Management | • 3-2 Technological Advantages<br>• 3-6 Quality Management |

## 2-3　Material Sustainability Issue Identification

**Materiality Assessment Process for Sustainability Issues**

PlayNitride regularly evaluates and identifies material sustainability issues every two years. In 2024, based on "GRI 3: Material Topics 2021," and also referencing IFRS and ESRS guidance on sustainability impacts, the Company incorporated sustainability impact into Impact Materiality and Financial Materiality to conduct a five-stage identification process. This process assesses the influential impact of PlayNitride's operational activities on society, the environment, people, and human rights across various sustainability dimensions (external impact), as well as the financial impact of resource investment for managing these impacts (internal impact). By balancing internal and external impacts, the sustainability impact analysis results are produced, which determines the priority material sustainability issues for reporting.

Based on PlayNitride's operational activities, business relationships, and stakeholder profile, and considering sustainability reporting standards (GRI, SASB), international sustainability rating indicators (MSCI, S&P CSA, CDP), and best practices of benchmark companies, relevant sustainability issues are collected. The Sustainability Committee comprehensively considers the significance of the impact of each issue, and further determines the priority of sustainability issues through discussion, confirming the sustainability topics and prioritizing the disclosure of their related goals, planning, and management performance.
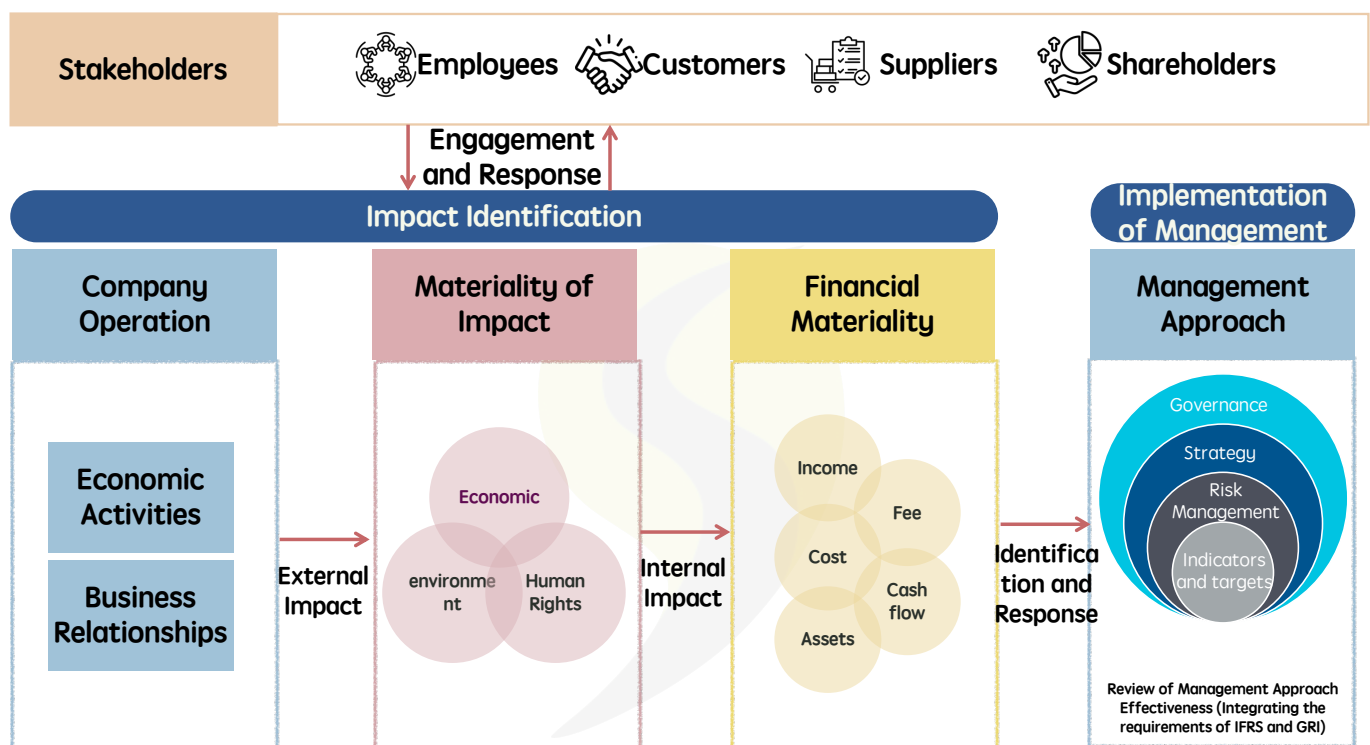
**Material Topic Identification Steps**

| | | |
|---|---|---|
| 1 | **Understanding Organizational Context** | Identify the concerns and potential impacts of the four categories of key stakeholders, analyze the possible impacts formed by economic activities in operational processes and commercial relationships up and down the value chain, and comprehensively consolidate these to design a list of 17 sustainability issues. |
| 2 | **dentification of External Impacts Materiality** | Continuously consider the engagement information with stakeholders, with the responsible department head for each issue conducting impact identification and performing a quantitative analysis of the actual or potential, positive or negative severity for the 17 sustainability issues. Based on the current management intensity, prioritize the Impact Materiality of the organization's external impacts, including those on the value chain, environment, and social dimensions.<br>**Impact Materiality identification method:**<br>**Impact Materiality of Negative Impact: Severity (Scale, Scope, Remediability) × Probability**<br>**Impact Materiality of Positive Impact: Benefit (Scale, Scope) × Probability** |
| 3 | **Identification of Internal Impacts Financial Materiality** | Based on the Impact Materiality of the 17 sustainability issues, the responsible department head for each issue measures the short-term, medium-term, and long-term financial impacts—whether opportunity or risk, direct or indirect—caused by external factors on operational activities. The degree of impact references the standard for measuring the materiality of financial statements. After analyzing the relevance of various financial indicators to PlayNitride's value, the 2023 net profit after tax is used as the benchmark for measuring the impact level of Financial Materiality, identifying sustainability-related risks and opportunities. The financial impact includes relevant information involving financial statements, such as revenue, cost, expenses, cash flow, and financing/fundraising.<br>**Financial Materiality identification method:**<br>**Financial Materiality: Operational Impact × Probability** |
| 4 | **Define Management Approach** | Consolidate the identification results of both Impact Materiality and Financial Materiality for all issues. The Impact Materiality and Financial Materiality are ranked separately based on positive/negative impacts. Furthermore, based on PlayNitride's future operational planning, the assessment ensures that these material topics are consistent with PlayNitride's business risks and strategies, confirming the final materiality assessment results. The responsible departments then formulate policies, promotion plans, and goal settings for each issue based on the assessment results. |
| 5 | **Determine Material Sustainability Issues** | Based on the confirmed material issues for disclosure, they are aligned with the GRI Topic Standards and the SASB Technology & Communications Sector - Semiconductors Industry (TC-SC), producing disclosure topics and indicators. After identification through discussion by relevant departments, the CEO performs the final review. |
| 6 | **Inclusion in Governance and Accountability** | The proposal is submitted to the Board of Directors for discussion, confirming 8 material issues for disclosure in the Sustainability Report. |

# Priority Material Sustainability Issues

Based on the sustainability issue impact analysis results and the double materiality assessment method, there are 6 material topics with negative impacts and 6 with positive impacts, totaling 8 material issues. There are also 6 secondary issues that are listed as topics for continued attention. Following final confirmation by the CEO and approval by the Board of Directors, the management approach and performance outcomes for the 8 material topics are prioritized for reporting in this report.
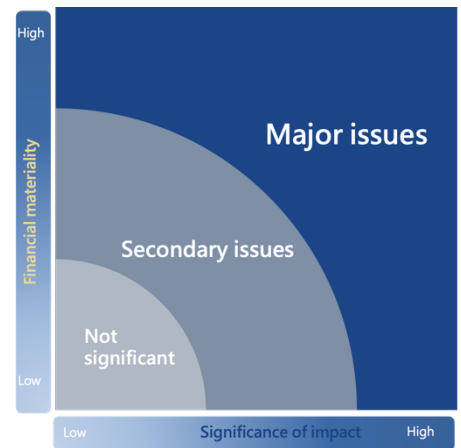


| Sorting | Significance of impact | | Financial materiality | | Dual significance | |
|---|---|---|---|---|---|---|
| | Negative | Positive | Negative | Positive | Negative | Positive |
| 1 | Climate Strategy | Quality Management | Information Security | Quality Management | Information Security | Quality Management |
| 2 | Information Security | Innovation Management | Quality Management | Innovation Management | Climate Strategy | Innovation Management |
| 3 | Integrity Management | Occupational Safety and Health | Integrity Management | Talent Attraction and Retention | Integrity Management | Talent Attraction and Retention |
| 4 | Talent Attraction and Retention | Talent Attraction and Retention | Product Responsibility | Information Security | Talent Attraction and Retention | Product Responsibility |
| 5 | Product Responsibility | Product Responsibility | Climate Strategy | Product Responsibility | Quality Management | Occupational Safety and Health |
| 6 | Quality Management | Human Capital Development | Sustainable Supply Chain | Energy Management | Product Responsibility | Information Security |
| 7 | Energy Management | Climate Strategy | Energy Management | Water Resource Management | Energy Management | Water Resource Management |
| 8 | Water Resource Management | Sustainable Supply Chain | Talent Attraction and Retention | Integrity Management | Sustainable Supply Chain | Climate Strategy |
| 9 | Diversity and Inclusion | Water Resource Management | Innovation Management | Climate Strategy | Water Resource Management | Sustainable Supply Chain |
| 10 | Sustainable Supply Chain | Information Security | Air Pollution Management | Sustainable Supply Chain | Air Pollution Management | Human Capital Development |
| 11 | Waste Management | Energy Management | Occupational Safety and Health | Waste Management | Innovation Management | Energy Management |
| 12 | Air Pollution Management | Waste Management | Water Resource Management | Air Pollution Management | Occupational Safety and Health | Waste Management |
| 13 | Innovation Management | Air Pollution Management | Diversity and Inclusion | Occupational Safety and Health | Diversity and Inclusion | Air Pollution Management |
| 14 | Occupational Safety and Health | Integrity Management | Social Impact | Human Capital Development | Waste Management | Integrity Management |
| 15 | Biodiversity | Diversity and Inclusion | Waste Management | Biodiversity | Biodiversity | Diversity and Inclusion |
| 16 | Human Capital Development | Social Impact | Biodiversity | Social Impact | Social Impact | Biodiversity |
| 17 | Social Impact | Biodiversity | Human Capital Development | Diversity and Inclusion | Human Capital Development | Social Impact |

## 2-4  Corresponding Disclosure Indicators for Material Sustainability Issues

By integrating GRI Standards and SASB Standards indicators for the semiconductor industry, the management approach, promotion goals, substantive performance, and future planning for each material sustainability issue are reported. After reviewing the impact of each material issue on PlayNitride and its upstream and downstream value chain, it is confirmed that PlayNitride as an entity is the organizational boundary for disclosure, and the scope of impact for each issue varies slightly depending on the issue.

| Sustainability Issue | Compared to Last Year | Scope of Impact | | | Impact Aspect | | | Impact Time Scope | | | | Correspondence between GRI Standards and SASB Standards | Corresponding Section |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PlayNitride's operations | Customers | Suppliers | Economic Aspect | Environmental Aspect | People | Occurred | Likely to Cause an Impact in the Future — Within 1 Year | Within 3 Years | Over 3 Years | | |
| Integrity Management | Maintained material | ◉ | | ◉ | ◉ | | ◉ | ◉ | | | | GRI 205 Anti-corruption 2016 TC-SC-520a.1 Intellectual Property Protection and Competitive Behavior | 4-2 Integrity Management |
| Innovation Management | Maintained material | ◉ | ◉ | ◉ | ◉ | ◉ | ◉ | ◉ | | | | Self-defined Topic | 3-1 Product Advantages 3-2 Technological Advantages 3-3 Intellectual Property Management |
| Quality Management | Maintained material | ◉ | ◉ | ◉ | ◉ | ◉ | | ◉ | | | | Self-defined Topic | 3-6 Quality Management |
| Talent Attraction and Retention | Maintained material | ◉ | | | ◉ | | ◉ | | ◉ | | | GRI 202 Market Presence 2016 GRI 401 Employment 2016 GRI 402 Labor/Management Relations 2016 TC-SC-330a.1 Recruitment and Management of Global Specialized Talent | 6-1 Talent Attraction and Retention |
| Occupational Health and Safety | Maintained material | ◉ | | ◉ | ◉ | | ◉ | ◉ | | | | GRI 403 Occupational Health and Safety 2018 TC-SC-320a.1, TC-SC-320a.2 Employee Health and Safety | 6-4 Employee Health and Safety |
| Climate Strategy | Maintained material | ◉ | ◉ | ◉ | ◉ | ◉ | | | | | ◉ | GRI 305 Emissions 2016 TC-SC-110a.1, TC-SC-110a.2 Greenhouse Gas Emissions | 5-1 Climate Strategy 5-2 Greenhouse Gas Emissions Management |
| Product Responsibility | Maintained material | ◉ | ◉ | ◉ | ◉ | ◉ | | ◉ | | | | GRI 416 Customer Health and Safety 2016 GRI 417 Marketing and Labeling 2016 TC-SC-410a.1, TC-SC-410a.2 Product Lifecycle Management | 3-4 Hazardous Substance Management |
| Information Security | Maintained material | ◉ | | | ◉ | | ◉ | ◉ | | | | Self-defined Topic | 4-5 Information Security |

# PLAYNITRIDE

## 2-5    Management Approach for Material Sustainability Issues

**Integrity Management**

| | | |
|---|---|---|
| **Description of External Impacts** | **Positive Benefits** | Good corporate governance and integrity management are the core foundation of a business , safeguarding the rights and interests of shareholders and stakeholders , enabling the company's continuous and stable growth , and gradually strengthening the group's sustainable development. |
| | **Negative Impacts** | Failure to implement or violation of relevant regulations may result in penalties , affect the trust of customers and suppliers , and also impact the company's future development space in the capital market. |
| **Policy** | • Corporate Governance Best Practice Principles, Corporate Sustainable Development Best Practice Principles<br>• Code of Ethical Conduct , Integrity Management Principles , Integrity Management Operating Procedures and Behavior Guidelines | |
| **Commitment** | • Comply with all laws and regulations and implement corporate governance to safeguard the rights of relevant stakeholders.<br>• When engaging in commercial activities, one shall not directly or indirectly offer, promise, request, or accept any undue benefits , or commit other dishonest acts such as violating integrity, unlawful behavior, or breach of fiduciary duty to obtain or maintain interests. | |
| **Goals and Targets** | • Improve the indicators that were not achieved in the last Corporate Governance Evaluation (ESG Evaluation).<br>• Zero cases of illegal penalties or fines , zero incidents of integrity violations , or unresolved complaints. | |
| **Action Plan** | • Continuously improve policies, systems, and information disclosure by referencing the Corporate Governance Evaluation items.<br>• Have established a Board of Directors Performance Evaluation Method, performed self-evaluation, and reported it to the Board of Directors.<br>• Regularly conduct integrity management promotion and training for employees and new hires.<br>• Have established a "Supplier Code of Conduct" to ensure suppliers understand PlayNitride's requirements for ethical behavior.<br>• Report the integrity management execution status for the previous year to the Board of Directors annually | |
| **Annual Achievements** | • In 2024, the second year after listing, the Company underwent the evaluation , and the rating was improved to 66-80% , a one-level advancement from the previous evaluation, and the Company will continue to reference benchmark companies' practices to improve related management and information disclosure.<br>• Completed the performance self-evaluation of the Board of Directors and functional committees in 2024, with all results rated as excellent.<br>• Received 0 related complaint cases through the whistleblower complaint channels in 2024.<br>• No related illegal incidents were penalized by the competent authority in 2024.<br>• Integrity Management training results for 2024: 100% completion for directors and new hires , 100% completion for all employees.<br>• Supplier Code of Conduct commitment letter signing rate was 100% in 2024.<br>• The execution results for 2024 were reported to the Board of Directors in February 2025. | |
| **Follow-up Review Mechanism** | • The Corporate Governance Officer and the Meeting Affairs Unit regularly track the management effectiveness and report it to the Board of Directors in February 2025.<br>• The Board of Directors conducts a performance self-evaluation once a year, and it is planned to have an evaluation conducted by an external professional independent institution once every 3 years. The external professional independent institution evaluation is scheduled for 2025.<br>• Regularly track the progress of handling all communication channels or complaint boxes. | |

| | |
|---|---|
| **Responsibility** | • Corporate Governance: Board of Directors , Management Level , Meeting Affairs Unit , Corporate Governance Officer.<br>• Integrity Management: Human Resources Department , Internal Audit Department , Legal Affairs Office |
| **Stakeholder Engagement and Grievance Mechanism** | • Board of Directors Performance Evaluation.<br>• All communication channels or complaint boxes. |

**Innovation Management**

| | | |
|---|---|---|
| **Description of External Impacts** | **Positive Benefits** | Creating a leading position in MicroLED technology, providing customers with complete technical solutions, reducing product costs, enhancing market competitiveness, and continuously optimizing R&D design to reduce environmental impact. |
| | **Negative Impacts** | Failure to properly protect trade secrets could cause considerable damage to the company due to the leakage of confidential information. |
| **Policy** | | • Invest R&D funding , develop proprietary equipment and materials for key processes , and continuously carry out process optimization.<br>• Encourage employees to engage in innovative thinking, organize innovation competitions, and provide bonuses for patents and trade secrets. |
| **Commitment** | | Improve product yield, shorten product output cycle, and rapidly adjust and develop corresponding processes in response to different customer needs. |
| **Goals and Targets** | | • Double the number of chips on each 6" wafer every two years.<br>• Luminous efficiency improvement target: 10% annual increase. |
| **Action Plan** | | • Regularly hold cross-departmental meetings to jointly discuss development directions for process innovation and process equipment capability.<br>• Establish sustainable design evaluation dimensions, with each R&D department corresponding to its specific design or reduction evaluation goals.<br>• Introduce a patent management system and integrate with the existing trade secret registration system to implement intellectual property management and protection of core technology.<br>• Regularly release patent strategic layout status and provide proposal application status to encourage R&D personnel to strive for proposal bonuses. |
| **Annual Achievements** | | • In 2024, continued to advance MicroLED chip miniaturization design, with chip size reduced to less than 70% of the previous year's, significantly improving wafer utilization efficiency and effectively saving raw material usage.<br>• Despite the significant chip size reduction, blue and green chips maintained original brightness and luminous efficiency, leading to greater energy efficiency in subsequent terminal applications.<br>• A total of 54 new patent applications were filed in 2024, bringing the cumulative number of MicroLED-related patent applications to 924. |
| **Follow-up Review Mechanism** | | • Management and decision-making departments confirm the development progress of each R&D department quarterly.<br>• Track process optimization and results of environmental impact reduction at the Sustainability Committee quarterly. |
| **Responsibility** | | • Panel Technology Development Department |
| **Stakeholder Engagement and Grievance Mechanism** | | • Increase industry-academia collaboration, encourage personnel to attend international academic conferences to absorb new knowledge, and continuously cultivate R&D talent.<br>• Plan and host intellectual property application and protection-related courses for R&D personnel.<br>• Continuously hold review meetings with suppliers regarding new product process requirements to meet process specification needs.<br>• Confirm quality inspection errors with customers based on new product verification results and adjust process equipment parameters to elevate product specifications. |

**Quality Management**

| Description of External Impacts | Positive Benefits | The effective operation of the ISO Quality Management System enhances production efficiency, lowers production costs, improves product quality, and increases customer satisfaction and trust, thereby ensuring the company's continuous growth. |
| --- | --- | --- |
| | Negative Impacts | If quality is not maintained, customer satisfaction will decline, affecting the company's development. |
| Policy | | • Quality Policy: PlayNitride Listens Attentively to Your voice, Nurtures Innovation, and Thrives on Results with Integrity, Dedicating to Excellence (PLAYNITRIDE)<br>• • ISO 9001:2015 Quality Management System |
| Commitment | | Through the operation of the ISO Quality Management System, promote quality management activities and strengthen personnel quality awareness, ensure compliance with laws and regulations, and also enhance production efficiency, lower production costs, improve product quality, and increase customer satisfaction. |
| Goals and Targets | | • Pass the annual audit of the quality system certification with no major non-conformities.<br>• Continuously control the customer complaint closure rate.<br>• Plan to complete IATF 16949 quality system certification in 2025, aligned with the mass production schedule of customer product development. |
| Action Plan | | • Execute internal audits to confirm the continuous operation of the quality system, identify and correct potential problems, and ensure compliance with quality system certification requirements before the audit.<br>• Execute statistical monitoring of the customer complaint closure rate and track improvements.<br>• In response to the expansion of automotive customer needs, the planning for the introduction of the IATF 16949 quality system was initiated at the end of 2023, and related awareness enhancement and resource preparation were carried out in 2024. |
| Annual Achievements | | • Passed the ISO 9001 annual audit in 2024 with no major non-conformities.<br>• Customer complaint closure rate was 100% in 2024.<br>• For IATF 16949 certification planning, the customer certification assessment and schedule planning were submitted in Q4 2024, with verification arrangements adjusted according to the customer's mass production schedule. |
| Follow-up Review Mechanism | | • The customer complaint closure rate and internal audit results are reviewed and discussed annually at the Management Review Meeting.<br>• Annual review of non-conformities from the internal audit and external third-party verification audit of the management system. |
| Responsibility | | • Quality Department |
| Stakeholder Engagement and Grievance Mechanism | | • Monthly Key Performance Indicator (KPI) management.<br>• Annual ISO Quality Management System internal audit, and ISO Quality Management System Management Review Meeting.<br>• Customer satisfaction survey questionnaire. |

# PLAYNITRIDE

**Talent Attraction and Retention**

| | | |
|---|---|---|
| **Description of External Impacts** | **Positive Benefits** | Attracting and retaining excellent talent through diverse compensation and benefit programs to create a more competitive organization, ensuring PlayNitride's ability to continue innovating and maintaining its industry position. |
| | **Negative Impacts** | The loss of outstanding talent may affect the smooth progress and effectiveness of business operations. |
| **Policy** | Attract high-quality talent and retain key outstanding personnel. | |
| **Commitment** | Create a friendly work environment, establish a complete career development path, and offer competitive compensation and benefits. | |
| **Goals and Targets** | • Annual retention rate for indirect personnel ≧85%<br>• Annual retention rate for direct personnel ≧ 75%<br>• Average monthly turnover rate for indirect personnel ≦1.5%<br>• Average monthly turnover rate for direct personnel ≦4%<br>• Continuously promote solutions for talent attraction and retention. | |
| **Action Plan** | • Continuously promote long-term employee incentive and reward systems. As of the end of 2024, 142 employees participated in the Employee Stock Ownership Plan (ESOP) 1 trust plan, accounting for 29% of all employees.<br>• Regularly conduct market compensation and benefits surveys to maintain market competitiveness. The average salary adjustment for 2024 was 9%.<br>• Continuously improve the promotion system and performance appraisal system. 100% of personnel due for appraisal completed it in 2024, and incentive activities such as internal personnel promotion operations and the selection of PlayNitride Stars were completed.<br>• Conduct interviews and compile analysis of reasons for personnel turnover, and communicate and discuss matters raised by employees with the business units.<br>• Promote various corporate outreach activities and establish industry-academia cooperation relationships to enhance corporate market exposure and attractiveness. | |
| **Annual Achievements** | • The key performance indicators for talent retention rate and turnover rate tracked quarterly in 2024 are as follows:<br>-Annual retention rate for indirect personnel82.73%<br>-Annual retention rate for direct personnel80.95%<br>-Average monthly turnover rate for indirect personnel1.9%<br>-Average monthly turnover rate for direct personnel5 %<br>Since some indicators were not met in 2024, the company has continuously strengthened internal communication mechanisms, improved the training system, and performance management to help employees stably adapt to career development and enhance the overall retention situation.<br>• In 2024, the company continued to host the second MicroLED Forum, participate in technical exhibition speeches, and engage in industry-academia exchange 4 and other activities, deepening interaction with students and industry talent. The cumulative number of people reached exceeded 500. | |
| **Follow-up Review Mechanism** | • Review employee retention rate and recruitment status monthly, and track improvement status quarterly.<br>• Track the implementation status of various recruitment and retention policies. | |
| **Responsibility** | • Human Resources Department | |
| **Stakeholder Engagement and Grievance Mechanism** | Employees can provide feedback through diverse communication channels such as the employee suggestion box, and the company also communicates relevant policies through formal meetings/informal communication channels. | |

**Occupational Health and Safety**

| Description of External Impacts | Positive Benefits | Effective operation of the occupational safety management system , creating a safe working environment for employees , and meeting government regulatory requirements  and customer self-assessment requirements for suppliers. |
| --- | --- | --- |
| | Negative Impacts | Accidents and injuries may affect employees' physical and mental health , resulting in loss of work hours and potential fines. |
| Policy | • Safety, Health, and Environmental Management Policy<br>• ISO 45001:2018 Occupational Safety and Health Management System | |
| Commitment | Through the operation of the Occupational Safety and Health Management System, we ensure the safety of equipment and facilities, the effective operation of the management system, enhance personnel safety awareness, cultivate a safety culture, and build a zero-occupational hazard environment. | |
| Goals and Targets | • Zero major accidents<br>• Zero penalty record | |
| Action Plan | • The Occupational Safety and Health Management System regularly passes internal/external audits to maintain certificate validity<br>• Improvement of machine safety interlock devices: Auditing a total of 77 production machines across the entire plant<br>• Listing and labeling of local exhaust ventilation systems for controlled management: Inventorying a total of 5 areas across the entire plant<br>• Improvement of grounding for explosion-proof cabinets: Installation of grounding wires for a total of 17 explosion-proof cabinets across the entire plant | |
| Annual Achievements | • In 2024, there were 0 disabling injury incidents, no major accidents, and no government penalty records.<br>• Passed the annual external audit in 2024, maintaining the validity of the management system certificate. | |
| Follow-up Review Mechanism | • Quarterly review by the Occupational Safety and Health Committee<br>• Annual internal audit and external certification audit of the management system | |
| Responsibility | • Occupational Safety and Health Department | |
| Stakeholder Engagement and Grievance Mechanism | • Occupational Safety and Health Committee.<br>• Established the EHS Consultation and Communication Management Procedure to facilitate communication with internal and external parties.<br>• Established the Occupational Accident Notification and Investigation Management Procedure to handle incident notification.<br>• Established the Contractor Occupational Safety, Health, and Environmental Management Procedure, and hold contractor working meetings to communicate cooperation on relevant matters with contractors. | |

**Climate Strategy**

| | | |
|---|---|---|
| **Description of External Impacts** | **Positive Benefits** | Under the trends of climate change and global net-zero, the company's product advantages lie in high efficiency, power saving, and low carbon emissions, giving it a competitive edge. The company has also voluntarily completed a greenhouse gas inventory. Facing the physical risks, transition risks, and opportunities brought by climate change, the company formulates long-term response strategies and invests transition resources to enhance corporate resilience. |
| | **Negative Impacts** | Severe climate change may lead to shortages of water resources and electricity, causing operational disruption risks. Stricter government policies, increased attention from investors, and the massive financial and resource investment required for implementing relevant carbon reduction measures may all exacerbate the short-term economic burden on the company, which is currently in the R&D stage. |
| **Policy** | | • Conduct the greenhouse gas inventory in accordance with ISO 14064-1:2018.<br>• Comply with the Climate Change Response Act and the requirements of the Taiwan Stock Exchange-listed and OTC-listed companies' Sustainable Development Roadmap. |
| **Commitment** | | The company will refer to the Task Force on Climate-related Financial Disclosures (TCFD) framework, implement the promotion plan in phases, set carbon reduction targets, formulate response plans, and strive to reduce environmental impact. |
| **Goals and Targets** | | • Greenhouse gas emissions are controlled and efforts are made to reduce them year by year.<br>• Regularly disclose the results of TCFD implementation in the Sustainability Report. |
| **Action Plan** | | • Voluntary greenhouse gas inventory and external verification.<br>• Planning and execution of the TCFD risk assessment project. |
| **Annual Achievements** | | • A carbon reduction target has been established: to reduce carbon emissions by 17% by 2030, using 2023 as the baseline year.<br>• The 2024 greenhouse gas inventory has been completed and passed external verification.<br>• Total greenhouse gas emissions (Scope 1, 2, and 3) in 2024 were 5,710.17 tonnes CO2e, a reduction of 310.22 tonnes CO2e (5.15% decrease) compared to 20234. The majority of greenhouse gas emissions are indirect energy emissions from purchased electricity, accounting for 57.84% of the total emissions.<br>• Continued promotion of energy-saving measures in 2024 led to significant reductions in greenhouse gas emissions from natural gas and purchased electricity. The emissions intensity (tonnes CO2e/million revenue) was 3.23 7, a decrease of 3.16 (49.42% decrease) compared to 2023.<br>• The first systematic effort to identify and assess climate risks and opportunities has been completed. Control measures have been proposed and their implementation tracked for the four major risks: flooding, drought, wind damage, and raw material cost increases. |
| **Follow-up Review Mechanism** | | • Quarterly review by the Sustainability Committee.<br>• Annual greenhouse gas inventory passed external verification.<br>• Regularly report implementation results to the Board of Directors. |
| **Responsibility** | | • Climate Governance Task Force under the Sustainability Committee. |
| **Stakeholder Engagement and Grievance Mechanism** | | • Cooperate with academic institutions and industry associations to promote energy-saving and low-carbon LED products. |

## Product Responsibility

| Description of External Impacts | Positive Benefits | 100% compliance with hazardous substance regulations and meeting customer expectations for suppliers. |
|---|---|---|
| | Negative Impacts | Violation of laws, regulations, and customer requirements will damage the corporate brand image. |
| Policy | Hazardous Substances Environmental Policy | |
| Commitment | Based on the concept of environmental protection, adopt green and environmentally friendly materials, comprehensively implement green and environmentally friendly processes, comply with regulatory requirements, and become an excellent green and environmentally friendly manufacturer for products. | |
| Goals and Targets | • 100% of products comply with international regulations such as RoHS and REACH.<br>• Establish a clear mechanism for chemical management. | |
| Action Plan | • Establish a list of hazardous substances for suppliers to ensure raw materials comply with hazardous substance regulatory requirements. As of the end of 2024, 247 substances are under control.<br>• Update the list of banned/restricted substances for products according to the latest RoHS and REACH announcements every six months, and require suppliers to update their surveys and return a signed letter of commitment. This was executed once in 2024, with a 100% supplier sign-back rate, ensuring that the chemical substances in the products do not cause impacts or harm to the environment and human health. | |
| Annual Achievements | • Passed the internal audit of the Product Hazardous Substances Management System to maintain the effectiveness of the management system operation.<br>• 100% of the materials used in products comply with international, regional, national, and customer standards for environmentally relevant substances and product hazardous substance content.<br>• In 2024, there were no incidents of violating product hazardous substance-related regulations or customer requirements, and no records of recalls, fines, or customer complaints due to product health and safety issues. | |
| Follow-up Review Mechanism | • Announce the latest list of banned/restricted substances for products.<br>• Annual internal audit of the Product Hazardous Substances Management System. | |
| Responsibility | • Quality Department. | |
| Stakeholder Engagement and Grievance Mechanism | • Established the Product Hazardous Substances Management Procedure, requiring suppliers to conduct third-party notarized testing for hazardous substances in raw materials and products.<br>• Established the Supplier Management Procedure to audit suppliers' environmental protection and product hazardous substances management systems.<br>• Suppliers comply with the Letter of Commitment not to use banned/restricted substances in environmental regulations and the list of banned/restricted substances. | |

**Information Security**

| | | |
|---|---|---|
| **Description of External Impacts** | **Positive Benefits** | Effective information security control management, enhancing employee information security awareness, creating a safe information working environment, complying with government regulatory requirements, and increasing customer trust. |
| | **Negative Impacts** | Information security incidents may result in loss of the company's digital assets and financial losses, decreased customer trust affecting profitability, and potential fines from government agencies. |
| **Policy** | • Information Security Policy<br>• Electronic Computer Cyclic Operations | |
| **Commitment** | By adhering to the Information Security Policy and Electronic Computer Cyclic Operations, we ensure the effective operation of information systems and networks, enhance the information security awareness of all employees, and create a safe information environment. | |
| **Goals and Targets** | • Zero major information security incidents<br>• Zero information security penalty records | |
| **Action Plan** | • The Information Security Policy was completed in 2024, approved by the Board of Directors, and published on the internal and official websites.<br>• Regularly conduct information security education and training for all employees, with a 100% completion rate for information security education and training for all employees.<br>• Regularly execute social engineering drills. Two drills were conducted for all employees in 2024, with a final pass rate reaching 98.02%, exceeding the annual target of 95%, demonstrating good information security awareness among employees.<br>• Completed annual third-party information security health checks, key system backups, and drills.<br>• Regular annual audit of internal controls for the information environment. | |
| **Annual Achievements** | • In 2024, there were no major information security incidents and no government penalty records. | |
| **Follow-up Review Mechanism** | • Annual review by the Information Security Committee.<br>• Annual external verification audit. | |
| **Responsibility** | • Information Technology Department. | |
| **Stakeholder Engagement and Grievance Mechanism** | • Convene the Information Security Committee.<br>• Information security-related education and training | |

# 3. Sustainable Product Innovation

## 3-1 Product Advantages

**Product Advantages**

MicroLED is widely recognized by the industry as the ultimate next-generation display technology due to its superior technical specifications compared to other traditional display technologies. Its development potential is largely based on future display applications.

With the rise of new fields such as 5G communication, big data, and the Internet of Things, MicroLED displays will unlock new application opportunities, enabling ubiquitous smart living and interactive display technologies. MicroLED has distinct advantages in areas requiring ultra-high resolution, a mix of virtual and reality ecosystems, smart automotive displays, and energy-efficient, low-carbon designs.
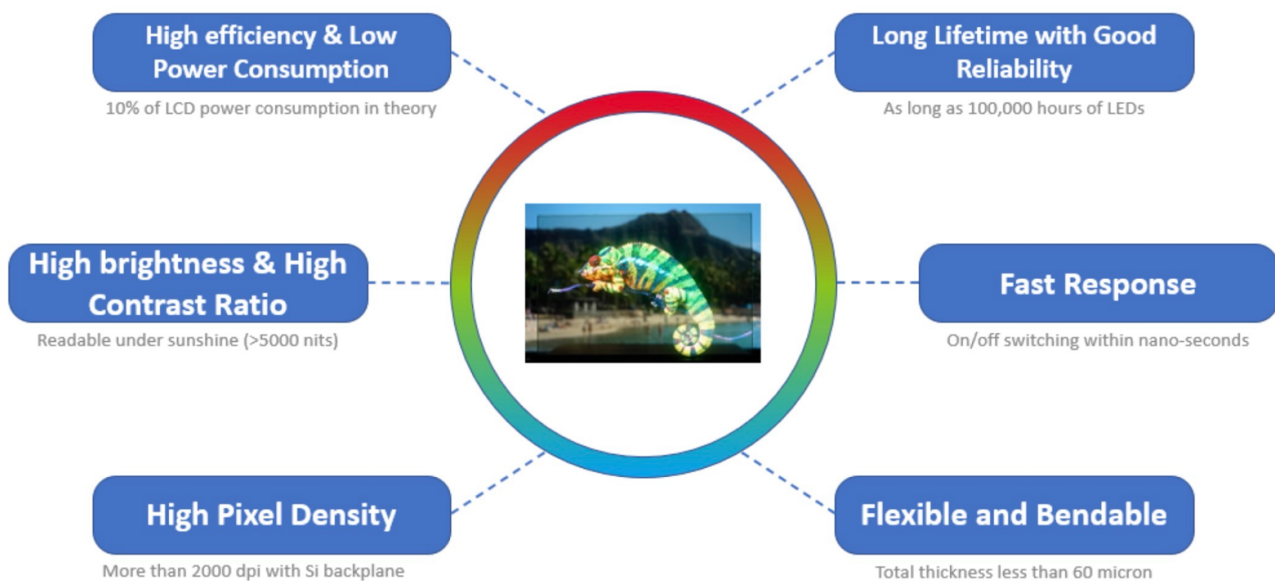


**Comparison of MicroLED with Other Displays**

Due to the miniaturization of its light-emitting elements to the micrometer level, MicroLED displays have a screen resolution that is unmatched by other display technologies. Compared to existing mainstream display technologies like LCD (Liquid-Crystal Display) and OLED (Organic Light-Emitting Diodes), MicroLED is self-emissive, more power-efficient, has a faster response time, higher brightness, and higher contrast than LCD. In contrast to OLED, which is also self-emissive, MicroLED uses inorganic materials, so it does not suffer from screen burn-in or color



Source: Compiled by the company

degradation. It can also operate stably in a wider range of temperatures, has a longer lifespan, and surpasses OLED in both response speed and power consumption. MicroLED effectively addresses the shortcomings of both technologies. 。

Furthermore, the simpler structure of MicroLED displays results in superior luminous efficiency and lower energy consumption during end-use compared to LCD and OLED. MicroLED also requires fewer materials, leading to a smaller environmental impact.
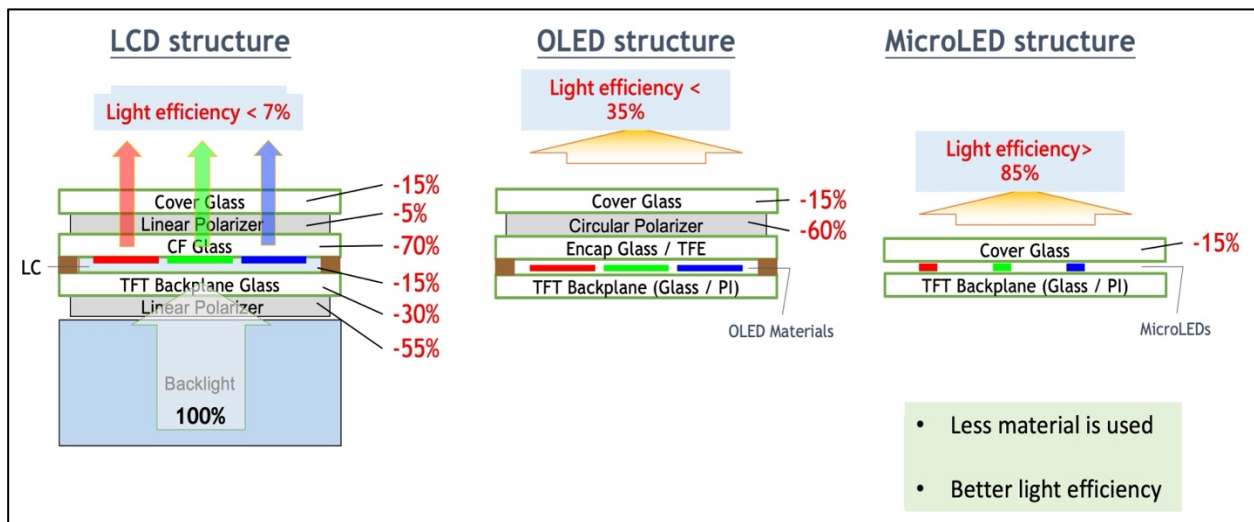


**Product Application Case Studies**

Over the years, PlayNitride has showcased various MicroLED applications, providing customers with potential new product development directions, including three-side frameless transparent displays with up to 65% transparency, displays with high color saturation and high dynamic contrast, high-resolution and high-brightness wearable displays, high-resolution flexible displays, high-resolution modular seamless splicing displays, and ultra-fine AR micro-displays. These demonstrations highlight the unique features and use cases of MicroLED across different display application fields. For more details, please visit the company's official website.

| **Technology Product Applications** |
| --- |
| **For cars** |
| **Wear** |
| **Large display** |
| **Small to medium-sized displays** |
| **Curved surface** |
| **Augmented reality** |

## MicroLED Transparent Displays Combine Existing Display Technologies to Create a Unique Taiwanese Display Technology

In 2024, PlayNitride developed the "9.38-inch Adjustable Transparency Transparent MicroLED Panel," the first transparent MicroLED display with adjustable transparency. It features high brightness (over 3,000 nits), a wide color gamut (over 115% NTSC), and 65%-70% transparency. This product integrates adjustable transparency liquid crystal glass, allowing the light transmittance to be adjusted from 1% to 40% and offering a "full-black screen" display mode. The low-transparency mode can effectively block objects behind the screen without affecting display quality, while the high-transparency mode allows viewers to see both the screen content and the objects behind it. Regardless of the mode, the display maintains high brightness and a wide color gamut. This innovative technology breaks through the limitations of traditional transparent display technology, offering enhanced contrast and application flexibility.

This innovative technology won the "Best MicroLED-based Technology" and other awards at the 2024 SID Display Week.



Be awarded with
**Best MicroLED-based Technology**

In Display Week 2024
Held in San Jose USA
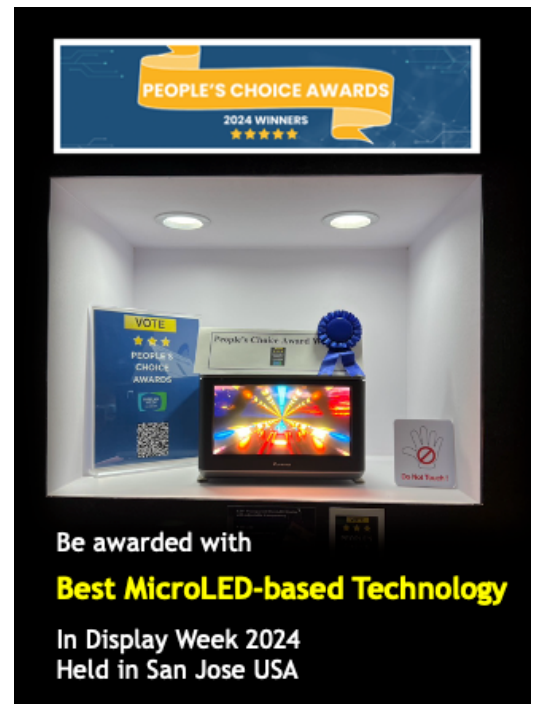
## MicroLED Leads the Automotive HUD Revolution: Achieving 5,000 nits of Ultra-High Brightness

In 2024, PlayNitride showcased a MicroLED head-up display (HUD) with a brightness exceeding 5,000 nits at SID Display Week, demonstrating its potential for ultra-high-brightness automotive display applications. The product's high contrast, self-emissive nature, and high stability meet the requirements for information visibility and durability in bright environments. Its 8cm x 8cm illumination area and seamless splicing capability allow for the creation of ultra-high-brightness screens



of any size and shape, suitable for diverse automotive display scenarios. With the rapid development of smart driving and advanced driver-assistance systems (ADAS), higher brightness and contrast display technology are needed to project real-time navigation, vehicle information, and road signs onto the windshield via augmented reality (AR-HUD), helping drivers stay focused on the road and enhancing driving safety. MicroLED technology is poised to become a key solution for automotive displays.

Five Key Advantages of MicroLED as the Core Display Technology for Automotive HUD:

- Ultimate High Brightness: MicroLEDs have extremely high luminous efficiency, easily reaching over 5,000 nits, which is several times brighter than traditional LCD or OLED HUDs. This ensures clear visibility even in the strongest sunlight.
- Superior Contrast and Color Performance: As a self-emissive technology, MicroLED can achieve a true black background and high contrast, ensuring sharp and detailed HUD images and providing a superior visual experience even at night or in low-light conditions.
- Greater Durability and Longer Lifespan: Compared to OLED, MicroLED has a longer lifespan and anti-burn-in properties, making it suitable for the long-term operation required in automotive environments without image retention issues from displaying static content for extended periods.
- High Efficiency and Low Power Consumption: MicroLED boasts excellent energy efficiency, maintaining low power consumption while delivering high brightness. This meets the strict energy management requirements of new energy vehicles and smart cockpits.
- Higher Environmental Resistance: MicroLED can operate stably in extreme temperatures (both high and low), adapting to the harsh conditions of automotive electronics and ensuring long-term reliability.

## 15.7" Ultra-High-Brightness Spliced Display, Ultimate Brightness, Ultimate Future — MicroLED on PCB Opens a New Chapter for Panoramic Head-Up Displays

In 2024, PlayNitride's MicroLED on PCB splicing display technology was integrated into a new-generation panoramic head-up display (pHUD) system by a European car manufacturer, achieving a 15.7-inch ultra-high-brightness display (over 30,000 nits). This application enhances the visibility of driving information while demonstrating the fusion of technology and a luxurious driving experience. The self-emissive nature, high contrast, extremely low power consumption, and excellent lifespan of MicroLED provide an ideal solution for high-brightness applications.



The module's precise PCB splicing technology allows for flexible sizing and curved designs, meeting the strict requirements of high-end automotive displays for image consistency and structural integration. It can clearly present navigation, alerts, and multimedia information even in direct sunlight, ensuring an uninterrupted visual experience for the driver at all times. This application marks a significant milestone for MicroLED technology in the high-end automotive display field, showcasing its development potential and maturity in smart cockpits and creating a truly panoramic driving view for the future.

## As AI Technology Develops, AR/AI Glasses Become the Best AI Carrier, and MicroLED ➔ Micro-Displays are one of the Most Crucial Key Components

With the rapid development of AI technology, augmented reality (AR) glasses are considered the next-generation mobile computing platform after smartphones. However, due to the low optical efficiency of waveguide optics, AR glasses have extremely high requirements for display brightness. MicroLED display technology, with its high brightness, superior image quality, and compact size, is a key technology for overcoming this bottleneck. It helps enhance the overall AR glasses experience, paving the way for them to become a lightweight, fashionable, and smart accessory for daily life.



In 2024, PlayNitride launched its first pair of AR glasses equipped with a 0.49-inch single-chip full-color MicroLED, showcasing it at the Touch Taiwan and SID exhibitions. Utilizing its µ-PixeLED technology, it achieves 5,644 PPI and a brightness of 500,000 nits, providing a more intuitive and immersive user experience. This brightness is significantly superior to existing products on the market (which are generally below 100,000 nits). PlayNitride continues to collaborate with brand customers to advance AR glasses technology and product commercialization. As the technology evolves, its application fields will gradually expand, and AR glasses are expected to become a widely adopted smart accessory in the future.

## 3-2    Technological Advantages

MicroLED is a technology that demands a very high level of integration. PlayNitride's R&D covers the entire value chain, from upstream to downstream, including epitaxial wafer development, MicroLED chip design, mass transfer, inspection, and module design. In this new display field, existing LED or display companies cannot complete MicroLED technology development alone. Therefore, compared to other companies in the industry, PlayNitride, with its high level of technological integration, has greater flexibility in R&D and process design.
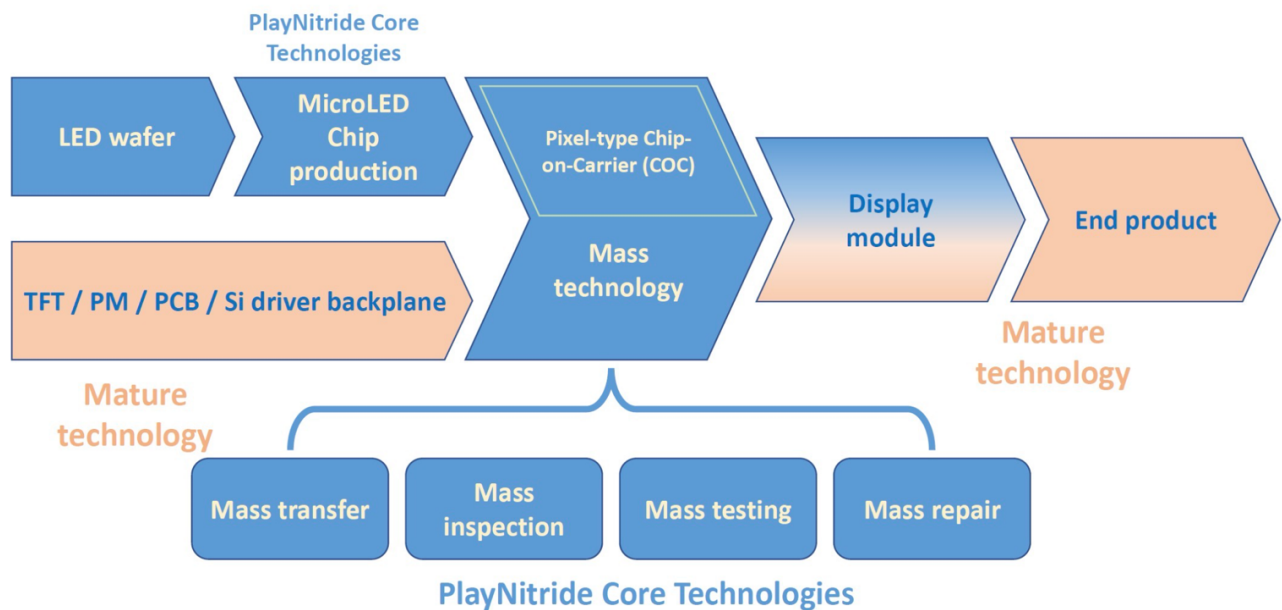


**Independent R&D of Mass Transfer Equipment to Drive Key Mass Production Technology**

Mass transfer is one of the key technologies for achieving MicroLED mass production. PlayNitride has long focused on the research and development of MicroLED mass transfer technology, establishing the industry's first leading mass production line in 2019, which solidified its technological advantage. The company has the capability to independently assemble mass transfer equipment. All key laser-related process equipment (such as laser lift-off, laser transfer, and laser repair) can be designed and developed independently by PlayNitride. This not only gives the company control over key technologies but also allows for flexible customization to meet customer needs, improving process efficiency and yield. In 2024, PlayNitride officially commercialized this equipment, showcasing its independently developed equipment for the first time at the SEMICON Taiwan exhibition, making it available for adoption by other manufacturers entering the MicroLED field.

**First to Achieve Mass Production and Shipments, Maintaining a Leading Position**

PlayNitride is one of the few manufacturers in the industry with a proven track record of mass production and shipments. The company continues to make breakthroughs in key process technologies, providing customers with comprehensive MicroLED solutions. As chip sizes continue to shrink each year, a single wafer can produce more MicroLED chips, significantly increasing wafer utilization efficiency and helping to reduce the energy consumption per unit chip.

In 2025, the company will continue to develop MicroLED chips with even higher luminous efficiency, which will further reduce the energy consumption of MicroLED displays

Epitaxial process → Chip process → Mass transfer 1 COC1 → Mass transfer 2 COC2

High homogeneity epitaxial wafers → High-yield MicroLED process → Native substrate removal MicroLED transfer to temporary substrate → Monochrome microLED Pixel pitch adjustment / RGB microLED Pixel pitch adjustment
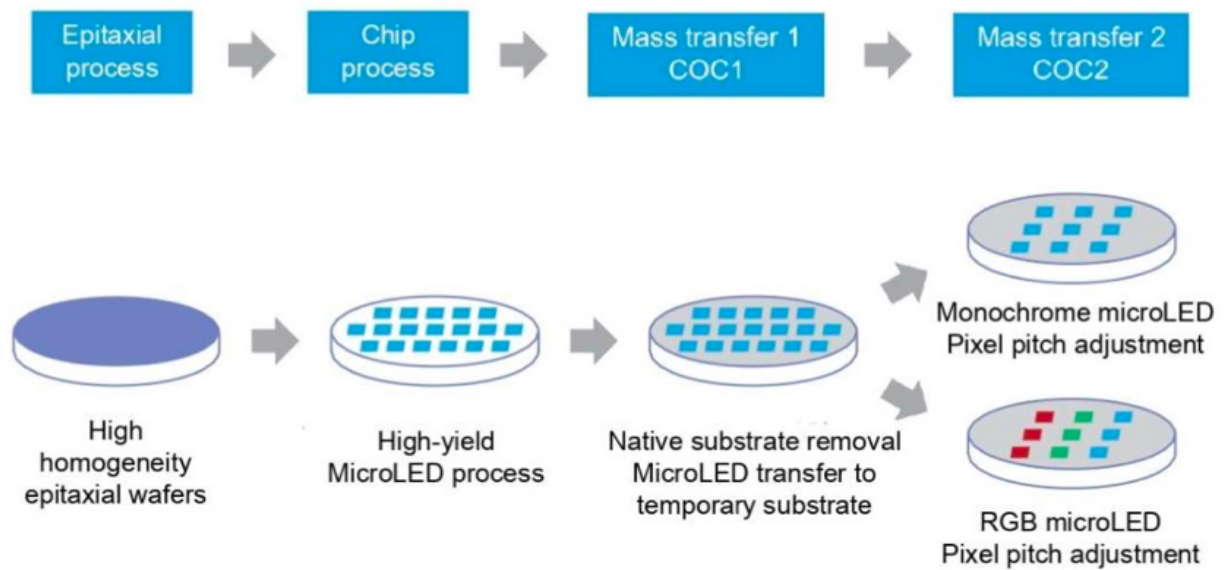
## Technological Advantages

### High uniformity 6-inch R/G/B LED wafer

- Uniform brightness across wavelengths, no need for binning

### High yield R/G/B Micro LED chips

- Chip on wafer yield > 99%
- LED wafer utilization > 80%

Green    Blue    Red



### Industry-leading mass transfer, inspection and testing

- Self-made automatic mass transfer equipment
- Massive addressing repair technology

### Self-developed Micro LED one-stop solutions

- Cooperating with industry-leading panel display manufacturers
- Providing various Micro LED chips for various displays including ultra-micro, tiling, highly transparent and flexible Micro LED displays.
- Supporting customers design needs for different applications

**Sustainable Product Design**

With its high efficiency, low power consumption, and long lifespan, MicroLED is inherently a new generation of low-carbon products. In response to global net-zero and circular economy trends, PlayNitride will continue to evaluate and optimize its R&D design at every stage of the product lifecycle to reduce environmental impact.

| | |
|---|---|
| **Optimizing epitaxial structure to increase process efficiency.** | In 2024, PlayNitride continued to advance MicroLED chip miniaturization, reducing the size of key mass-produced chips to **below 70%** of their original size. This significantly improved wafer utilization efficiency.<br>Under the same process conditions, the number of chips produced per wafer can reach **1.35** times that of the previous generation, helping to improve production efficiency and reduce resource consumption. |
| **Optimizing epitaxial structure to increase process efficiency 8-15%** | In 2024, a new epitaxial structure design was completed. The manufacturing time for blue and green light chips was reduced by approximately **8-15%** compared to the previous generation, which has been implemented in product production. This effectively enhances process efficiency and indirectly reduces energy consumption during the production stage of a single product. |
| **Improving chip luminous, efficiency to help end products save energy.** | Through design optimization in the new epitaxial structure development, the luminous efficiency of blue and green light chips has increased by approximately **7-12%** compared to the previous generation, demonstrating the concrete results of design and process optimization.<br>This design helps improve the energy efficiency of end products, showcasing technological innovation in product energy saving. |

## 3-3    Intellectual Property Management

**Management Mechanisms**

The department responsible for intellectual property protection and management at PlayNitride is the Intellectual Property and Legal Affairs Department. The company has established a "Relevant Intellectual Property Assurance Procedure" to regulate its operations. For every new technology or improvement, the company evaluates whether to apply for a patent or classify it as a trade secret to ensure effective protection of intellectual property, which facilitates R&D work. The Intellectual Property and Legal Affairs Department reports the number and growth of patent applications to the Board of Directors at least once a year.

| Intellectual Property Strategy Roadmap | |
| --- | --- |
| **Patent Management** | **Patent Management** |
| • **Patent management system**<br>• **Patent protection strategy**<br>• **Regular review of patent portfolio**<br>• **Patent value operation**<br>• **Formulate commercialization strategy**<br>• **Foundational IP education for all employees** | • **Patent management system**<br>• **Patent protection strategy**<br>• **Regular review of patent portfolio**<br>• **Patent value operation**<br>• **Formulate commercialization strategy**<br>• **Foundational IP education for all employees** |
| **Fundamental Policies and Training** | **Fundamental Policies and Training** |
| • **Foundational IP education for all employees**<br>• **Regular patent knowledge training and compliance guidance for R&D personnel** | • **Foundational IP education for all employees**<br>• **Regular patent knowledge training and compliance guidance for R&D personnel** |

The most recent report to the board was on February 26, 2025.

Currently, there are corresponding patent applications for each core project, from epitaxial material and structure development to chip structure design, mass transfer, inspection technology, and equipment modification technology. To protect even more critical and confidential R&D achievements, PlayNitride established a comprehensive trade secret registration system in 2022 to properly store and control confidential information. It explicitly defines the scope of trade secrets, how they are graded and managed, and strictly controls access rights, fully implementing IP protection for core technologies. To further enhance the protection of R&D results and technological intellectual property rights, R&D documents and data at each stage are subject to good authorization management. In 2023, the company introduced a patent management system that covers the entire digital process from patent application and grant to maintenance fee management. Through automated data analysis, this system helps management make more informed decisions based on patent status, cost, and potential value. In 2024, the company further optimized information transparency and internal collaboration efficiency by enabling internal authorized personnel to inquire about the progress of patent applications and grants. This promotes cross-departmental collaboration, accelerates R&D and product planning strategies, and ultimately strengthens overall patent layout efficiency and corporate competitiveness.

All employees have an obligation to protect the company's confidential information. PlayNitride also conducts regular education and training to enhance IP protection awareness. Confidentiality agreements are signed with customers to protect the rights of both parties. The use of personal storage devices and photography/video equipment is prohibited in the factory area. Through these management mechanisms, PlayNitride ensures the integrity of its intellectual property and prevents information leakage.

### Patent Applications

PlayNitride applies for patents on promising innovations and optimizes the quality and scope of its patent applications to achieve the best protection. The company regularly reviews its patent portfolio and conducts value assessments to identify high-value patents and formulate corresponding commercialization strategies. It continuously monitors relevant technological developments and new patent applications in the market to assess their impact on its own patent portfolio.

As of the end of 2024, PlayNitride has applied for a total of 924 international patents related to MicroLED technology. Of these, 57% are concentrated on core mass production technologies and 43% are on innovative product application technologies. PlayNitride's patent portfolio covers various application fields for display panels, allowing the company to produce different types of products, including large commercial displays, automotive displays, displays with extremely thin bezels, high-brightness wearable displays, and ultra-thin flexible displays. The company has established a comprehensive patent strategy in all these end application categories, forming a strong technical patent protection barrier.
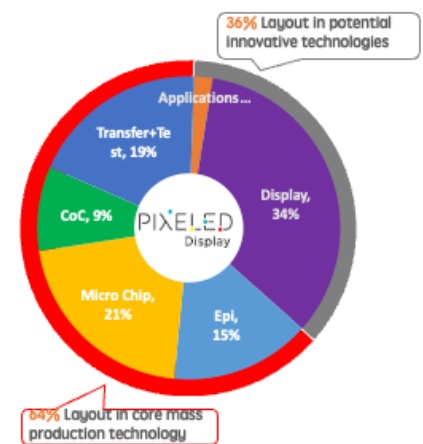


As MicroLED core process and structural technologies mature, the phase of applying for a large number of foundational patents has passed. The company is now in a stage of consolidating its technology and extending its applications. PlayNitride's patent strategy is shifting from "quantity" to "quality," focusing resources on key technologies and high-value application scenarios (such as mass production bottlenecks and differentiated display architectures). This increases the commercial value and defensive capability of each patent, naturally reducing investment in repetitive or marginal technologies.

Anticipating rapid growth in the MicroLED market, PlayNitride plans to expand its patent application countries beyond major regions like the United States, China, and Taiwan to include other important markets in Europe and Asia. In addition, to enhance the overall value of its intellectual property assets, the company is evaluating the implementation of a patent licensing strategy to generate additional revenue.



It regularly reviews and assesses patent value and is developing licensing or transaction strategies for non-core patents to bring in more economic benefits.

### Green Patents

PlayNitride is centered on MicroLED technology, focusing on the development of processes and products with energy-saving and carbon reduction benefits. To date, the company has applied for a total of 877 green patents*, accounting for 94.91% of its total patent applications. Of these, 630 have been successfully granted, demonstrating the concrete results of PlayNitride's R&D efforts in reducing energy consumption and developing alternative energy technologies. MicroLED's advantages in low energy
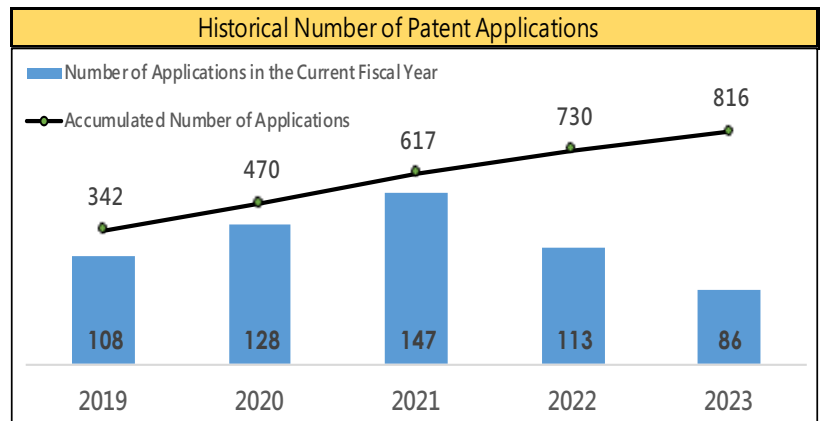
consumption and high brightness align with the global trends of energy saving, carbon reduction, and sustainable development. The company continues to invest in process optimization and patent layout, using innovative technology to balance business operations and sustainable development.

Note: PlayNitride's "green patents" are identified based on the classifications of the World Intellectual Property Organization (WIPO GREEN) and the European Patent Office (EPO) Y02 standard for climate change mitigation technologies. They cover fields such as energy-saving component design, eco-friendly material substitution, and high-efficiency processes, with the aim of reducing the carbon footprint and promoting the commercialization of sustainable technologies.

### Rewarding Innovation

To encourage innovation, PlayNitride has established a patent and trade secret incentive system. Bonuses are awarded for achieving R&D proposal and application goals and for successfully applying for and obtaining patents in various countries, motivating the R&D team to actively explore new technologies or improvements with patent potential. Starting in 2024, the company began to regularly publish the status of patent strategy layouts and proposal applications on a departmental basis to help R&D teams stay informed and encourage active participation in patent proposals. In 2024, the total number of proposals reached 29, with a success rate of approximately 56%. A total of NT$571,000 in trade secret and patent application bonuses were disbursed. The company expects to continue promoting this incentive program in 2025 to encourage more employees to participate in patent applications and drive the company's growth in the R&D field.

### Education and Training

Through planned training, R&D personnel gain a deeper understanding of intellectual property application and protection systems, which helps improve both the quality and quantity of patents and strengthens awareness of trade secret protection.

| Course Name | Target Audience | Sessions | Trainees | Training Hours |
|---|---|---|---|---|
| Confidentiality Obligations for PlayNitride Employees and Trade Secrets | Indirect Staff | 1 | 164 | 1 hour |

# 3-4    Hazardous Substance Management

In response to international environmental trends and customer requirements, PlayNitride has implemented a green product management mechanism. The company has established a hazardous substance management policy based on the RoHS and REACH standards of the European Union, as well as Taiwan's CNS standards. It has also set up a hazardous substance management platform that covers the entire product lifecycle, from planning and development to the end of production. This ensures that the materials used in products comply with international, regional, and national laws and customer requirements, adhering to environmental and hazardous substance content standards to ensure that no prohibited or restricted substances are present, thus preventing environmental pollution and harm to human health.

**Hazardous Substance Management Policy**

- Comply with Regulations
- Prevent Pollution
- Continuous Improvement
- Sustainable Operation

In 2024, there were no incidents of non-compliance with hazardous substance regulations or customer requirements. There were no product-related health and safety issues that led to recalls, fines, or customer complaints

| Environmental Management Substance Control Standards | Number of Controlled Substances |
| --- | --- |
| EU RoHS <br> EU RoHS 2.0 <br> EU REACH（SVHC） <br> Taiwan CNS | Including a total of 247 items covering heavy metals, halogenated compounds, phthalates, and polycyclic aromatic hydrocarbons (PAHs) |

## PFAS Substance Investigation and Supply Chain Response Measures

"Per- and polyfluoroalkyl substances (PFAS) are a class of chemically stable synthetic substances. Because of their water-repellent, oil-repellent, and low-friction properties, they are widely used as surface coatings for items such as clothing, paper film, food packaging materials, cookware, and firefighting foam. Well-known PFAS substances include perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). In recent years, PFAS has received global attention due to its long-term impact on the environment and human health. Many countries and regions have successively strengthened regulations, and companies have begun to implement phased reduction plans.

PlayNitride values its environmental responsibility in its products and supply chain. In 2024, the company proactively completed a PFAS inventory, sending PFAS survey and declaration forms to seven potentially at-risk suppliers. All suppliers have responded and provided declarations stating that their products do not contain any prohibited or restricted substances.

To continuously strengthen PFAS management, PlayNitride plans to conduct regular PFAS investigations on a yearly basis and gradually expand the scope of the investigation to more suppliers based on risk assessment results. The company will also regularly review changes in international regulations. If new restricted substances are added, it will proactively restart the investigation process and compliance checks to ensure that its products and materials continue to meet PFAS restrictions and environmental requirements.

**PLAYNITRIDE**

**Hazardous Substance Management Process**

| | | |
|---|---|---|
| **Design Stage** | Material Approval | • Maintain a control list of environmentally related substances and hazardous product substances. The R&D department lists required documents in the "Material Approval Form," such as Safety Data Sheets (SDS) and third-party test reports, to ensure compliance with control standards during subsequent procurement.<br>• Identify customer disclosure and requirement needs for hazardous product substances, such as RoHS, REACH, lead-free, and halogen-free, and evaluate the standards of potential customers. |
| **Procurement Stage** | Supplier Management | • Select qualified suppliers based on PlayNitride's environmental and hazardous product substance control standards for procurement procedures.<br>• Regularly audit suppliers according to the supplier management procedure to ensure the effectiveness of their management. |
| | Procurement Management | • Suppliers are required to provide SDS, a "Declaration of Non-Use of Prohibited/Restricted Substances," and a RoHS test report in accordance with PlayNitride's "Hazardous Substance Management Procedure."<br>• Every six months, the latest lists of prohibited/restricted substances from RoHS and REACH are updated with suppliers, who are required to sign back a commitment letter. In 2024, this was conducted once, with a 100% |
| **Manufacturing Stage** | Quality Assurance Inspection | • Materials provided by suppliers must undergo external XRF (X-Ray Fluorescence Spectrometer) testing. A valid third-party ICP (Spectroscopic Analysis) test report within one year must also be provided. If the report is older than one year, a new one must be submitted; otherwise, the materials will be returned.<br>• If the hazardous substance test report for a raw material is non-compliant, it must be immediately labeled, moved to a designated controlled area for quarantine, and not be used in production. |
| **Continuous Improvement** | Education and Training | • Arrange for colleagues in the quality and R&D unit to receive education and training on professional knowledge and operating methods related to environmental protection and product hazardous substances once a year.<br>• The latest international regulations and customer standards for hazardous substances are announced from time to time. |

## 3-5    Supply Chain Management

**Supplier Management**

PlayNitride regards its suppliers as important partners in creating key technologies and improving product quality. In 2023, based on the Responsible Business Alliance (RBA) Code of Conduct, the company established its [Supplier Code of Conduct](), which requires suppliers to adhere to standards in labor, health and safety, environment, business ethics, and management systems. PlayNitride aims to move forward with its suppliers in both operations and sustainable development to build a more resilient MicroLED industry chain. In 2024, the company further strengthened its supply chain management by requiring all key suppliers* to sign the Supplier Code of Conduct Commitment Letter and the Integrity Management Principles. As of the end of 2024, all suppliers have signed, achieving a 100% sign-back rate. This establishes consistent standards and compliance requirements, enhancing supply chain transparency and compliance. In 2024, the company also introduced an ESG self-assessment mechanism for the first time, distributing ESG self-assessment forms to key suppliers. Suppliers self-evaluated their current measures and progress in environmental protection, social responsibility, and corporate governance. In 2024, the response rate from key suppliers was 100%, with an average score of 96, demonstrating a high level of cooperation. In the future, the company will conduct ESG self-assessments on a biennial basis to continuously deepen sustainable supply chain management and promote the long-term development of the industry together with its suppliers.

Supplier management covers four stages: new supplier evaluation, supplier review, annual audit, and guidance and improvement.

| | New Supplier Evaluation | Supplier Review | Supplier Annual Audit | Guidance and Improvement |
|---|---|---|---|---|
| **Target** | New suppliers | Key suppliers | Key suppliers | **Suppliers with a C-grade review result main raw material suppliers who have not obtained designated international certifications.** |
| **Purpose** | To screen and onboard qualified suppliers. | To ensure that the supplier's quality, delivery, service, and technical capabilities meet the requirements | To review whether the supplier's management system remains compliant with PlayNitride's and customer requirements | To help suppliers improve quality or to require them to obtain relevant management system certifications |
| **Frequency** | Ad-hoc | Monthly/Annually | Annually | Ad-hoc |

Note: Key suppliers are all direct material suppliers and outsourced processing manufacturers.

### New Supplier Evaluation

PlayNitride references the Eco-Partner specifications of major international manufacturers for sustainable supply chain management and strictly evaluates new suppliers based on its internal material approval control procedures. The requesting department must follow internal material approval procedures, requiring direct material/packaging material suppliers to provide documents for paper-based, on-site, and sample evaluations. Only upon passing can they be designated as a qualified supplier. In 2024, a total of 117 new suppliers were evaluated, and all 117 were approved, resulting in a 100% qualification rate.

| New supplier introduction qualifications |
|---|
| • Letter of Acceptance for Prohibited/Restricted Substances in Environmental Regulations (including REACH Substances)<br>• RoHS test report (valid within one year)<br>• SDS Safety Data Sheet<br>• Conflict Minerals Reporting Template, CMRT<br>• Technical documentation |

Currently, the material approval control procedure is the primary screening basis. In the future, the company will assess whether to include carbon emissions as a factor and adjust evaluation standards as needed, based on international trends and corporate sustainability goals. Starting in 2025, new key suppliers will be required to sign the Supplier Code of Conduct Commitment Letter.

### Supplier Review

The supplier management procedure includes an identification and tiered management system. All direct material and outsourced processing manufacturers are classified as key suppliers. A monthly and annual review mechanism is in place to comprehensively monitor supplier status, ensure material quality, and mitigate supply risks. PlayNitride's supplier review scores are graded from A to E. Suppliers with a grade of C or below are required to submit an appropriate improvement plan. Suppliers who receive an E grade twice in a row will have their partnership terminated.

In 2024, the company conducted monthly reviews of the delivery, service, and quality of 9 key Tier 1 and Tier 2 suppliers. The annual comprehensive review also included technical capabilities. The passing score for the review is 80 points. In 2024, the average total score for suppliers was 94.8 points, with no suppliers scoring below C. All eligible suppliers (100%) completed the review.

### Supplier Annual Audit

Annual audits are conducted according to a planned schedule. Through the annual Quality System Audit (QSA) questionnaire, combined with on-site or video audits, all key suppliers are reviewed annually to ensure that their quality, green product, and EHS systems continue to meet PlayNitride's and its customers' requirements. In 2024, all 9 eligible suppliers were audited, achieving a 100% completion rate. The average total audit score was 93.9 points, with an average of 15.6 non-conformities, all of which have been tracked and corrected.

### Supplier Guidance and Improvement

For major raw materials, manufacturers are required to provide a valid ISO international standard management system certification. There are also monitoring mechanisms for the key properties of raw materials. If any anomalies are found, a joint discussion is held with the supplier to develop a corrective plan.

Based on the regular review and audit results, the company makes improvement requests or provides guidance to help suppliers improve their performance. In 2024, there were no such cases.

**Conflict Minerals Management**

PlayNitride is committed to not using conflict minerals and continues to conduct due diligence on new and existing suppliers. The company requires that the materials, equipment parts/materials, and other items provided by suppliers do not contain conflict minerals from the Democratic Republic of the Congo and its surrounding countries and regions, such as gold (Au), tantalum (Ta), tin (Sn), tungsten (W), cobalt (Co), and their derivatives. They must also be traceable to a compliant smelter.

Each year, specific raw material suppliers* are required to complete a report in the Conflict Minerals Reporting Template (CMRT) format and submit it to PlayNitride for verification. In 2024, the investigation of two specific suppliers was completed, achieving a 100% completion rate. The CMRT reports provided by these two suppliers have been reviewed by the company and compared against the RMI (Responsible Minerals Initiative) database. The smelters listed in the reports are all RMI-certified compliant smelters, and no use of conflict minerals was found. The company will continue to improve its practices and will add Mica to its investigation in 2025 to ensure that suppliers do not use conflict minerals.

*Note: The materials may contain 3TG metal raw materials such as tin, tantalum, tungsten, and gold.

## 3-6    Quality Management

**Quality Management**

Since 2019, PlayNitride has been certified under the ISO 9001:2015 Quality Management System, establishing and implementing an effective quality management system based on international certification standards to improve customer satisfaction.

| Quality Policy |
| --- |
| • Listen to the voice of the customer |
| • Innovation pursues surpassing oneself |

MicroLED is highly anticipated in the future smart automotive display market. In response to the quality system requirements of automotive customers, PlayNitride initiated an IATF 16949 quality system framework implementation plan in 2022. In 2024, the company officially began the IATF 16949 quality system implementation, combining education and training with document revisions. The company will continue to advance the implementation of the IATF 16949 management system in accordance with the mass production schedule of customers' automotive products and plans to obtain certification in the coming years.

Starting in April 2024, over a dozen department heads and key personnel from departments such as Quality, Procurement, and Engineering participated in a course that lasted nearly four months. The curriculum covered clause explanations, document writing guidance, and an introduction to the five core tools (APQP, FMEA, MSA, SPC, PPAP). As of the end of 2024, the completion rate for the clauses and five core tools courses reached 100%. Each department has begun modifying documents to meet the IATF 16949 requirements, with the relevant document revisions expected to be completed in 2025.

**IATF 16949 Quality system implementation plan**

| | | |
|---|---|---|
| 2022 | | The procedure was drafted |
| 2023 | | The system is in trial operation |
| 2024 | ISO | The introduction of the IATF 16949 quality system was officially launched |
| | | Continue to advance to obtain certification |
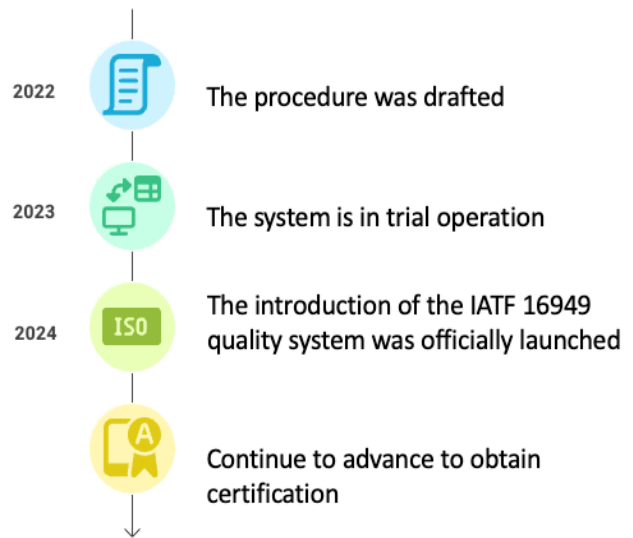
In addition, as MicroLED is a semiconductor process, to achieve good electrostatic discharge (ESD) protection, PlayNitride formulated an electrostatic discharge protection management procedure and an electrostatic discharge protection operation standard in June 2024, based on the ANSI/ESD S20.20 standard and the company's production site conditions. This ensures that electrostatic discharge protection work is performed in compliance with the standard, preventing electrostatic issues from affecting product quality.

### Introduction of Smart Management

To continuously improve the timeliness and transparency of quality management data, PlayNitride has been building a Computer Integrated Manufacturing (CIM) system since 2022. In 2023, the system was further optimized to create an automated yield monitoring system with semiconductor process specifications. This system monitors the quality and process information of the entire production flow by managing automated production data, equipment monitoring information, and statistical process control. In 2024, the company further introduced an automated process parameter identification and judgment system (AutoPPID) and an integrated production planning system (CSP) to enhance automation capabilities. This also optimizes production dispatching and material release processes, continuously improving yield and resource utilization efficiency.

### Quality Improvement Projects

All departments continue to promote quality improvement, production efficiency, and system enhancement projects. In 2024, the proportion of quality improvement projects among all proposals doubled compared to 2023, reflecting a growing awareness of quality improvement.

To further strengthen quality control at the design stage, a "Design Quality Meeting" system has been planned and is scheduled to be launched in 2025. Hosted by senior executives, the meetings will focus on cross-departmental discussions and decision-making regarding design risks and customer specifications. The company will also strengthen design review and verification processes to enhance product reliability from the development stage.

**Customer Complaint Handling Process**

PlayNitride views every piece of customer feedback as an opportunity for continuous improvement. The company has established a standardized customer complaint mechanism and process to ensure that complaints are effectively communicated, handled, and responded to. It also tracks and confirms that every complaint is properly addressed and closed to prevent recurrence. In 2024, the company received a total of 9 customer complaints, an increase of 4 from 2023. The customer complaint resolution rate for 2024 was 100%.

An analysis of the cases showed that most were related to product design issues, with customers primarily requesting improvements in product inspection and design enhancement. In response, PlayNitride continues to improve its design and inspection capabilities, including enhancing inspection coverage and establishing relevant indicators, and is continuously validating product improvements with customers.
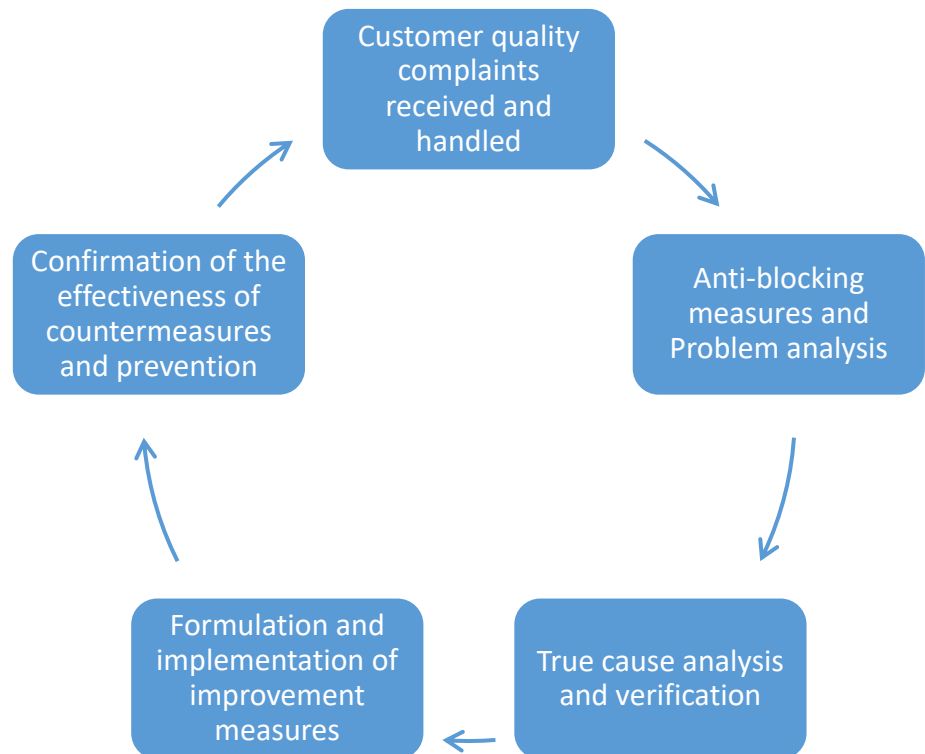
**Customer Relationship Management**

PlayNitride continues to provide satisfying MicroLED products and services by pursuing innovation and quality, while also actively strengthening information security.

To protect customer data security, the company has established a customer data protection management system and policy. Through internal audits, external verification, and education and training, it ensures that customers' confidential data is handled properly. For customer service, dedicated product managers are assigned to proactively check and confirm the implementation of customer service policies, thereby protecting customer rights and increasing satisfaction.

PlayNitride proactively convenes quarterly business reviews (QBRs) to gain a deep understanding of customer expectations. The company makes ad-hoc adjustments to services and strategies based on customer feedback to meet their needs. In addition, PlayNitride has a "Customer Satisfaction Survey" that is conducted annually to evaluate customer feedback on four key areas: technology, quality, delivery, and service. This serves as a reference for the company's strategic planning and improvement. In 2024, a survey was conducted on key customers who account for over 90% of the company's revenue. The overall average satisfaction score was 89.2, an increase of 4.6 points from 84.6 in 2023.

**The customer satisfaction questionnaire is divided into four major aspects**



**Customer Satisfaction**



The improvement in satisfaction was mainly due to better customer service and delivery times. To improve customer service, PlayNitride organized a professional team in 2024 to enhance communication with customers and continued to improve delivery times. In the second half of 2024, the average delivery time was shortened by 25% compared to the first half.

In terms of technical services, the company holds regular quarterly technical meetings (QTR) with customers to engage in in-depth discussions about their MicroLED product technology needs. In 2024, a professional technical service team was established to help customers with technical issues encountered during MicroLED product development and implementation, providing timely professional advice and solutions.

Furthermore, to enhance business operational efficiency and promote paperless processes, the company began planning the digitalization of sales documents such as quotations and shipments at the end of 2024. The goal is to improve information accuracy and operational efficiency through system implementation.

# 4. Corporate Governance

## 4-1    Corporate Governance

### Corporate Governance Structure

The Board of Directors is the highest governance unit of PlayNitride Inc.. It supervises the company's operations in accordance with laws and corporate regulations, ensuring that the company complies with various laws, articles of incorporation, and resolutions passed by the Shareholders' Meeting in the exercise of its functions. Concurrently, it provides professional strategies and recommendations to the management, creates greater benefits for shareholders, and safeguards the rights and interests of all stakeholders. The Board of Directors has established two functional committees, the Compensation Committee and the Audit Committee, to soundly implement its supervisory and management functions

To realize the company's sustainable development goals, a Sustainability Committee comprised of internal department heads has been established in recent years. The Chief Sustainability Officer regularly reports to the Board of Directors. To strengthen the Board's supervision and strategic guidance on sustainability issues, the company plans to establish a Sustainability Functional Committee under the Board of Directors in 2025.

Currently, PlayNitride Inc.'s founder, Mr. Li Yun-Li, serves as both Chairman and CEO to simplify the management structure and accelerate the decision-making process. To ensure the implementation of the supervisory function, the Board of Directors has four* independent directors. Furthermore, over half of the directors do not hold positions as employees or managers. Independent directors can fully participate in discussions and offer professional recommendations for the Board's reference in both the Board of Directors and various functional committees.

*：The term of the Board of Directors has expired, and all members were re-elected at the 2024 Annual Shareholders' Meeting. However, Independent Director Mr. Liu Yi-Cheng resigned in September 2024 due to personal reasons. Following this, the company will, in accordance with the Securities and Exchange Act, hold a by-election for one Independent Director seat at the 2025 Annual Shareholders' Meeting.

The Sustainability Committee is established under the Chairman's Office and is responsible for promoting policies and goals related to sustainable development. The Chief Sustainability Officer reports to the Board of Directors quarterly. After hearing the report, the Board of Directors provides recommendations as appropriate. For details on how the Board of Directors and the management team manage issues concerning economic, environmental, and social impact related to sustainable development, please refer to Section 2-1 Sustainable Policy and Operation.
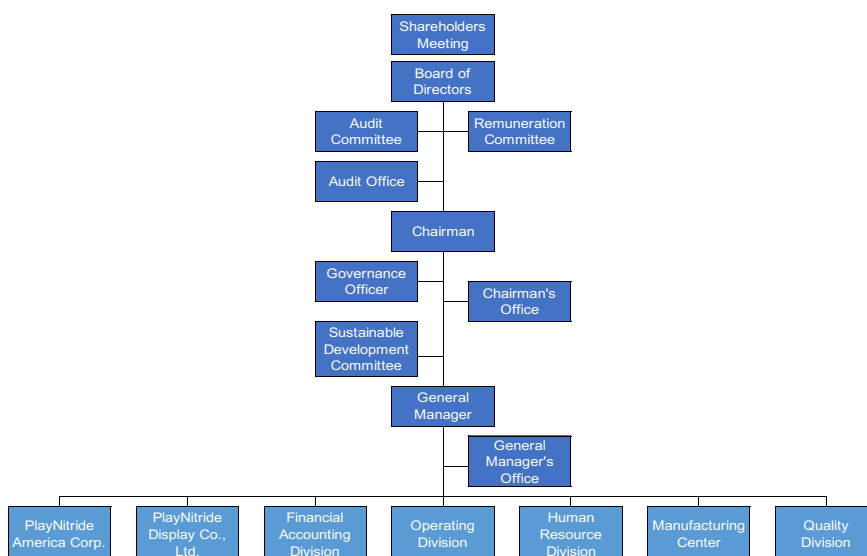
**Board of Directors Election**

The election of the Board of Directors, except where otherwise provided by law or the Articles of Incorporation, is handled in accordance with the "Rules for Director Election." The director election adopts the candidate nomination system. The "Corporate Governance Best Practice Principles" stipulate a policy for the diversity of Board members, which considers the overall configuration and diversity of the members. The qualifications for nomination and the evaluation criteria for candidates should be formulated according to PlayNitride Inc.'s own operations, operational model, and development needs, covering two major aspects: basic conditions and values, and professional knowledge and skills. This is to ensure a sound structure for the company's Board of Directors, securing a diverse composition in terms of professional background, gender, age, nationality, and culture.

**Board Diversity**

The incumbent Board of Directors was elected on June 20, 2024, consisting of 9 directors, of which 4 are independent directors (accounting for 44.44%). The term of office for the directors is three years. All four independent directors meet the qualification requirements specified in the "Regulations Governing the Appointment of Independent Directors and Compliance Matters for Public Companies," including professionalism, work experience, independence, and the number of other independent directorships held. (Independent Director Mr. Liu Yi-Cheng resigned in September 2024 due to personal reasons, and a by-election is planned to take place at the 2025 Annual Shareholders' Meeting.)



**Gender Diversity**
Female 13%
Male 87%
■ Male ■ Female

**Age Diversity**
41-50 13%
61-70 25%
51-60 62%
■ 51-60 ■ 61-70 ■ 41-50

**Nationality Diversity**
South Korea 13%
Taiwan 87%
■ Taiwan ■ South Korea
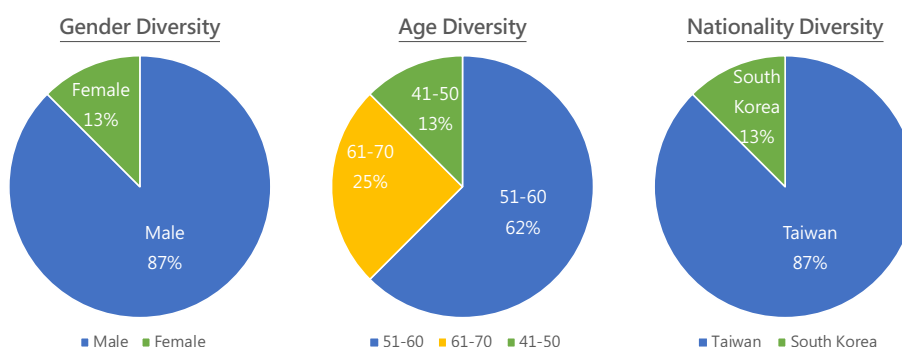
As of the end of 2024, the eight board members include seven males and one female, with the age distribution being one person aged 41-50, six people aged 51-60, and two people aged 61-70. Seven members are from Taiwan and one is from South Korea. Furthermore, the directors' professional backgrounds encompass a diversity of expertise, including technical expertise, industry veterans, management talent, and finance professionals, thus achieving diversity in professional qualifications, experience, gender, age, nationality, and culture. To continuously strengthen the directors' functions, the company arranged advanced training topics for the directors concerning corporate governance, the latest regulations on sustainable development, system development, and policy; the average training hours in 2024 was 9 hours. Complete profiles, training status, and other company positions of the board members are detailed in the company's Annual Report.

**Board Members ***

| Name | Title | Age | Gender | Nationality | Professional Knowledge and Skill Domain | | | | Functional Committees | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | | | Corporate Management | Leadership and Decision-Making | Industry Knowledge | Accounting | Audit | Compensation |
| Yuen-Li Lee | Chairman | 51-60 | Male | R.O.C | V | V | V | V | | |
| Hsien-Pei Sun | Director | 41-50 | Male | R.O.K | V | V | V | | | |
| Chen Ou | Director | 51-60 | Male | R.O.C | V | V | V | | | |
| Wei-Lun Liao | Director | 51-60 | Male | R.O.C | V | V | V | | | |
| Yu-Hung Su | Director | 51-60 | Male | R.O.C | V | V | V | | | |
| Feng-Yuan Kan | Independent Director | 51-60 | Male | R.O.C | V | V | V | V | V | V |
| Wei Wang | Independent Director | 61-70 | Male | R.O.C | V | V | V | V | V | V |
| Hui-Chu Huang | Independent Director | 51-60 | Female | R.O.C | V | V | V | V | V | V |

Note * : 2024 Year-End Board Member List

**Board Operations**

The Board of Directors convenes meetings at least once per quarter as required by regulations to discuss various operational matters of the company, and the resolutions are publicly announced in accordance with the law. Six board meetings were held in 2024 (as of the end of 2024), and the details of the meeting operations have been published in the company's Annual Report.

| Title | Name | Actual Attendance Status* | | | Remarks |
| --- | --- | --- | --- | --- | --- |
| | | Actual Attendance Status | Appointed Representative Status | Attendance Rate | |
| **Chairman** | Yuen-Li Lee | 6 | - | 100% | |
| **Director** | SVIC No. 32 New Technology Business Investment L.L.P. | 5 | 1 | 83.33% | Representative Director: Hsien-Pei Sun |
| **Director** | Epistar Corp. | 5 | 1 | 83.33% | Representative Director: Li-Chen Hung (Redesignated and Stepped Down on 2024/1/19) Chen Ou (Redesignated and Newly Appointed on 2024/1/19) |
| **Director** | Konly Venture Corp. | 5 | 1 | 83.33% | Representative Director: Wei-Lun Liao |
| **Director** | LITEON Technology Corp. | 6 | - | 100% | Representative Director: Shou-Yen Liao (Redesignated and Stepped Down on 2024/2/20) Yu-Hung Su (Redesignated and Newly Appointed on 2024/2/20) |

| Title | Name | Actual Attendance Status* | | | Remarks |
|---|---|---|---|---|---|
| | | Actual Attendance Status | Appointed Representative Status | Attendance Rate | |
| **Independent Director** | Yi-Cheng Liu | 4 | - | 100% | Resigned on 2024/9/25 |
| **Independent Director** | Feng-Yuan Kan | 6 | – | 100% | |
| **Independent Director** | Wei Wang | 5 | - | 83.33% | |
| **Independent Director** | Yun-Chih Tao | 2 | - | 100% | Stepped down on 2024/6/20 |
| **Independent Director** | Hui-Chu Huang | 4 | - | 100% | Newly elected at the Shareholders' Meeting on 2024/6/20 |

**\*** ：Data disclosure time frame is up to December 2024.

### Mechanism for Managing Conflicts of Interest

PlayNitride follows the conflict of interest avoidance system stipulated in Article 16 of the "Rules of Procedure for Board of Directors Meetings," which states that any director whose own interests or the interests of the legal entity they represent are involved in a proposal shall not participate in the discussion or voting. The execution status of the avoidance of relevant interested party proposals has been published in the company's Annual Report.

### Strategy and Practices in Response to Material Sustainability Issues

In response to policies, planning, and execution processes related to various issues during its operations, PlayNitride has established relevant procedures that require regular or ad hoc reporting or discussion with the Board of Directors.For instance, provisions such as Article 3 of the Rules of Procedure for Board of Directors Meetings and Articles 25 and 35 of the Corporate Governance Best Practice Principles clearly define the types of proposals that must be submitted to the Board for discussion and/or resolution. Furthermore, Article 9 of the Sustainable Development Best Practice Principles mandates that the sustainability development policy, system, relevant management guidelines, and specific implementation plans must be regularly reported to the Board of Directors for proposal and execution.In accordance with the Integrity Management Code and the Procedures and Behavioral Guidelines for Integrity Management, the formulation of integrity management policies and prevention programs, as well as any material violations identified through investigation or significant losses incurred by the company, must all be reported to the Board of Directors.Each proposal is categorized based on relevant regulations or internal procedural requirements: those requiring a Board resolution are submitted as a "Discussion Item", and those not requiring a resolution are submitted as a "Reporting Item". After being approved by the senior management, the secretarial unit includes the proposals on the agenda for the most recent Board meeting, where the Board makes resolutions on Discussion Items and raises questions or offers suggestions on Reporting Items.

Since 2022, the results of greenhouse gas inventory and the compilation of the Sustainability Report have also been included as items for regular reporting to the Board of Directors. At the end of 2023, the Task Force on Climate-related Financial Disclosures (TCFD) project was initiated to improve the climate strategy and risk management. In 2024, the identification of high-risk items and the formulation of control measures were completed and reported to the Board of Directors. All material resolutions made by the Board of Directors in 2024 have been published in the company's Annual Report.

| Board Meeting Date | Proposal Title | Category |
|---|---|---|
| 2024/03/08 | [Reporting Item] ESG Report | Governance, Environment, Social |
| | [Reporting Item] Board Performance Evaluation Report | Governance |
| | [Reporting Item] Report on the Implementation of Integrity Management | Governance |
| 2024/05/09 | [Reporting Item] ESG Report | Governance, Environment, Social |
| | [Discussion Item] Proposal to Amend the Company's Rules of Procedure for Board of Directors Meetings and Regulations Governing the Operation and Management of Board Meetings | Governance |
| | [Discussion Item] Proposal to Amend the Company's Organizational Rules of the Audit Committee and Regulations Governing the Operation and Management of Audit Committee Meetings | Governance |
| | [Discussion Item] Proposal to Amend the Company's Regulations Governing the Compensation for Directors and Managerial Officers | Governance |
| | [Discussion Item] Proposal to Establish the Company's Supplier Code of Conduct | Governance |
| 2024/08/29 | [Reporting Item] ESG Report | Governance, Environment, Social |
| | [Discussion Item] Proposal regarding the Company's Preparation of the 2023 Sustainability Report | Governance, Environment, Social |
| 2024/11/05 | [Reporting Item] ESG Report | Governance |
| | [Discussion Item] Proposal to Amend the Sustainability Information Management section of the Company's Internal Control System and Implementation Rules for Internal Audit | Governance |
| | [Discussion Item] Proposal to Amend the Company's Regulations Pertaining to Internal Control Cycles for Review and Approval | Governance |
| | [Discussion Item] Proposal to Amend the Company's Delegation of Authority Matrix | Governance |
| | [Discussion Item] Proposal to Amend the Company's Regulations Governing the Prevention of Insider Trading | Governance |
| | [Discussion Item] Proposal to Amend the Company's Regulations Governing the Compensation for Directors and Managerial Officers to specify the weighting of sustainability indicators in managerial officer performance and to add a CEO stock ownership policy | Governance |

**Operation of Functional Committees**

| Audit Committee | Compensation Committee |
|---|---|
| • **Consists of three independent directors.**<br>• **Established in 2022.**<br>• **A total of five meetings were held in 2024, with an attendance rate of 94.44%. Details of the execution status are available in the Annual Report.**<br><br>**Annual Key Focus Areas:：**<br><br>- Review of financial reports and regular communication, discussion, and explanation with the certifying CPA regarding financial statement audits or review results, and changes in relevant regulations.<br><br>- Assessment of the effectiveness of the internal control system and formulation of the annual audit plan.<br><br>- Regular communication of audit results and provision of suggestions for improvement with the Audit Supervisor based on the annual audit plan.<br><br>- Review of capital budgets and major investment proposals for all subsidiaries.<br><br>- Deliberation of material transactions, such as major asset acquisitions/disposals, derivative products, loans of funds, and endorsements/guarantees, as well as the review of related regulations.<br><br>- Review of the appointment, dismissal, compensation, and evaluation of the independence of the certifying CPA.<br><br>- Regulatory compliance.<br><br>- Change of the functional currency to New Taiwan Dollar (NTD). | • **Consists of three independent directors.**<br>• **Established in 2022.**<br>• **A total of two meetings were held in 2024, with an attendance rate of 100%. Details of the execution status are available in the Annual Report.**<br><br>**Annual Key Focus Areas:：**<br><br>- Development and periodic review of the performance evaluation standards for the company's directors and managerial officers.<br><br>- Assisting the Board of Directors in the execution and evaluation of the company's overall compensation and benefits policy and the remuneration of directors and managerial officers.<br><br>**Director and Managerial Officer Remuneration:**<br><br>- The remuneration of directors, the General Manager, and Vice General Managers is distributed in accordance with the "Regulations Governing the Compensation for Directors and Managerial Officers" approved by the Compensation Committee and the Board of Directors. The execution status is detailed in the Annual Report. |

**Board of Directors and Functional Committee Performance Evaluation**

In accordance with the "Board Performance Evaluation Measures," the Board of Directors and functional committees perform a self-assessment of performance once every year, and an external professional institution is engaged to conduct a performance evaluation of the Board of Directors once every three years.

In 2024, the self-assessment results for the overall Board of Directors and functional committees (Audit Committee and Compensation Committee), as well as the individual self-assessments of Board members, were all rated as "Excellent." The evaluation results were reported to the Board of Directors in February

2025.Details regarding the execution status, evaluation cycle, evaluation period, scope, method, and content of the performance evaluation are provided in the company's Annual Report.

It is planned that a Board of Directors performance evaluation will be conducted by an external professional independent institution or an external team of experts and scholars before the end of 2025.

| 2024 Board of Directors and Functional Committee Self-Evaluation Results | |
|---|---|
| Evaluation Procedure | 1. Scope of Evaluation: 2024/1/1 to 2024/12/31<br>2. Evaluating Units: Board of Directors, Functional Committees<br>3. Method of Execution: Conducted via questionnaire |
| Evaluation Results<br><br>(Full Score: 5) | Board of Directors Score: 4.87 points<br>Board Member Score: 4.85 points<br>Functional Committee Score: 4.96 points<br>The overall operation of both is excellent and complies with corporate governance requirements. |

### Managerial Officer Remuneration and ESG-Related Performance

PlayNitride has established the "Regulations Governing the Compensation for Directors and Managerial Officers." The remuneration for managerial officers is determined by the Compensation Committee based on the degree of the managerial officer's participation in and contribution to the company's operations, with reference to compensation levels in the industry.In 2024, to reinforce the company's managerial officers' performance goals regarding the sustainability principles of Environment, Social, and Governance (ESG), the company stipulated that ESG-related goals and performance should account for 15% of the performance metrics within this Regulation. This was reviewed and approved within the scope stipulated by the Regulation, and subsequently reported to the Board of Directors for resolution and ratification.

### Managerial Officer Stock Ownership Policy

A portion of the company's managerial officers' remuneration is provided in the form of stock. To deepen the value alignment between PlayNitride's managerial officers and its shareholders, as well as the commitment to the company's sustainable operations, the "Regulations Governing the Compensation for Directors and Managerial Officers" were revised in 2024.The revised policy stipulates that the company's managerial officer (CEO) must hold company stock equivalent to 10 times their basic annual salary during their tenure. The officer is required to reach this stock ownership threshold within five years of being appointed as a managerial officer, thereby establishing a system for managerial officers' long-term stock ownership in the company.

## Internal Audit

PlayNitride has established an internal control system in accordance with the "Regulations Governing Establishment of Internal Control Systems by Public Companies" and relevant laws and regulations. An Audit Office is set up directly under the Board of Directors as an independent unit to assist the Board and managerial officers in checking and reviewing deficiencies in the internal control system. This serves as the basis for reviewing and correcting the internal control system to reasonably ensure the achievement of three objectives: effectiveness and efficiency of operations, reliability, timeliness, and transparency of reporting, and compliance with relevant rules and regulations, thereby promoting the company's sound operations.

Internal auditors formulate the annual audit plan based on the results of the risk assessment, and execute it after submission to and approval by the Board of Directors, conducting routine and special project audits either regularly or irregularly.The company's internal auditors execute the audit work according to the annual audit plan. The audit results, after being countersigned by the Chairman, are sent to each independent director monthly, and a summary audit report is presented to the Audit Committee quarterly. The Audit Committee also regularly reviews the company's internal control system, internal auditors, and their work to ensure the effectiveness of the internal control system.Should internal auditors discover any material violations or a risk of significant loss to the company, a report is immediately prepared for approval and the Board of Directors and the Audit Committee are notified.In 2024, 49 annual audit items were formulated and executed, with no material deficiencies identified. Furthermore, in accordance with the requirements for sustainability information management under the "Regulations Governing Establishment of Internal Control Systems by Public Companies," the "Operational Guidelines for Sustainability Information Management" was approved by a Board resolution on November 5, 2024, and has been incorporated into the 2025 annual audit plan for inspection.

# 4-2    Ethical Corporate Management

**Ethical Corporate Management**

## Ethical Corporate Management of PlayNitride

**Establishment**

Core values: Establish a comprehensive ethical corporate management system, including the formulation of rules, education and promotion, and grievance mechanisms.

**Implementation**

The Board of Directors and management actively implement the Ethical Corporate Management Regulations and report the implementation status regularly.

**Policy Scope**

Covering multiple domains such as anti-corruption, conflicts of interest, fair trade, and legal compliance.

**Training**

Ensure that employees understand and comply with the requirements of ethical corporate management through education and training and supplier management.

**Grievance system**

Set up a reporting mailbox and acceptance unit, and provide an effective reporting mechanism.

Ethical Corporate Management

Reporting · Establishment · Training · Implementation · Policy Scope

PlayNitride establishes Integrity, Innovation, and Pursuit of Excellence as its core values and upholds the spirit of Integrity Management  by progressively implementing regulations, providing education and promotion, and establishing a complaint mechanism. In accordance with the Taiwan Stock Exchange's "Corporate Governance Best Practice Principles" and the "Reference Example for Listing and OTC Companies to Establish Codes of Ethical Conduct," the company has adopted and implemented the "Integrity Management Operating Procedures and Guidelines," the "Integrity Management Principles," and the "Code of Ethical Conduct", all of which have been approved by the Board of Directors. The Board of Directors and the management fully understand the relevant standards and actively implement them in internal management and external business activities. The status of the implementation of integrity management is regularly reported to the Board of Directors. The execution results for 2024 will be reported to the Board of Directors in February 2025. Furthermore, the number of related complaints received in 2024 was 0. No related complaints were received in 2024.

Integrity management encompasses anti-corruption and anti-bribery, conflict of interest handling, fair trade, prohibition of insider trading, respect for intellectual property, regulatory compliance, responsible operation, as well as a system for reporting violations and a whistleblower privacy protection mechanism. Internally, the company implements the integrity management policy and prevents dishonest behavior through education and training and relevant policy promotion. For the company's business partners, requirements are set through the "Supplier Code of Conduct" and the "Statement of Compliance with Integrity Management and Supplier Code of Conduct" announced on the company's website, ensuring that suppliers understand PlayNitride's requirements regarding ethical conduct standards.

To ensure that all employees understand the requirements related to Integrity Management, company-wide training and testing were conducted through the online education and training system in 2024, achieving a 100% completion rate. Regarding the Supplier Code of Conduct, key suppliers were prioritized and achieved a 100% completion rate for signed acknowledgments in 2024.

| Object | Implementation Method | Number of People Trained | No. of Hours | Completion Rate |
|---|---|---|---|---|
| All directors | Lectures by external instructors | 8 | 3 | 100% |
| New recruits | New employee training course, signing confirmation of completion of training | 230 | 2 | 100% |
| All employees | Internal training courses, online training platform | 503 | 0.5 | 100% |
| | Pinned announcement on the company system and publicity on the physical bulletin board | | | |
| Completion Rate = Number of Trainees / Number of Personnel Assigned for Training | | | | |

The "Code of Ethical Conduct Policy" was revised in 2024 to redefine the acceptance levels for reporting subjects and the responsibilities of the dedicated unit handling the cases. The policy clearly stipulates that both the voluntary self-reporting channel and the whistleblower complaint channel are to be handled and investigated by designated personnel. This revision further emphasizes that the personal data of the whistleblower and the complaint information will be kept strictly and properly confidential. Upon receiving a complaint, the designated personnel will convene an internal investigation meeting to confirm the appropriate investigation procedures and launch a detailed inquiry. In 2024, the whistleblower complaint channel received 0 cases, and no reports of breaches of Integrity Management were received.

| Voluntary Self-Reporting Channel | When an employee encounters a conflict of interest situation or receives a gift that exceeds internal regulations and cannot be returned, they may use their direct supervisor or the employee website electronic form for the Voluntary Self-Reporting Channel. |
|---|---|
| Whistleblower Complaint Channel | For Integrity Management violations, unethical behavior, or illegal activities, the whistleblower complaint box is provided according to relevant management regulations: Whistleblower@PlayNitride.com |

**Regulatory Compliance**

PlayNitride's operations adhere to laws and regulations across all aspects of Corporate Governance, Economic, Environmental, and Social dimensions. All official documents from competent authorities corresponding to various departments must be reviewed by Legal Affairs personnel to ensure compliance with the requirements of relevant domestic and international regulations and standards. Furthermore, the Intellectual Property and Legal Affairs Department regularly collects the latest mandatory compliance matters annually and provides them to relevant department heads to confirm the legality of their operating procedures. In 2024, there were no government penalties imposed for violations of laws and regulations concerning Corporate Governance, Environmental, or Social aspects.

To strengthen regulatory compliance, the company continuously uses education and training to enhance employees' legal concepts regarding compliance. Moreover, the company proactively incorporates legal compliance and social corporate responsibility clauses into contracts to urge suppliers and partners to adhere to Corporate Governance and the Code of Ethical Conduct, thereby boosting the trust of suppliers and customers.

## 4-3 Operating Performance

In 2024, PlayNitride's Operating Revenue totaled NT$1,768,442 thousand, representing an 88% increase compared to 2023. This growth was primarily due to the Operating Revenue of existing product lines reaching new highs, further expanding into a new revenue stream from equipment sales. Regarding profitability, the company achieved the operating goals of monthly, quarterly, and annual break-even. The Earnings Per Share (EPS) for the full year was 0.56.



Historical Revenue and Net Income After Tax (Unit: NTD Thousands)



Historical R&D Investment Expenses and Percentage of Revenue (Unit: NTD Thousands)
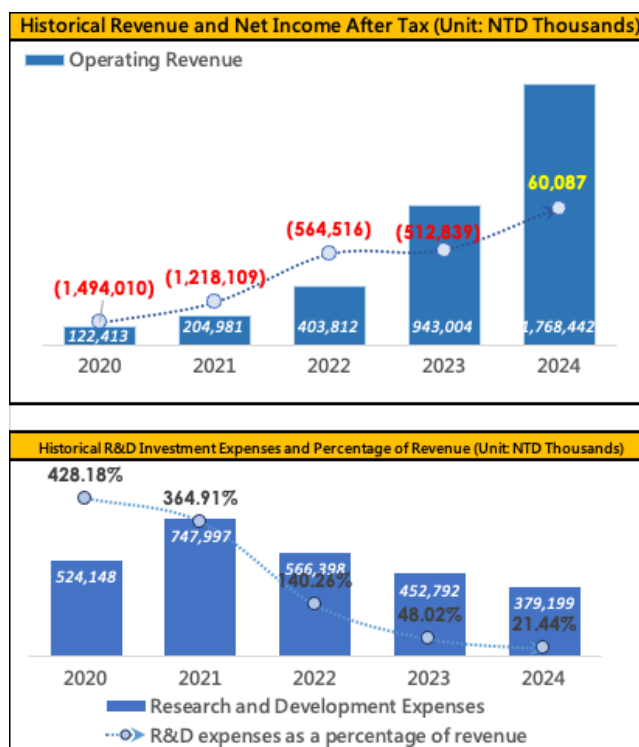
Unit: Thousands NTD

| Item | 2021 | 2022 | 22023 | 2024 |
|---|---|---|---|---|
| **Operating Revenue** | 204,981 | 403,812 | 943,004 | 1,768,442 |
| Operating Cost | 389,047 | 441,269 | 843,212 | 1,099,523 |
| **Gross Profit** | (184,066) | (37,457) | 99,792 | 668,919 |
| Selling Expenses | 33,699 | 30,769 | 44,630 | 64,758 |
| Administrative Expenses | 248,442 | 136,127 | 164,618 | 214,386 |
| Research and Development Expenses | 747,997 | 566,398 | 452,792 | 379,199 |
| Operating Expenses | 1,030,138 | 733,294 | 662,040 | 658,343 |
| **Operating Loss** | (1,214,204) | (770,751) | (562,248) | 10,576 |
| **Non-operating Income (Expenses)** | (3,905) | 206,235 | 49,409 | 49,511 |
| **Net Income for the Period** | (1,218,109) | (564,516) | (512,839) | 60,087 |
| **Net Other Comprehensive Income After Tax** | (18,830) | (20,064) | 2,153 | 42,294 |
| **Total Comprehensive Income** | (1,236,939) | (584,580) | (510,686) | 102,381 |
| **Earnings Per Share** | (14.14) | (5.47) | (4.78) | 0.56 |
| **GRI Disclosure Information** | | | | |
| **Employee Compensation and Benefits** | 780,818 | 404,212 | 447,580 | 549,613 |
| **Interest and Dividend Expense** | 1,030* | 878 | 659 | 1,079 |
| **Investment Subsidies, R&D Subsidies** | 5,056 | 10,500 | 615 | 475 |
| **R&D expenses as a percentage of revenue** | 364.91% | 140.26% | 48.02% | 21.44% |

*: This data was erroneously recorded as 3,492 in the 2023 report; the correct figure is 1,030.

## 4-4    Tax Management

### Tax Policy

PlayNitride's Financial and Accounting Department serves as the tax management unit, responsible for relevant tax operations and tax risk management, and regularly reports tax management practices and results to the management level. In response to the international trend of tax governance, PlayNitride adheres to the tax laws and regulations of its operating sites and has established the following tax policies to implement tax management and ensure the effective operation of the tax management mechanism.

### Tax Policy

- Comply with tax regulations and their legislative intent, file and pay taxes in accordance with the law, and fulfill the social responsibility of a taxpayer.
- When conducting daily business activities or making major operating decisions, relevant tax risks and tax implications must be considered.
- Communicate honestly and establish good communication channels with tax authorities to ensure efficient cooperation between both parties.
- Tax information disclosure in financial reports shall be handled in accordance with relevant regulations and standards.

### Tax Risk Control Mechanism

- Proactively communicate with the tax authorities.
- If necessary, outsource or engage external professional consultants to ensure correct compliance with tax regulations and reporting obligations.
- Continuously cultivate tax professionals and strengthen their tax expertise.
- Report tax management practices and results to management levels so that the management team is fully informed of the company's tax policy implementation status.

### Tax Management

Tax management adheres to the tax laws and regulations of each operating region to ensure compliance and lawful reporting. PlayNitride is incorporated in the Cayman Islands, and pursuant to local tax regulations, it is not required to pay Corporate Income Tax. For the years 2024 and 2023, the corporate income tax rate for the Taiwan branch and subsidiary was 20%. While the company achieved its first-ever profit in 2024, the accumulated losses resulting from R&D and operational investments over the years have not yet been fully offset. Therefore, according to relevant tax laws, no Corporate Income Tax is required to be paid in 2024. Taxes generated in other jurisdictions are calculated based on the applicable tax rates in those respective jurisdictions.

## 4-5    Information Security

### Information Security Policy

PlayNitride has established an Information Security Policy to continuously enhance information security and service quality, which was approved by the Board of Directors on January 25, 2024. To ensure that critical information systems can continue to operate in the event of major crises or emergencies, PlayNitride continuously improves its information architecture and introduces a mobile operation management platform for timely monitoring. This approach implements the information security system, strengthens the information security

| Information Security Policy | |
|---|---|
| **Regulatory Compliance** | Establish a system that complies with international information security and overseas regulatory compliance requirements. |
| **Technology Application** | Implement information monitoring systems and information protection systems to carry out information security management measures. |
| **Information Security Governance** | Build a multi-layered information security defense framework and enhance management through automation. |

protection architecture, and utilizes the development and integrated application of information systems, along with an effective management system, to ensure the accuracy of material input and the preservation of transaction records in financial accounting and production processes. Major systems undergo system disaster recovery drills annually to enhance the emergency response capabilities of information personnel.

In response to risks that may arise from vulnerabilities or threats to information assets, PlayNitride is progressively implementing the documentation requirements by referencing the ISO 27001 management system framework. The company utilizes a systematic approach to establish risk assessment standards and takes countermeasures or control measures based on the assessment results to reduce the risk of damage to information assets. Furthermore, the company has specifically established a Risk Assessment and Management Procedure to perform information and communication technology (ICT) risk control. Internal audits are conducted annually to ensure the effective execution of information security management operations.

In addition to internal periodic reviews, the company annually engages a third party to perform information security ratings and vulnerability scanning. These assessments evaluate risks across three dimensions: network assets, network applications, and human risk, allowing for the timely remediation of information risks. Information security education and training is provided to all employees to enhance their information security awareness and mitigate human risk.

### Information Security Management Organization

PlayNitride has established an Information Security Committee, which convenes at least one management meeting annually, with extraordinary meetings called when necessary. A meeting was held in January 2025 to review the Information Security implementation results for the entire year of 2024 and the planning for the subsequent year.
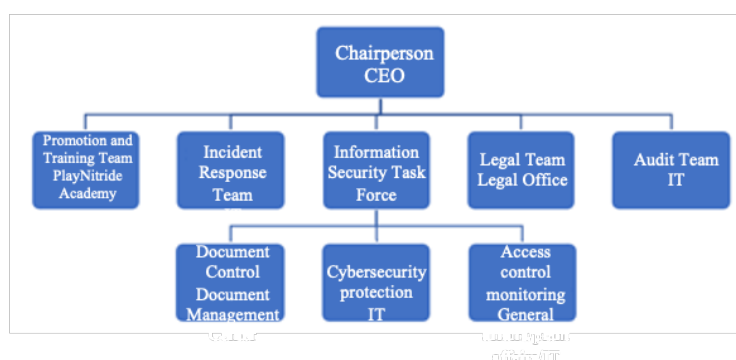
**Information Security Committee Member Responsibilities**

### Chairperson

- At present, the CEO serves as the chairperson, responsible for making decisions on major issues related to information security management, including information security organizational adjustment, major strategic changes in information security management, changes in key information security personnel, and confirmation of acceptable risk levels.

### Information Security Standing Committee

- The members are composed of the executives of the Company's Business Management Committee and the executives of the IT department. They are directly accountable to the Information Security Chairperson, undertake and execute the tasks assigned by the Information Security Chairperson, and command and coordinate in the event of a disaster.

### Task Forces

- The standing committee members are responsible for individual information security work according to their professional division of responsibilities, as illustrated in the organizational chart above.

**Specific Management Program**

In addition to regular internal reviews, Information Security Management involves commissioning third-party organizations on an ad-hoc basis to conduct information security health checks, allowing for timely adjustments to relevant information security management programs. To strengthen employees' information security prevention awareness, information security education and training is conducted company-wide every six months. Furthermore, incident notification, tracking, and emergency response are executed in accordance with the internal "Information and Communication Security Incident Notification and Response Handling Operating Procedure." No major information security incidents occurred in 2024. The company plans to continue implementing and strengthening information security awareness across all employees in 2025.
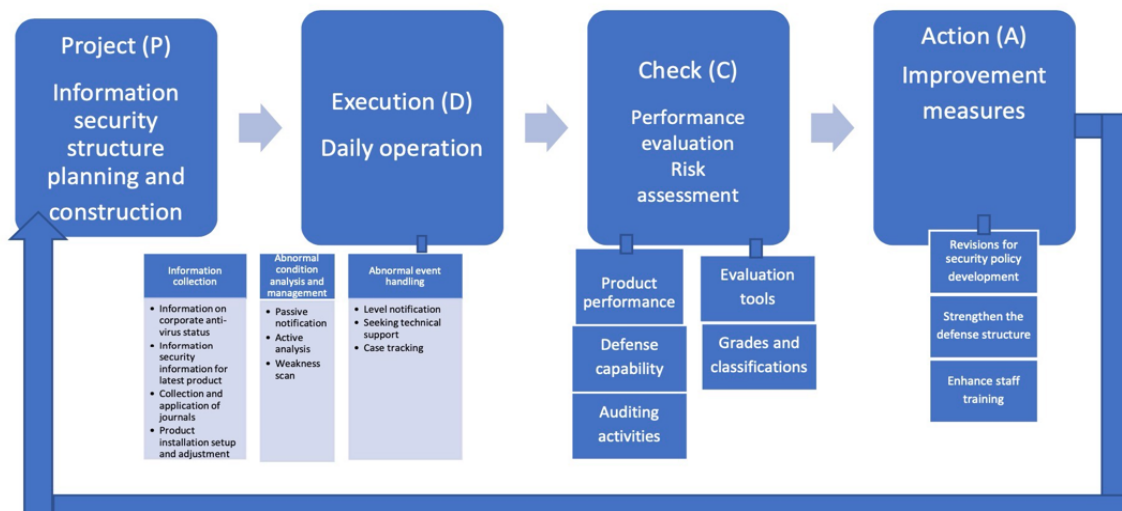
| Information Security Management | Implementation Measures |
|---|---|
| **Device Management** | • Implement access control for the company's main entrances/exits, production lines, server rooms, and warehouses.<br>• Prohibit unauthorized equipment from entering the cleanroom (FAB)<br>• Control access devices such as computer cameras, USBs, and network ports.<br>• Regularly inventory and remove unauthorized software. |
| **System Management** | • Plan independent network segments based on floor and purpose, and strictly control data exchange across network segments.<br>• Strictly control system permissions; permission requests must be approved via electronic forms. |
| **Network Protection** | • Install antivirus software and regularly perform scheduled scans.<br>• Conduct cross-segment virus scanning and intrusion detection via firewalls.<br>• Annually commission a third party to perform system vulnerability scanning. |
| **Resilience** | • Establish an environmental detection system to timely discover and warn of disasters, preventing disaster escalation.<br>• Establish an offsite system backup mechanism covering all systems.<br>• Strengthen the backup mechanism for critical systems and continuously optimize the Recovery Point Objective (RPO).<br>• Annually conduct disaster recovery drill plans for critical systems. |
| **Information Security Awareness** | • Conduct social engineering drills once every six months.<br>• All personnel receive information security awareness training once every six months, supplemented by irregular promotional activities. |
| **nformation Security Collaboration** | • Join the Science Park Information Security Information Sharing and Analysis Center (SP-ISAC) to keep abreast of the latest industry information security intelligence.<br>• Annually conduct cross-departmental emergency response drills. |

### Information security education and training

To establish and enhance information security awareness among all employees, regular information security training courses and social engineering drills are arranged.

In 2024, an email social engineering drill was conducted. The total number of participants tested was 354, with 7 failures. The pass rate was 98.02%, an increase of 3.02% compared to 2023. Personnel who failed 100% completed re-training within two weeks. The drill served to strengthen employees' information security awareness and enhance the organization's defense capability against potential information security threats.

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2024 Phishing/Social Engineering Email Drill Results

98.02%

1.98%

**Pass**
Successfully Completed Drill

**Not Passed**
Additional Training Required
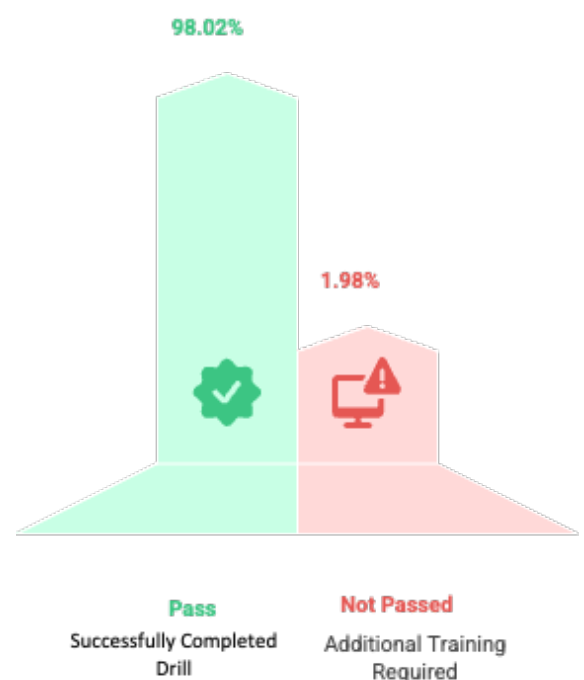
| Information security education and training | | | |
|---|---|---|---|
| Category | Training Content | Number of Trainees | Completion Rate |
| Information Security Dedicated Personnel | Information Security Professional Course Training or Information Security Competency Training | 1 | 100% |
| Non-dedicated Information Technology Personnel | Information Security Professional Course Training | 2 | 100% |
| New Employees | Information Security Regulations | 230 | 100% |
| All Indirect Personnel | Information Security Education and Training | 465 | 100% |
| | Irregular Information Security Announcements | Publicize recent social engineering tactics through information security announcements | |

Note: Completion Rate = Number of Trainees / Number of Personnel Assigned for Training

**Information Security Incident Reporting Process**
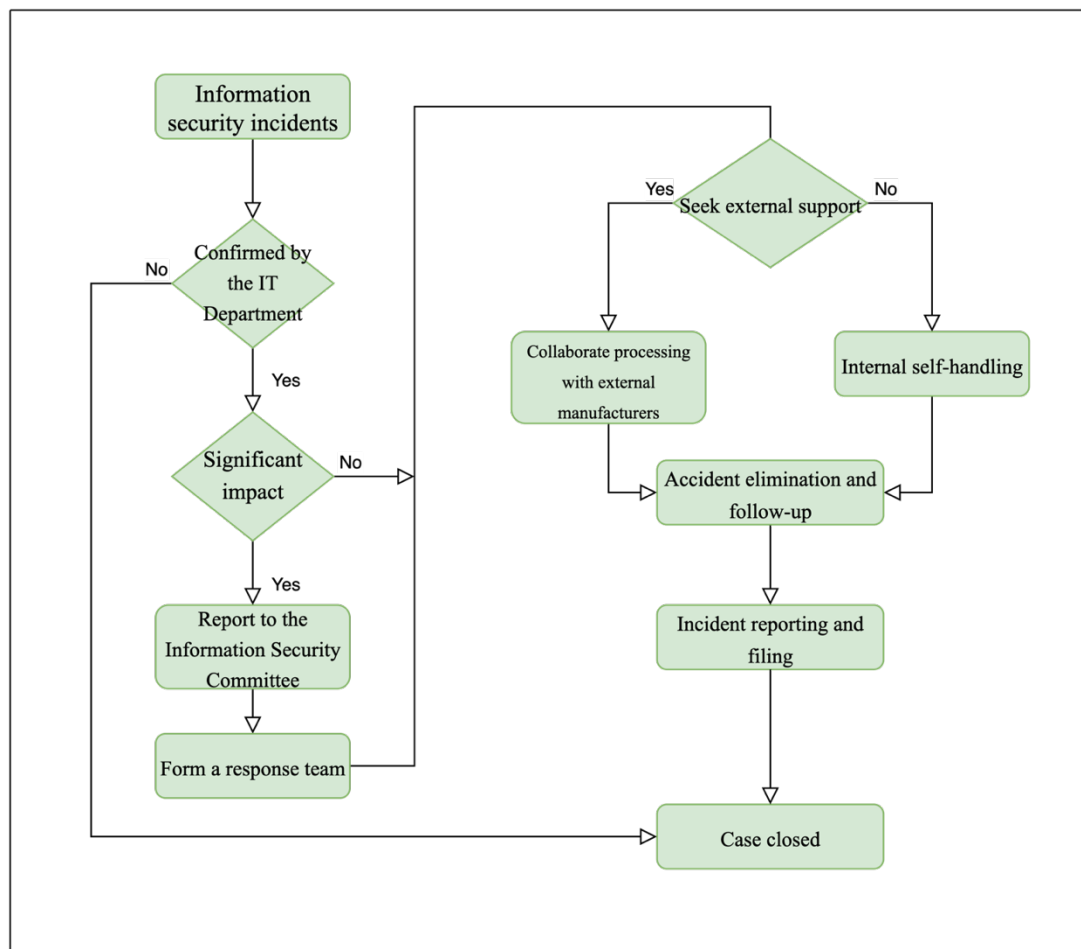
# 5. Environmental Sustainability

## 5-1    Climate Strategy

**Net-Zero Emissions Roadmap / PlayNitride Decarbonization Plan**

Based on the results of the greenhouse gas inventory, PlayNitride analyzed its primary emission structure, finding that Scope 2 (purchased electricity) emissions are dominant, followed by Scope 1 emissions resulting from process gas usage. Therefore, the company continues to plan electricity conservation measures and initiatives to enhance the efficiency of process gas utilization or reduction. As PlayNitride is currently still in the growth stage, a preliminary assessment selected the representative year 2023 as the carbon emission base year. An interim goal of achieving a 17% reduction in carbon emissions compared to the base year by 2030 has been set as a foundational strategy for transitioning toward mid-to-long-term net-zero emissions.

**2023**

**2030**

Carbon emission base year

17% reduction in carbon emissions compared to the base year

**Climate Governance Mechanism and Structure**

The Board of Directors is the highest decision-making unit for PlayNitride's climate change-related issues, guiding and overseeing the response to climate-related risks and opportunities. To strengthen sustainability and climate-related risk management, PlayNitride established the Sustainability Committee in 2022, which is responsible for issues related to sustainability and climate change risk management. The Committee convenes at least four times a year and reports to the Board of Directors. The most recent reporting date to the Board of Directors was 2024/11/5.

| | |
|---|---|
| **Governance Unit** | The Board of Directors serves as the highest unit responsible for decision-making and guidance related to climate change risk. |
| **Management Level** | The Climate Governance Taskforce, under the Sustainability Committee, is responsible for driving relevant processes and reports regularly to the Committee. |

Furthermore, PlayNitride has established the Climate Governance Taskforce, led by the Chief Sustainability Officer as the convener and departmental managers as group members. This Taskforce is responsible for the identification of climate change risks and opportunities and the promotion of corresponding solutions. Progress management of these solutions is conducted through the four annual meetings of the Sustainability Committee, and the relevant implementation effectiveness of climate management is reported during the Board of Directors meeting in that quarter. Subsequently, PlayNitride's climate change risk management process will be reviewed annually and updated based on the results. The review in 2024 confirmed no change in risks, but control measures were updated considering feasibility, and relevant handling procedures were established.
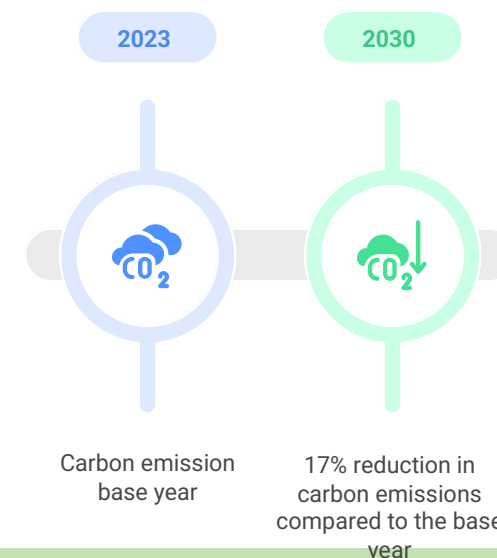
**Climate Risk and Opportunity Identification and Assessment**

In 2023, PlayNitride systematically promoted the work of identifying and assessing climate risks and opportunities for the first time, in order to address the potential impacts of regulatory policies, the physical environment, and the supply chain under climate change. The assessment report for this work was completed in mid-2024, and subsequent action plans were initiated based on the identification results. The climate risk assessment will subsequently be integrated into the existing risk management system.

| **Risk and Opportunity Identification** | **Risk and Opportunity Assessment** |
|---|---|
| Referring to the TCFD recommendations, industry-related information, and internal and external discussions, relevant risk and opportunity factors that may be pertinent to PlayNitride were screened.<br><br>Climate risk and opportunity assessment scenarios were set based on domestic policy directions, net-zero commitments, and international assessment reports: Transition Risk primarily considers the 2050 net-zero emissions scenario, and Physical Risk primarily considers the SSP-8.5 scenario. | Relevant departments conduct the risk and opportunity assessment to understand the risk factors' impact location, the effect on PlayNitride, and the potential impact level across different time horizons. The assessment results are subject to internal and external discussions and confirmation to identify relatively significant risks. |
| **Supervision and Reporting** | **Response Planning** |
| Meetings are held regularly regarding the implementation of response solutions, carried out by the Climate Governance Taskforce. Progress management of the solutions is conducted through the four annual meetings of the Sustainability Committee, and the relevant implementation effectiveness of climate management is reported during the Board of Directors meeting. | In response to the identified significant potential risks and derivative opportunities, and considering the company's existing operational development strategy, relevant departments conduct the planning of response solutions. Progress is reported regularly to the Sustainability Committee for subsequent review and execution. |

**Climate-Related Risks and Opportunities**

In 2023, PlayNitride conducted climate risk awareness training and invited nine relevant departments to perform a climate risk and opportunity assessment. This process screened 18 short-, medium-, and long-term risk factors that could potentially have an impact and 15 possible opportunities. Following internal and external discussions and confirmation by the Climate Risk Taskforce, four key risks and four types of potential opportunities were identified, and initial response measures planning was conducted. In 2024, for the key risks and opportunities, the company further assessed the current stage preparedness, planned the design of response solutions, and established response processes, thereby gradually enhancing climate resilience management capabilities.

| Risk Type | Risk Factor | Time Horizon | Potential Financial Impact | 2024 Response Measures |
|---|---|---|---|---|
| **Short-term Physical** | **Flooding** ▶Impact level: Direct operation, Upstream suppliers | Short-term | ✧ Increase in indirect cost ✧ Decrease in revenue due to reduced production capacity | 1. Regular inspection of plant drainage areas. 2. Established flooding handling procedures. 3. Established emergency response measures. 4. Coordinate and cooperate with facility management. 5. Relevant performance monitoring and information disclosure. |
| **Short-term Physical** | **Drought** ▶Impact level: Direct operation | Medium-term | ✧ Decrease in revenue due to reduced production capacity | 1. Established water shortage handling procedures. 2. Confirming the mechanism of leased facilities to support production water usage. 3. Receive guidance from the Water Resources Agency (MOEA) and arrange water truck supply. 4. Management of production water usage (Please refer to Chapter 5-4 for details). |
| **Market** | **Raw material cost increase** ▶Impact level: Direct operation | Short-term | ✧ Increase in direct costs ✧ Increase in indirect costs | 1. Based on investigation, the current major raw materials are not sourced from coastal areas. 2. Supplier management in place. |

# PLAYNITRIDE

| Risk Type | Risk Factor | Time Horizon | Potential Financial Impact | 2024 Response Measures |
|---|---|---|---|---|
| **Short-term Physical** | **Wind disaster (increased typhoon intensity, reduced frequency)** ►Impact level: Direct operation | Short-term | ✧ Increase in indirect costs | 1. Established typhoon preparation procedures. <br> 2. Established emergency response measures, handled according to procedure. <br> 3. Relevant performance monitoring and information disclosure. |

| Opportunity Type | Opportunity Factor | Potential Financial Impact | Response Measures |
|---|---|---|---|
| **Market** | **Leveraging public sector incentive programs** | ✧ Decrease in indirect costs | Short-term: Ongoing assessment |
| **Energy Source** | **Clean energy usage** | ✧ Decrease in indirect costs | Medium-to-long-term: Ongoing assessment |
| **Resilience** | **Strengthening internal management mechanisms** | ✧ Decrease in indirect costs | Short-term: Ongoing assessment of structure, energy management |
| **Resource Efficiency** | **Process efficiency improvement** (water, transportation, production distribution) | ✧ Decrease in direct costs <br> ✧ Decrease in indirect costs <br> ✧ Increase in revenue due to increased production capacity | Short-term: Ongoing assessment <br> Medium-term: Ongoing attention to [missing text] <br> Long-term: Ongoing assessment of more automated processes |

## Indicators and Targets

Since MicroLED's related technology and specifications surpass other traditional display technologies, it is widely recognized by the industry as the ultimate display technology for the next generation. The company's overall development focus can thus be described as a next-generation low-carbon solution. Climate change-related factors have been considered in the operational decisions and goal settings, and PlayNitride will continue to reference the identification results of climate risks and opportunities to persistently promote low-carbon development in the future.

| Type | Indicators | 2024 Performance | Related Chapter |
|---|---|---|---|
| **Governance** | Capital Investment | **Product R&D:** Research and Development Expenses invested in 2024 amounted to NT$ 379,199 thousands. | 4-3 Operational Performance |
| **Strategy** | Achievement in Process Decarbonization for Sustainable Product Benefits | **Low Power Consumption Products:** Chip size was reduced to 68% of the 2023 product chip size. <br>• Translated power consumption when applied to displays decreased by about 25% compared to the previous year. <br>• The translated number of chips per wafer increased by 1.35 times, and the energy consumption per chip during the manufacturing process can also be reduced by 25% under the same process. <br>**Facility Electricity Saving:** Energy consumption intensity (Total energy consumption GJ/NT$ million revenue) decreased by 57% compared to the previous year. | 3. Sustainable Product Innovation 5-2 Energy Management |
| **GHG Emissions** | GHG Emissions Intensity | Emissions intensity (tonnes CO2e/NT$ million revenue) is 3.23, a decrease of 3.16 (a 49.42% reduction) compared to 2023. | 5-2 Greenhouse Gas Emissions Management |

## 5-2      GHG Emissions Management

**GHG Management**

Since 2020, PlayNitride has obtained its initial certification for the ISO14001:2015 Environmental Management System, and it successfully passed the recertification audit in 2023, maintaining the effectiveness of its management system. Beginning in 2021, the company has established a GHG inventory mechanism in compliance with the ISO14064-1:2018 standard for the quantification and verification of organizational GHG emissions. Starting from 2022, the emissions data is verified annually by a third-party certification body to ensure its accuracy and reliability. The 2024 GHG inventory was completed and passed external verification in April 2025. Given that PlayNitride is in a growth phase with an expected continuous expansion of its operational scale, the company has selected 2023 as the representative base year. It has set a medium-to-long-term foundational strategy to achieve net-zero emissions, with a phased target of reducing total emissions by 17% from the base year by 2030.

In 2024, the total GHG emissions (Scope 1, 2, and 3) amounted to 5,710.17 tonnes $CO_2$e . This represents a reduction of 310.22 tonnes $CO_2$e (a 5.15% decrease) compared to 2023. The emissions intensity (tonnes $CO_2$e per million revenue) was 3.23, a decrease of 3.16 (49.42%) from 2023. Indirect energy emissions from electricity consumption accounted for the majority of the total GHG emissions, making up 57.84% of the total.



GHG emissions ( Unit : tonnes $CO_2$e )

· **Scope 1 (Direct GHG Emissions)**

In 2024, direct GHG emissions (Scope 1) totaled 1,512.01 tonnes $CO_2$e, an increase of 221.08 tonnes $CO_2$e (17.13% increase) compared to 2023. This was primarily due to increased production capacity, which led to a 282.49 tonnes $CO_2$e increase in process gas emissions compared to 2023. Additionally, adjustments to the volatile organic compound (VOC) waste gas treatment equipment parameters resulted in a decrease in natural gas consumption, reducing stationary combustion emissions by 49.32 tonnes $CO_2$e compared to 2023.



GHG emissions intensity (tonnes $CO_2$e per sales) - GHG Protocol

· **Scope 2 (Indirect GHG Emissions from Imported Energy)**

In 2024, indirect GHG emissions (Scope 2) were 3,302.47 tonnes $CO_2$e, a decrease of 478.04 tonnes $CO_2$e (12.64% decrease) from 2023. The emissions intensity was 1.87 tonnes $CO_2$e per million revenue, a decrease of 2.14 (53.42% decrease) from 2023. This was primarily due to significant revenue growth and the continued implementation of energy-saving initiatives, which improved electricity usage efficiency and demonstrated carbon reduction effectiveness.
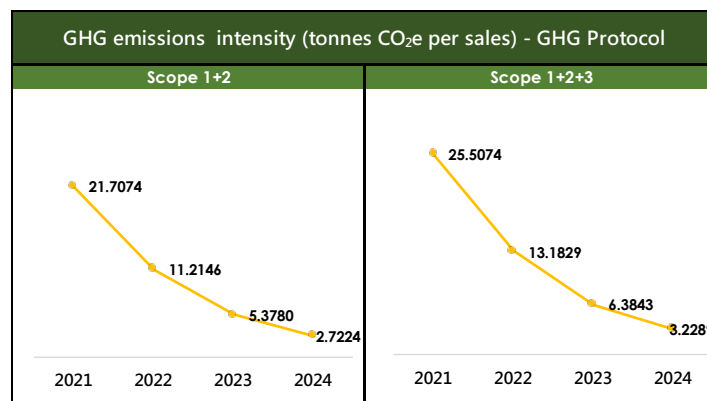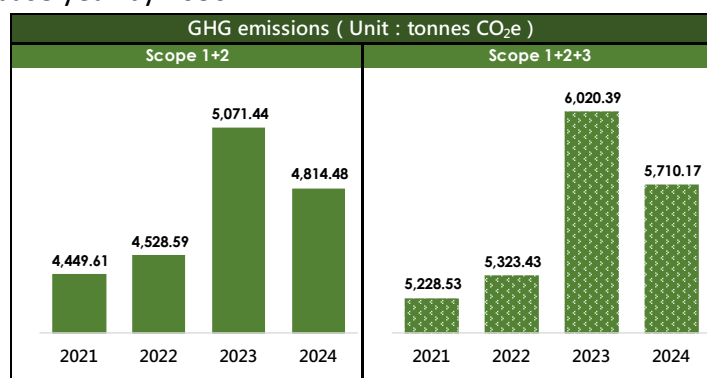
- **Scope 3 (Other Indirect Emissions)**

To understand other indirect GHG emissions (Scope 3) and identify major sources for inclusion in carbon reduction strategies, the company has included "indirect GHG emissions from the use of sold products" within its reporting boundary after a significance assessment. Additionally, while "indirect GHG emissions from transportation" were deemed not significant, data collection and calculation results will be gradually included. Other categories of indirect GHG emissions were identified as not significant and are therefore not currently being quantified. In 2024, other indirect GHG emissions (Scope 3) totaled 895.69 tonnes $CO_2e$, a decrease of 53.26 tonnes $CO_2e$ (a 5.61% decrease) compared to 2023.

| GHG Emissions （Unit：tonnes $CO_2e$) | | | | | |
|---|---|---|---|---|---|
| **GHG Protocal Classification** | **ISO 14064 Classification** | **2022** | **2023** | **2024** | **Emission sources** |
| **Scope 1** | **Categories 1** | 972.28 | 1,290.93 | 1,512.01 | The main source of emissions is the manufacturing process, with PFCs being the primary emission item. Other non-process emissions include those from emergency generators, natural gas combustion equipment, gasoline, and diesel fuels, as well as fugitive emission sources like septic tanks and fire-fighting equipment. |
| **Scope 2** | **Categories 2** | 3,556.31 | 3,780.51 | 3,302.47 | Indirect Emissions from Energy Consumption |
| **Scope 3** | **Categories 3** | - | 8.51 | 22.35 | Indirect GHG emissions from transportation are primarily generated by the transportation of raw materials and office supplies, as well as by employee business travel using personal vehicles. |
| | **Categories 4** | 794.84 | 940.44 | 873.34 | Indirect GHG emissions from the use of products are primarily generated by the use of the products themselves and the disposal of waste. |
| **total** | | **5,323.43** | **6,020.39** | 5,710.17 | |

Notes on GHG Emissions

1. The inventory scope uses the operational control approach. In 2023 and 2024, the inventory boundary included three sites: PlayNitride Inc.'s Zhunan factory, the Taipei Zhonghe office, and the Tainan office. The US subsidiary was not included. The 2022 scope also included the Xindian and Taiyuan offices, but these were excluded from the inventory boundary as their leases have since been terminated.
2. The GHG inventory uses the ISO 14064-1:2018 version.
3. The electricity emissions factor is based on the data published by the Ministry of Economic Affairs Energy Administration. For both 2022 and 2023, the factor used was 0.495 tonnes CO2e per thousand kWh, as announced on June 21, 2023. For 2024, the factor was 0.474 tonnes CO2eper thousand kWh, as announced on April 14, 2025.
4. The emissions factors for Scope 1 are referenced from the GHG emissions factors announced by the Ministry of Environment on February 5, 2024.
5. The Global Warming Potential (GWP) values for each GHG are based on the Sixth Assessment Report (AR6) published by the IPCC in 2021.
6. All PlayNitride company vehicles are electric. Emissions from gasoline used for employees' private cars on company business were listed under Category 1 in 2022 but were reclassified to Category 3 from 2023 onwards.

## Historical GHG Emissions

### Direct GHG Emissions ( Unit : tonnes CO₂e )

| Year | CO2 | CH4 | N2O | HFCs | PFCs | SF6 | Others |
|------|-----|-----|-----|------|------|-----|--------|
| 2021 | 481.54 | 31.19 | 12.16 | 99.82 | 282.03 | 0.03 | |
| 2022 | 323.14 | 33.34 | 20.58 | 103.21 | 492.00 | 0.01 | |
| 2023 | 412.69 | 36.65 | 31.27 | 181.79 | 628.53 | | |
| 2024 | 366.52 | 21.34 | 50.29 | 333.04 | 740.82 | | |

### GHG emissions ( Unit : tonnes CO₂e )

| Year | Scope 1 | Scope 2 | Scope 3 |
|------|---------|---------|---------|
| 2021 | 906.77 | 3,542.84 | 778.92 |
| 2022 | 972.28 | 3,556.31 | 794.84 |
| 2023 | 1,290.93 | 3,780.51 | 948.95 |
| 2024 | 1,512.01 | 3,302.47 | 895.69 |

### GHG emissions intensity (tonnes CO₂e per sales) - GHG Protocol

| Year | Scope 1 | Scope 2 | Scope 3 |
|------|---------|---------|---------|
| 2021 | 4.4237 | 17.2837 | 3.8000 |
| 2022 | 2.4078 | 8.8068 | 1.9683 |
| 2023 | 1.3690 | 4.0090 | 1.0063 |
| 2024 | 0.8550 | 1.8674 | 0.5065 |

**GHG Emissions Verification Certificate**

| Chinese version | English version |
|---|---|

**Chinese version:**

工業技術研究院
Industrial Technology Research Institute

查驗意見編號：OC-0906-2025009-02-01　發行版次：1

## 溫室氣體排放量查驗意見

### 錼創科技股份有限公司

苗栗縣竹南鎮科中路 13 號

**查驗結果摘要**

「財團法人工業技術研究院(量測技術發展中心)」對「錼創科技股份有限公司」所報告之溫室氣體主張進行了獨立查驗，本案符合 ISO 14064-1:2018 標準要求，查驗結果未違反實質性限制，類別 1、2 符合查驗協議之合理保證等級，類別 3、4 為有限保證級。

**查驗範圍：**
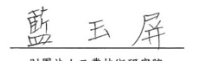
- 錼創科技股份有限公司
  (查驗廠區參照下頁資訊)
- 盤查期間：2024 年 1 月 1 日 至 2024 年 12 月 31 日

**查驗數據：**

| | | |
|---|---|---|
| 類別 1： 直接溫室氣體排放量： | 1,512.01 | 公噸二氧化碳當量 |
| 類別 2： 能源間接溫室氣體排放量： | 3,302.47 | 公噸二氧化碳當量 |
| 類別 3： 運輸間接溫室氣體排放量： | 22.35 | 公噸二氧化碳當量 |
| 類別 4： 組織使用產品間接溫室氣體排放量 | 873.34 | 公噸二氧化碳當量 |
| 總溫室氣體排放量： | 5,710.17 | 公噸二氧化碳當量 |

**保留限制：無**

吳邿真
主導查驗員

藍玉屏
財團法人工業技術研究院
量測技術發展中心執行長(授權簽署)

最初發行日期：2025 年 5 月 16 日
版次發行日期：2025 年 5 月 16 日

頁數 3 之 1 頁

本查驗意見不可單頁使用，須完整使用始具效力。
查驗機構：財團法人工業技術研究院(量測技術發展中心)
新竹縣東鎮中興路 4 段 195 號， +886-3-5732071
114.05.01 版

H06-P-02-02-02

**English version:**

ITRI
Industrial Technology Research Institute

Opinion No.：OE-0906-2025009-02-02 Release version:1

## Greenhouse Gas Verification Opinion

### PlayNitride Inc.

No.13, Kezhong Rd., Zhunan Township, Miaoli County

**Summary of Verification Results**

Industrial Technology Research Institute (Center for Measurement Standards) has independently verified the GHG claims reported by PlayNitride Inc.. It complies with the requirements of ISO 14064-1:2018. The verification results do not violate the substantive restrictions and meet the reasonable assurance in Category 1, 2, and the limited assurance in Category 3, 4.

**Verification Boundary:**

- PlayNitride Inc.
  (The detailed boundary is listed in the table on the next page.)
- Duration：January 1, 2024 to December 31, 2024

**GHG Emissions:**

| | | |
|---|---|---|
| Category 1: Direct GHG emissions and removals | 1,512.01 | Tonnes $CO_2$e |
| Category 2: Indirect GHG emissions from imported energy | 3,302.47 | Tonnes $CO_2$e |
| Category 3: Indirect GHG emissions from transportation | 22.35 | Tonnes $CO_2$e |
| Category 4: Indirect GHG emissions from products used by an organization | 873.34 | Tonnes $CO_2$e |
| **Total GHG emissions:** | **5,710.17** | Tonnes $CO_2$e |

Nuthell Wu
Lead Verifier

Yu-Ping Lan
Industrial Technology Research Institute
CMS General Director (Authorized Signature)

First release date：May 16, 2025
Latest release date：May 16, 2025

Page 1 of 4

This verification statement cannot be used on a single page and must be used in its entirety to be effective.
Verification agency: Industrial Technology Research Institute (Center for Measurement Standards)
No.195, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31040, Taiwan (R.O.C.) +886-3-5732071
Ver. 2024.10.04

H06-P-02-03-02

# 5-3 Energy Management

## Energy Policy

PlayNitride's energy consumption is primarily purchased electricity, which accounts for 94.71% of its usage, with natural gas making up the remaining 5.29%. Therefore, the company's energy-saving initiatives prioritize improving the efficiency and reducing the consumption of electricity and natural gas.

The company's Zhunan Science Park facility is leased from Epistar Corporation, which is responsible for the building's infrastructure, including the management and supply of all utilities. PlayNitride's main electricity consumption is for its production lines, warehouses, and offices. Natural gas is primarily used for the VOCs combustion equipment. Other equipment, such as emergency generators, are owned by Epistar and are used to provide backup power to PlayNitride in the event of a power outage. Currently, the company does not use renewable energy.

## Total Energy Consumption

In 2024, total energy consumption was 25,963.58 GJ, a decrease of 6,549.10 GJ (20.14% reduction) compared to 2023. Natural gas consumption was 1,327.18 GJ, a decrease of 4,176.16 GJ (75.88% reduction) from 2023. Electricity consumption was 24,590.46 GJ, a decrease of 2,418.88 GJ (8.96% reduction) compared to 2023. This decrease was primarily due to optimized operational parameters for air pollution control equipment and the operational frequency of air conditioning systems, which improved energy efficiency and led to a significant overall reduction in energy use.

Despite significant revenue growth, the energy consumption intensity (total energy consumption in GJ per million revenue) in 2024 was 14.68, a decrease of 19.8 (57.42% reduction) from 34.48 in 2023. This was mainly attributed to substantial growth in production efficiency and revenue.
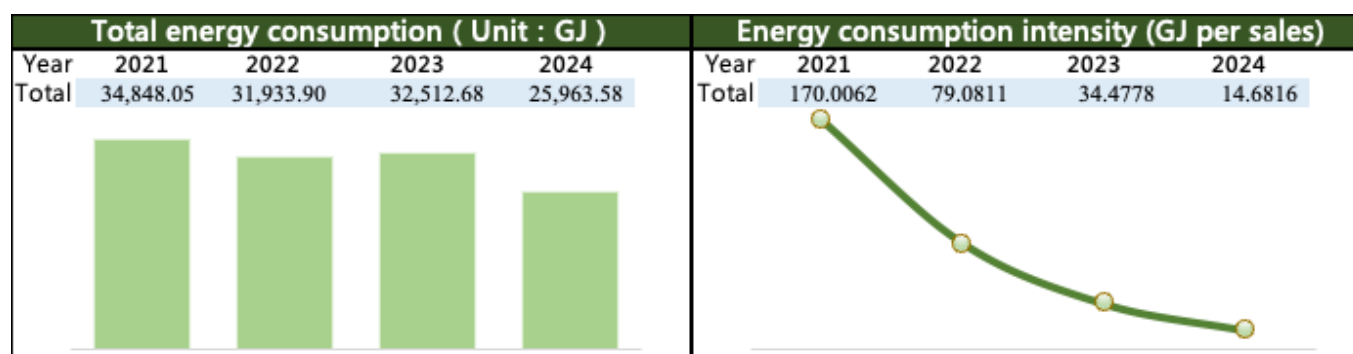
| Total energy consumption ( Unit : GJ ) | | | | |
|---|---|---|---|---|
| Year | 2021 | 2022 | 2023 | 2024 |
| Total | 34,848.05 | 31,933.90 | 32,512.68 | 25,963.58 |

| Energy consumption intensity (GJ per sales) | | | | |
|---|---|---|---|---|
| Year | 2021 | 2022 | 2023 | 2024 |
| Total | 170.0062 | 79.0811 | 34.4778 | 14.6816 |

| PlayNitride's internal energy consumption （Unit：GJ） | | | | |
|---|---|---|---|---|
| Energy Consumption Breakdown | 2021 | 2022 | 2023 | 2024 |
| Liquefied Natural Gas (LNG) | 9,441.51 | 6,070.14 | 5,503.34 | 1,327.18 |
| Vehicle Gasoline | – | – | - | 45.95 |
| Purchased Electricity | 25,406.54 | 25,863.76 | 27,009.34 | 24,590.46 |
| Total | 34,848.05 | 31,933.90 | 32,512.68 | 25,963.58 |

Notes on Energy Consumption：

1.  The data covers PlayNitride Inc.'s Zhunan factory, Taipei office, and Tainan office, but it does not include the US subsidiary.
2.  The conversion used is 1 kWh (kilowatt-hour) = 860 Kcal, and 1 Kcal = 4.186798 J, therefore 1 kWh = $3.6 \times 10^{-3}$ GJ.
3.  Electricity consumption data for the Zhunan factory is based on the meter readings from electricity supplied by Epistar Corporation. Data for other sites comes from utility company billing statements.

4. Energy consumption intensity is calculated as total energy consumption (GJ) divided by revenue in millions.
5. From 2021 to 2023, all of PlayNitride's official company vehicles were electric, so there was no gasoline consumption. In 2024, a new gasoline-powered vehicle was added for company use, and its fuel consumption has been included in the statistics as it falls within the scope of organizational control. The 2023 report had previously included gasoline consumption from employees' private vehicles used for business, but this has been corrected in the current report to align with the GHG inventory classification. The energy statistics now only disclose actual usage within the scope of organizational control.

### Energy Management

PlayNitride focuses on energy efficiency, establishing a usage monitoring system in 2021 for high-energy consumption systems such as chillers and compressed dry air (CDA) units. This system provides accurate data for analysis and optimization. The company has continued to track and analyze its energy consumption since 2022, implementing energy-saving programs like replacing older light fixtures with LED types. In 2024, energy-saving measures included optimizing the operational frequency of air handling units (Make-up Air Units, MAUs), adjusting the parameters of VOCs treatment equipment, and upgrading the lighting system.

The company plans to continue its energy-saving initiatives in 2025 by expanding the MAU operational frequency adjustment program to more areas. It also aims to further optimize the operational parameters of its air pollution control equipment, which is expected to reduce natural gas consumption by an additional 30,000 cubic meters per year. The company will also continue replacing outdated light fixtures with LEDs in other areas.

| | 2024 Energy-Saving Initiatives | Annual Energy Saving Benefit | Investment Amount (NTD) |
|---|---|---|---|
| **VOCs Treatment System Operational Optimization** | • Lower the combustion setpoint temperature of the VOCs treatment system to reduce natural gas consumption while maintaining the original combustion efficiency. | 34,309 Cubic meter of natural gas | 0 |
| **Equipment Operational Optimization** | • Decrease the operating frequency of the Make-up Air Units (MAU) to reduce operational output and load, thereby lowering overall power consumption and effectively reducing electricity usage, while maintaining the required ventilation efficiency. | 2,018 KWh | 0 * |
| **Lighting Management** | • Replace aging lighting fixtures with LED lighting.<br>• Turn off the lighting in select office areas during the lunch break. | 500 KWh | $50,000<br><br>0* |

\* ：Achieve through optimization and control of existing human resources and parameters, with no new equipment costs.

Furthermore, because the current facility is a leased building, there is no space to install renewable energy equipment. Improvements to the electrical infrastructure require ongoing discussion and planning with Epistar Corporation. In the future, the company will evaluate its operational development strategy to determine the appropriate time to plan for the procurement of renewable energy or the installation of renewable energy generation devices. Additionally, the company will continue to monitor and prioritize improvements in the energy efficiency of high-energy consumption systems, such as chillers and CDA.

## 5-4    Water Resource Management

### Water Resource Management

PlayNitride's primary production site is in the Zhunan Science Park, which is not located in a high or extremely high-risk area according to the World Resources Institute's (WRI) Aqueduct water risk assessment database. Because the facility is leased from Epistar Corporation, all infrastructure, including systems for electricity, water resources, and deionized water, is managed and supplied centrally by Epistar.



Water Resource Management Overview ( Unit : ML )

☐ Water Withdrawal

2021: 15.92
2022: 14.35
2023: 16.07
2024: 27.01
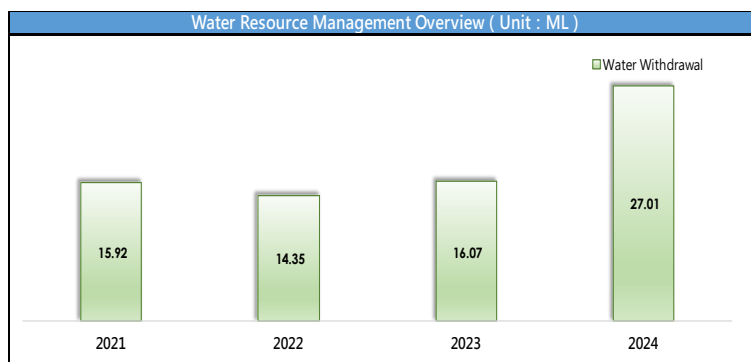
Note: Total water withdrawal is based on the Zhunan headquarters. Water usage for the Taipei, Tainan, and US offices is included in the office rent and has not been included in this statistic.

The company's water is sourced from the municipal water supply. Water use is divided into two main categories: process water and domestic water. Process water accounts for approximately 80% of total water consumption. This process water is primarily deionized water, which is purified from tap water through a dedicated system and used for cleaning chemical residues from chip surfaces.

| Water Use Item | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| Water Withdrawal (tons) | 15,919.95 | 14,353.79 | 16,074.39 | 27,010.00 |
| Water Intensity (tons/pcs) | 2.29 | 1.76 | 1.73 | 1.64 |

In 2024, the total water withdrawal was 27.01 million liters, an increase of 10.94 million liters (68.08%) compared to 2023. The main reason for this increase was the expansion of production capacity. PlayNitride continues to review its process water usage, and by adjusting the operating parameters at key water-intensive stations in the process, the water consumption per COC output can be reduced by an average of 8.4%. As a result, the water intensity in 2024 decreased to 1.64, a reduction of 0.09 (5.20%) from 1.73 in 2023.

Note: Water intensity = total water withdrawal for the current year (tons) ÷ COC production for the current year (pieces)

### Wastewater Treatment Improvement Measures

The on-site wastewater treatment and recycling system is managed and operated by Epistar Corporation (the factory owner) to ensure all wastewater discharge complies with environmental regulations and relevant standards. PlayNitride remains committed to improving wastewater management at the source. Process wastewater is temporarily stored in tanks before being discharged to the wastewater treatment facility. It is sampled and tested by a third-party organization every six months, with all tests passing.

## 5-5　Waste Management

**Waste Management**

PlayNitride prioritizes efficient resource utilization and continuously improves its processes to reduce raw material consumption and waste generation, while also promoting waste recycling and reuse. The company implements waste management in accordance with the Waste Disposal Act. Since 2020, it has been certified with the ISO 14001:2015 Environmental Management System and operates according to the management system. The company's waste disposal plan has been approved by the competent authority, and relevant operations, including the generation, storage, removal, and disposal of waste, are reported online in accordance with waste disposal regulations and the Ministry of Environment's standards.

All waste is handled and disposed of by qualified, Ministry of Environment-approved vendors, following the specifications in the waste disposal plan. The disposal process complies with all Waste Disposal Act requirements. In line with the guidelines for determining due diligence for entrusted waste disposal, PlayNitride conducts annual audits of its removal and disposal contractors. In 2024, the company completed on-site audits of two removal contractors and three disposal and recycling contractors, with all audit results confirming that the partner companies are operating in compliance.

Beginning in the fourth quarter of 2024, the company initiated the consolidation of waste removal and disposal contractors. This integration of transporters, schedules, and routes is expected to improve operational efficiency and reduce transportation-related emissions. This measure will be fully implemented in 2025, and its effectiveness will be continuously monitored.

**Waste Volume**

The total weight of waste generated in 2024 was 139.30 metric tons. Of this, 109.13 metric tons were hazardous waste, and 30.17 metric tons were non-hazardous waste.

| Amount of Waste Generated (by Disposal Method) (Unit: tonnes) | | | | | |
|---|---|---|---|---|---|
| Recovery/Disposal | Method | 2021 | 2022 | 2023 | 2024 |
| **Hazardous Waste** | | | | | |
| Recycling and Reuse | Recycling | 6.66 | 3.46 | 4.44 | 2.16 |
| Direct Disposal | Incineration (including energy recovery) | 55.98 | 84.16 | 89.74 | 106.97 |
| Total Amount | | 62.64 | 87.62 | 94.18 | 109.13 |
| **Non-hazardous Waste** | | | | | |
| Recycling and Reuse | Other Recycling Operations | 6.31 | 6.88 | 8.15 | 6.41 |
| Direct Disposal | Incineration (including energy recovery) | 18 | 18 | 21.6 | 23.76 |
| Total Amount | | 24.31 | 24.88 | 29.75 | 30.17 |
| **Total Waste Volume** | | | | | |
| Total Amount | | 86.95 | 112.50 | 123.93 | 139.30 |

- **Hazardous Waste：109.13 metric tons**

The company generated 109.13 metric tons of hazardous waste. This total includes 103.92 metric tons of waste organic solvents (95.23%) and 3.05 metric tons of substrate offcuts (2.8%) that were directly disposed of. Additionally, 2.16 metric tons (1.98%) consisted of recyclable empty drums and bottles. All hazardous waste was processed by qualified contractors.

- **Non-Hazardous Waste：30.17 metric tons**

The non-hazardous waste totaled 30.17 metric tons, which was primarily composed of general domestic waste and recyclable materials.

### Waste Reduction Measures

Because organic solvents are essential consumables for the manufacturing process, the total amount of waste organic solvents increased in 2024 with the rise in production volume. However, PlayNitride continues to improve its processes to reduce the amount of organic solvent required per unit of product. In 2024, the amount of waste solvent generated per COC was 6.31 kg, a significant decrease of 3.02 kg from 9.33 kg in 2023.

Note: Waste solvent generated per piece = total waste solvent for the current year (tons) ÷ COC production for the current year (pieces)

To reduce environmental impact, PlayNitride will focus on improving the ratio of finished products to reduce the consumption of various solvents for effective output. The company plans to evaluate and devise feasible reduction plans to minimize waste generation.

**Waste Solvent Generation Volume per COC**

**9.33 kg**

**6.31 kg**

**2023**　　**2024**
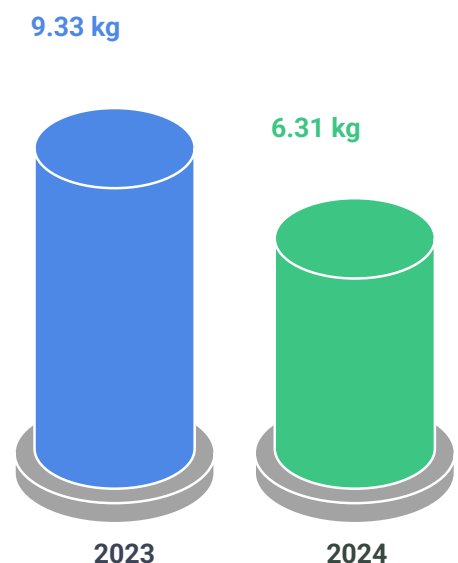
## 5-6　Air Pollution Management

### Air Pollution Management

PlayNitride has obtained ISO 14001:2015 Environmental Management System certification. The company operates in accordance with the management system and implements operational standards for preventing air pollutants, overseeing the management and disposal of control equipment. Relevant operations are reported quarterly through an online system, following the Air Pollution Control Act and fixed pollution source operation permit regulations of the Ministry of Environment.

### Air Pollution Management: Primary Waste Gas Types and Control Measures

The waste gases generated by PlayNitride can be broadly classified into general waste gas and organic waste gas based on their properties:

- **General Waste Gas:** This primarily consists of hot air from equipment, which does not pose a risk of air pollution and can be discharged directly into the atmosphere.

- **Organic Waste Gas:** This mainly comprises volatile organic compounds (VOCs) that evaporate from the organic solvents used in the manufacturing process equipment. PlayNitride uses a zeolite rotor system for adsorption and incineration or an activated carbon fluidized bed system for activated carbon adsorption. The remaining gas is then released into the atmosphere. The treatment process and emissions both comply with the requirements of the fixed pollution source operation permit.

In 2024, the increase in production capacity led to a corresponding rise in VOC generation. PlayNitride continues to focus on process adjustments and improving production efficiency to reduce the amount of organic solvents used and decrease their evaporation. The company also maintains the stable performance of its air pollution control equipment to ensure overall emissions remain within permitted standards.

### Emission statistics

PlayNitride's annual permitted VOCs emission volume, as stated in its fixed pollution source operation permit, is 1.8374 tons. Quarterly emissions are reported on a regular basis. The total emissions over the years are listed in the table below, and all have been compliant with requirements. Due to increased production capacity, emissions for all categories have increased.

| Unit: Tons | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| Volatile Organic Compounds (VOCs) | 0.44 | 0.771 | 1.059 | 1.604 |
| Particulate Matter | 0.093 | 0.202 | 0.228 | 0.200 |
| Sulfur Oxides | 1.333 | 2.933 | 3.327 | 2.925 |
| Nitrogen Oxides | 1.233 | 2.624 | 2.958 | 2.571 |

Reference: Estimated based on the emission coefficients reported for the air pollution control fee.

# 6. Friendly Workplace

## 6-1    Talent Attraction and Retention

### Talent Recruitment

PlayNitride upholds a people-oriented business philosophy. As the company's technology and production capacity steadily increase, we continue to recruit like-minded partners who share our commitment to "integrity, innovation, and the pursuit of excellence" to collectively pursue the company's sustainable operations and growth.

The company utilizes multiple channels to hire and recruit employees, including online job banks, employee referrals, internal rotation mechanisms, campus recruitment, and industry-academia collaborations, to attract top talent. To ensure a stable production workforce, the company continues to develop diverse talent acquisition strategies to meet the human resource needs of different operational phases. Adhering to legal policies and PlayNitride's Human Rights Policy, we are dedicated to providing a safe work environment that is diverse, equitable, and free of discrimination, while also offering varied compensation and benefits and a human-centered system. We look forward to having talented individuals from all fields join PlayNitride in our journey to "change the world".

In response to the need for a diverse and specialized workforce, as of the end of 2024, PlayNitride employed nine foreign nationals. These employees include R&D personnel, sales staff, and direct laborers. The recruitment process for foreign employees is the same as for local employees. After being hired through the recruitment process, they must adhere to and sign relevant codes of ethical conduct and confidentiality agreements. Their internal training is provided on an equal basis with other employees in the same job category, ensuring fair opportunities for learning and promotion.

### Workforce Structure

As of the end of 2024, PlayNitride's total workforce numbered 496 employees, a 11.71% increase from 444 employees the previous year. Of the total, 494 employees are located in Taiwan, with 2 in the United States. Women make up 44.76% of the total workforce. The employee age distribution is primarily between 31 and 50 years old, accounting for 63.51% of the total.

**Total Number of Employees**

| 2021 | 2022 | 2023 | 2024 |
|------|------|------|------|
| 364 | 392 | 444 | 496 |

**Historical Total Number of Employees (by Gender)**

| Year | Female | Male |
|------|--------|------|
| 2024 | 222 | 274 |
| 2023 | 188 | 256 |
| 2022 | 173 | 219 |
| 2021 | 162 | 202 |

**Historical Gender Ratio of Hired Employees**

| Year | Female | Male |
|------|--------|------|
| 2024 | 44.76% | 55.24% |
| 2023 | 42.34% | 57.66% |
| 2022 | 44.13% | 55.87% |
| 2021 | 44.51% | 55.49% |

**Historical Total Number of Employees (by Age Group)**

| Year | Under 30 | 31-50 years old | Over 50 years old |
|------|----------|-----------------|-------------------|
| 2024 | 168 | 315 | 13 |
| 2023 | 127 | 299 | 18 |
| 2022 | 118 | 265 | 9 |
| 2021 | 114 | 245 | 5 |

**Historical Age Group Ratio of Hired Employees**

| Year | Under 30 | 31-50 years old | Over 50 years old |
|------|----------|-----------------|-------------------|
| 2024 | 33.87% | 63.51% | 2.62% |
| 2023 | 28.60% | 67.34% | 4.05% |
| 2022 | 30.10% | 67.60% | 2.30% |
| 2021 | 31.32% | 67.31% | 1.37% |

**Historical Number of Employees by Job Category and Gender**

1. Senior Executives: Directors and above.
2. Managerial Staff: Section Managers and above.
3. Engineers: All engineering personnel related to technology research and development and mass production engineering.
4. Operational Staff: All personnel engaged in operational management.
5. Direct Labor: Personnel directly involved in production, machine operation, and related tasks.

Employee employment types are primarily permanent, full-time employees. In 2024, there were four temporary employees on fixed-term contracts and one part-time employee paid hourly. The primary work locations are in Taiwan, including the Zhunan Science Park, the Taipei office, and the Tainan office. There are currently no employees on overseas assignments. The US subsidiary, established in 2023, primarily hires local talent.

Additionally, there are 15 non-employees working at the company, who are primarily dispatched by contractors to provide services on-site, including 12 for cleaning and 3 for security.
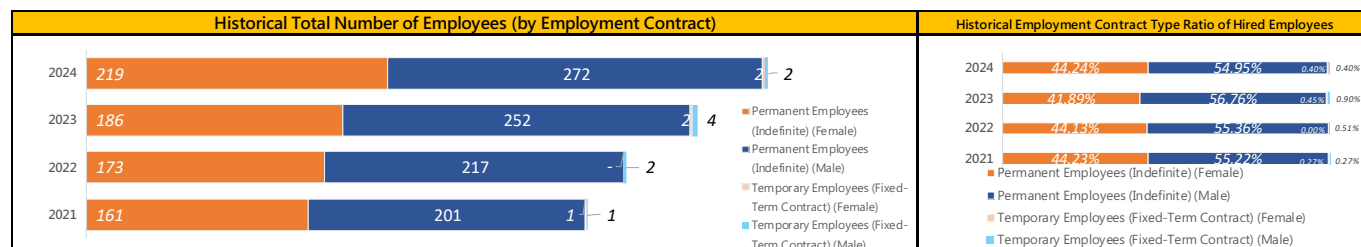


**Compensation and Benefits**

PlayNitride is dedicated to creating a competitive and equitable compensation and benefits system that ensures employee pay does not vary based on gender, age, nationality, or race. Salary determination is based on professional competencies, such as educational background and work experience, and is adjusted with reference to industry salary surveys and the average compensation levels of peer companies. To maintain overall compensation competitiveness, salaries are reviewed and adjusted

| 2024 Male-to-Female Compensation Ratio | | | | | |
|---|---|---|---|---|---|
| **Job Category** | | **Standard Salary** | | **Compensation** | |
| | | **Male** | **Female** | **Male** | **Female** |
| **Indirect** | Managerial Position | 1.41 | 1 | 1.85 | 1 |
| | Non-Managerial Position | 1.20 | 1 | 1.29 | 1 |
| **Direct** | | 1.00 | 1 | 1.00 | 1 |

Note 1: Based on female employees as a baseline ratio of 1.
2: Standard Salary refers to the regular monthly fixed compensation, and Compensation includes the standard salary plus Holiday Bonuses, Official Allowances, Project Bonuses, and Performance Bonuses.
3: The salary discrepancy among Indirect Labor primarily stems from the different proportions of job attributes and seniority.

regularly based on market salary levels, economic trends, and individual performance. In 2024, the average salary increase was 9%.

In 2024, the ratio of standard starting salary for entry-level employees in Taiwan to the local minimum wage was as follows: the ratio for direct labor was 1:1.11, while the ratio for indirect labor was 1:1.20. These figures are calculated based on the minimum monthly wage of NT$27,470 for the year.

In addition to a fixed salary, PlayNitride has designed various incentive programs for different job roles. These include work allowances (such as shift, station, and welfare allowances), performance bonuses, outstanding employee nomination awards, patent bonuses, and PlayNitride Star competition prizes. The company also distributes three major holiday bonuses annually based on operational performance to acknowledge employees' contributions.

The company focuses on the needs of employees in different roles and positions by regularly reviewing its welfare policies. It offers flexible benefit plans that cater to the diverse work nature and roles, aiming to provide a secure work environment and an evolving benefits system to maximize employee happiness.

| Full-Time Employee Benefits at PlayNitride | |
|---|---|
| **Bonuses** | · Annual performance bonuses, holiday bonuses, and project bonuses<br>· Patent bonuses<br>· Outstanding employee nomination bonuses<br>· PlayNitride Star competition bonuses |
| **Allowances and Bonuses** | · Shift allowance, station allowance, welfare allowance, and other allowances |
| **Employee Stock Ownership Trust** | · Employee stock ownership trust plan |
| **Insurance and Social Benefits** | · Labor and health insurance/pension contributions<br>· Employee group insurance (including medical, accidental, and critical illness coverage) |
| **Leave and Time Off** | · One-hour flexible start and end times, and remote work<br>· No make-up days required for government-adjusted flexible holidays<br>· Two "new employee welfare days" for flexible use<br>· December 25th is a "company holiday" |
| **Health and Wellness** | · Monthly department welfare funds<br>· Subsidies for recreational clubs<br>· Annual health checks that exceed legal requirements |
| **Other Benefits** | · New hire gifts, Labor Day gifts/bonuses<br>· Marriage and childbirth subsidies, funeral condolences<br>· Continuing education subsidies, language learning bonuses<br>· Monthly birthday parties, birthday bonuses<br>· Irregular recreational and volunteer activities<br>· Mid-Autumn Festival BBQ, Christmas events, year-end banquet<br>· Snack and beverage area with unlimited drinks<br>· Massage chairs, spinning bikes, and billiard and table tennis tables |

## Employee Stock Ownership Trust

PlayNitride offers a long-term incentive and reward program for its employees. The company implemented an Employee Stock Ownership Plan (ESOP) in July 2023. The plan allows employees to join on a quarterly basis, and for every contribution an employee makes, the company provides a matching incentive bonus at a certain percentage. The funds are used for long-term investment in company stock to increase employee loyalty and engagement. This plan aims to help employees grow with the company, provide financial planning, and improve their quality of life after retirement or resignation. As of the end of 2024, 142 employees were participating in the plan, with a participation rate of approximately 29%.

## Performance Appraisal

PlayNitride's performance appraisal system is continuously being optimized to meet organizational needs and undergoes rolling adjustments annually. The appraisal method varies depending on the job type. In 2024, appraisals were conducted on a quarterly basis for employees at or below the management level who had been with the company for at least three months, with 100% of eligible employees receiving an appraisal.

The company continues to adjust its promotion guidelines in line with organizational growth to refine the promotion system. The annual job and rank promotions were completed in November 2024.

## Insurance and Retirement Benefits

PlayNitride provides insurance coverage to employees in accordance with local regulations, including labor insurance and national health insurance. In addition, the company offers private group insurance to protect employees against medical, accidental, and critical illnesses.

Regarding retirement, PlayNitride has established a retirement system based on the Labor Standards Act and other relevant regulations. All employees are enrolled in the new pension system. The company contributes 6% of each employee's monthly salary to their personal account with the Bureau of Labor Insurance, as stipulated by the Labor Pension Act. Employees may also voluntarily contribute an additional 0% to 6% to their individual pension accounts.

## Employee Welfare Committee

In compliance with regulations, a percentage of the company's monthly revenue is allocated to the Employee Welfare Committee. The committee holds regular meetings to promote various employee welfare initiatives. These initiatives include providing Labor Day and birthday bonuses and subsidies for recreational clubs.

**Other Benefits**

| Monthly Birthday Parties |
| --- |

### Joyful Birthday Celebrations, Special Delicacies, and Birthday Gifts

The "2024 PlayNitride Birthday Celebration" featured a special birthday gift in collaboration with the brand Yuan. The gift consisted of natural, handmade bath and body products, conveying a sustainable philosophy of environmental friendliness and mutual well-being. Additionally, a birthday bonus was given to each person celebrating their birthday.



| Holiday Event Series |
| --- |

### PlayNitride organizes a series of holiday events throughout the year

including celebrations for Mother's Day, Dragon Boat Festival, Chinese Valentine's Day, Father's Day, and Christmas.

## Gifts and Souvenirs

### Mid-Autumn Festival Souvenir

The "Tenfold Fortune Tiny Bottle Garden" was given to employees as a heartfelt gift, symbolizing a wish for collective growth and prosperity.



## Year-end Party



The 2024 PlayNitride year-end banquet featured a series of activities to celebrate employees and their families. The event included welcome gifts for children, a photo wall, interactive game booths, live band performances, and on-stage games, inviting employees and their families to join in the festivities.

### New Hires and Employee Turnover

In 2024, PlayNitride hired 230 new employees, resulting in a new hire rate of 46.73%. The total number of employees who left the company was 172, with an annual turnover rate of 34.68%. Both the number of new hires and the number of employees who resigned increased from the previous year, primarily due to the company's continuous growth and the resulting rise in talent demand

To help new employees quickly acclimate to the work environment and apply their skills, managers conduct an onboarding interview upon arrival to assist them in adapting to the organization. Appropriate tasks are assigned based on each individual's background, abilities, and expectations. Within three months of joining, the unit supervisor interviews the new employee to understand their work adaptation and provides corresponding training, on-the-job training, and development plans tailored to their specific job role and career stage.

PlayNitride places a high value on employee retention. The company's retention and turnover rates for both direct and indirect personnel are tracked and analyzed quarterly to ensure they meet targets. For employees who submit their resignation, an exit interview is conducted to understand the reasons for their departure, which helps the company continuously improve its systems and retain top talent.

**Historical Statistics of New Hires and Turnover (by Gender)**

| Year | New Hires Female | New Hires Male | Turnover Female | Turnover Male |
|------|------|------|------|------|
| 2024 | 123 | 107 | 87 | 85 |
| 2023 | 53 | 84 | 38 | 48 |
| 2022 | 46 | 55 | 35 | 37 |
| 2021 | 48 | 59 | 52 | 54 |

**Historical Statistics of New Hires and Turnover (by Age Group)**

| Year | New Hires Under 30 | New Hires 31-50 years old | New Hires Over 50 years old | Turnover Under 30 | Turnover 31-50 years old | Turnover Over 50 years old |
|------|------|------|------|------|------|------|
| 2024 | 103 | 123 | 4 | 72 | 94 | 6 |
| 2023 | 65 | 69 | 3 | 31 | 53 | 2 |
| 2022 | 45 | 52 | 4 | 24 | 47 | 1 |
| 2021 | 35 | 65 | 7 | 25 | 78 | 3 |

| | | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|
| New Hire Rate | Female | 29.63% | 26.59% | 28.19% | 55.41% |
| | Male | 29.21% | 25.11% | 32.81% | 39.05% |
| | *Total* | *29.40%* | *25.77%* | *30.86%* | *46.37%* |
| Turnover Rate | Female | 32.10% | 20.23% | 20.21% | 39.19% |
| | Male | 26.73% | 16.89% | 18.75% | 31.02% |
| | *Total* | *29.12%* | *18.37%* | *19.37%* | *34.68%* |
| Voluntary Turnover Rate | Female | 32.10% | 20.23% | 20.21% | 39.19% |
| | Male | 26.73% | 16.89% | 18.75% | 31.02% |
| | *Total* | *29.12%* | *18.37%* | *19.37%* | *34.68%* |

| | | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|
| New Hire Rate | Under 30 | 30.70% | 38.14% | 51.18% | 61.31% |
| | 31-50 years old | 26.53% | 19.62% | 23.08% | 39.05% |
| | Over 50 years old | 140.00% | 44.44% | 16.67% | 30.77% |
| Turnover Rate | Under 30 | 21.93% | 20.34% | 24.41% | 42.86% |
| | 31-50 years old | 31.84% | 17.74% | 17.73% | 29.84% |
| | Over 50 years old | 60.00% | 11.11% | 11.11% | 46.15% |
| Voluntary Turnover Rate | Under 30 | 21.93% | 20.34% | 24.41% | 42.86% |
| | 31-50 years old | 31.84% | 17.74% | 17.73% | 29.84% |
| | Over 50 years old | 60.00% | 11.11% | 11.11% | 46.15% |

Note: New hire rate = number of new employees of that gender (or age group) in the current year ÷ total number of employees of that gender (or age group) at the end of the current year.

Note: Turnover rate = number of resigned employees of that gender (or age group) in the current year ÷ total number of employees of that gender (or age group) at the end of the current year.

**Smooth Communication Channels**

PlayNitride values employee feedback and maintains a two-way communication flow through regular meetings with the Labor-Management Conference, Occupational Safety and Health Committee, and Employee Welfare Committee. To ensure employee opinions are heard and addressed, the company has established several channels, including an Employee Suggestion Box, a Sexual Harassment/Workplace Bullying Complaint Box, and Mental Health Care/Employee Counseling services.These communication channels are announced during new employee training and are posted on the employee website and on display screens throughout the facility.

In 2024, the company received a total of 10 submissions via the suggestion box and handled four cases through employee counseling, all of which were properly addressed and closed.

## 6-2　　Talent Development

### Nurturing and Development Planning

Talent is the key element for PlayNitride to sustain continuous innovation and maintain its industry leadership. We expect our employees to have innovative thinking and the ability to take action. Upholding the philosophy of "nurturing talent and caring for employees," we have established five academies: the General Education Academy, Process Academy, Quality Academy, Leadership Academy, and Future Academy. By integrating professional competencies, we have created an excellent training mechanism. Our internal instructors regularly offer courses, providing diverse and open learning opportunities. Through training and development, we add value to PlayNitride's talent. We have also progressively converted foundational skills courses into online courses for preservation, transmitting the company's knowledge and experience.
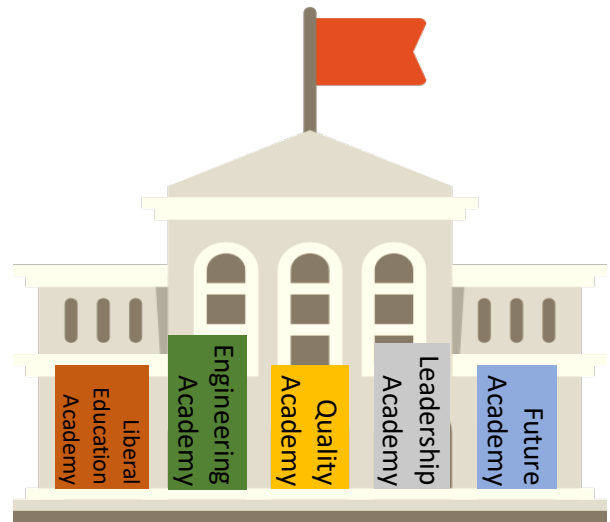
### PlayNitride's Training Framework

PlayNitride offers diverse educational training to enhance employees' professional skills. We provide comprehensive educational training and OJT (On-the-job training) and also encourage colleagues to participate in external corporate training. From the moment of onboarding, the company invests sufficient resources in employees of different roles and ranks. Different training plans are adopted at each stage to facilitate systematic learning and development.

PlayNitride's educational training includes new employee orientation, MicroLED general knowledge courses, professional courses, and management courses for supervisors. These are divided into different professional fields such as engineering, quality, and leadership. In addition to inviting external, specialized instructors, we also actively cultivate internal instructors to pass on the company's key technologies. We nurture professional, cross-disciplinary skills in research and development, production, manufacturing, quality, and management for talent in different fields to cope with the future wave of intelligence and to integrate a talent pool of cross-disciplinary experts.

| Category by Level | | General Education and Training | Engineering Management / Cognitive Analysis | Quality Management | Leadership Development | Self-development Training / Self-efficacy | OJT | External Training / Licenses |
|---|---|---|---|---|---|---|---|---|
| Management | Division Manager | | | Quality Management Leadership and Commitment<br>Quality Risk Prevention and Promotion | ✱Strategic Management<br>✱Accountability and Empowerment | ✱ Industry Trends | | Professional Ability Enhancement / Statutory Certification Courses |
| | Department Manager | | New Product Introduction / R&D Cost Management | | Talent Cultivation<br>Team Motivation<br>New Generation Leadership | | | |
| | Engineering | ▷ Introduction to Epitaxy<br>▷ Introduction to Crystallite<br>Introduction to Measurement<br>Introduction to Patents | ■ Problem Analysis and Decision-Making PSDM<br>■ JMP R&D Data Analysis<br>■ Design of Experiment DOE<br>■ Statistical Process Control ( SPC ) | ■ Quality Tool / Technique Training<br>■ QC080000 Hazardous Substance Process Management System | Target Management<br>Time Management<br>Project Management | Personal Efficiency<br>Creative Thinking<br>Communication Skills<br>Potential Development<br>Problem Analysis and Resolution | Job Duty Training | |
| | Administration | | Logical Thinking<br>Data Analysis | | | | | |
| Production Line Technology | Team Leader | | Environmental Safety Risk Prevention and Execution / Hazard Prediction and Promotion | ISO9001 Quality System Training | On-site Management and Work Instruction | | | |
| | Technician | ●Clean Room Operation<br>● MES Operation<br>**OJT** - Machine Operation Regular Certification | | ● ESD Electrostatic Discharge Prevention | | | | |
| New Employees | | Micro LED Basic Knowledge / Corporate Culture, Management Philosophy, Human Resources System, Computer Information Security / Quality Awareness (ISO9001 & Cultural Management )/ Basic Awareness of Environmental Safety and Health | | | | | | |

**Introducing the Online Training Platform**

To enhance employees' professional capabilities and facilitate knowledge transfer, the company continues to build digital learning resources. Since 2023, we have implemented the internal online education and training platform, PlayNitride Academy, allowing employees at all operating sites to engage in self-directed learning based on their needs, thereby improving training accessibility and effectiveness.

In 2024, the digital learning content was further expanded with the addition of 28 new courses. Some courses are scheduled in multiple sessions based on learning demand, while others adopt a blended learning model combining on-site and online methods. These courses cover subjects such as the company's core skills, professional knowledge, and sustainable development. This more flexible course arrangement is designed to meet the learning needs of different positions and departments. The expansion of online courses not only strengthens knowledge management and the transfer of key skills but also enables management to track employee progress and effectiveness through the analysis of learning data, providing timely support and guidance.

**Piloting Self-Selected Courses to Explore Diverse Learning Models**

In 2024, the company and a partner training platform piloted an open, self-selected course program. The courses covered diverse areas such as artificial intelligence, personal growth, software development, and digital commerce, encouraging colleagues to choose according to their interests. The pilot period was six months. To ensure the effective use of learning resources, participants were required to complete one course before enrolling in the next. A total of 14 colleagues completed 25 courses during this period.

This pilot experience helped us understand employees' learning inclinations beyond their professional domain, serving as a reference for subsequent planning of in-person courses to ensure a more precise and effective allocation of learning resources.

**Training Execution Results**

PlayNitride fosters a strong culture of self-directed learning. Courses are designed based on competencies, and corresponding training programs are planned annually based on the training needs surveyed from each department. Priority is given to relevant departmental personnel for various professional courses, but cross-departmental enrollment is also open, encouraging colleagues to expand their diverse knowledge. In 2024, the total number of training participations reached 4,289, a 1.79% increase compared to 2023. The average training hours per employee was 9.33 hours, and the average education and training cost per person was NT$2,755.

To ensure the talent development strategy remains consistent with the company's operational goals, PlayNitride continuously adjusts its training plan based on organizational development and resource status. As 2024 was a crucial period for organizational expansion, training resources were prioritized for senior executives' development in leadership mindset and team management capabilities, in response to the rapidly growing workforce and management challenges. The average training hours for senior executives increased from 16.15 hours in 2023 to 29.73 hours in 2024. Conversely, while the training hours for other job categories decreased, the focus remained on core skills training courses to ensure the stable development of key competencies.

| Historical overview of investment in education and training expenses | Historical total hours of education and training |
|---|---|

**Historical overview of investment in education and training expenses**

2022: Training costs (NTD) 1,218,205; Average Training Cost per Person (NTD) 3,108
2023: Training costs (NTD) 1,209,077; Average Training Cost per Person (NTD) 2,723
2024: Training costs (NTD) 1,366,323; Average Training Cost per Person (NTD) 2,755

**Historical total hours of education and training**

2022: Total Training Hours (Hours) 3,685; Average Training Hours (Hours) 9.40
2023: Total Training Hours (Hours) 5,839; Average Training Hours (Hours) 13.15
2024: Total Training Hours (Hours) 4,628; Average Training Hours (Hours) 9.33

**Average hours of education and training (by job function)**

2022: Senior Supervisor 12.03; Supervisory Staff 15.82; Engineering Staff 11.57; 10.47; 3.24
2023: Senior Supervisor 16.15; Supervisory Staff 19.35; Engineering Staff 17.95; 12.63; 4.79
2024: Senior Supervisor 29.73; Supervisory Staff 11.81; Engineering Staff 7.79; 10.18; 6.26

**Average hours of education and training (by gender)**

2022: Female 7.69; Male 10.75
2023: Female 10.72; Male 14.94
2024: Female 8.07; Male 10.36

**New Employee Training Blueprint.**

For new employees, the company provides a comprehensive new hire training program, which includes management regulations, corporate culture, environment, safety and quality concepts, workplace human rights, and integrity management and regulatory compliance. This is supplemented by departmental professional training and On-the-job training (OJT) to help new colleagues quickly integrate into the PlayNitride environment and continuously engage in learning and development. The completion rate for new hire training in 2024 reached 100%.



Management regulations, corporate culture, environmental safety and quality concepts, workplace human rights and ethical corporate management compliance

On-the-job training

Professional training for different departments is planned according to the nature of work.

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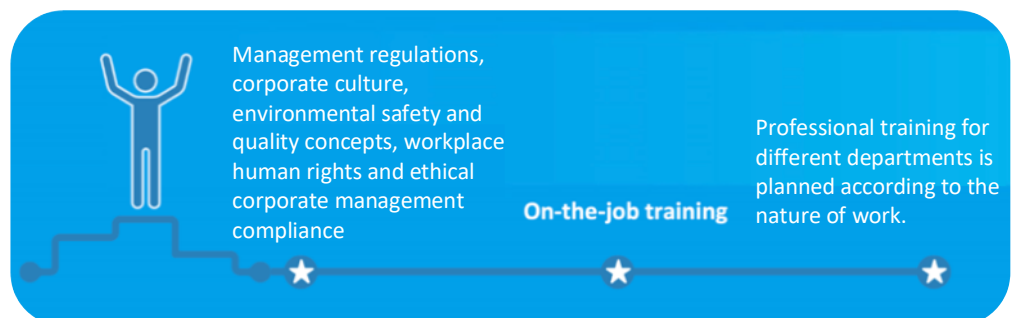
**Feature Training Courses**

## Quality Academy - IATF 16949:2016 Management System

To enhance product quality and supply chain competitiveness and to meet the demands of the international market, we have introduced the IATF 16949:2016 quality management standard. We arranged for various departmental seed personnel to participate in training for this automotive industry quality management standard. Participants are required to attend courses in sequence and pass a test. The content covers core topics such as the standard structure, risk management, internal audit, and instructions on the use of the Five Core Tools (APQP, PPAP, FMEA, SPC, and MSA), ensuring employees can effectively apply the knowledge to daily operations and enhance the company's quality management and processes. As of 2024, 30 individuals have completed the course and passed the test, with an average course satisfaction rate of 89.76%. We plan to continue organizing supplementary training sessions to help the remaining personnel complete the full training.

| Course Name | Number of Participants | Course Hours |
|---|---|---|
| IATF16949:2016 Management System Implementation Introduction | 56 | 1.5 |
| IATF16949:2016 Five Core Tools_PPAP & FMEA (I) | 41 | 3 |
| IATF16949:2016 Five Core Tools_FMEA (II) & MSA | 43 | 6 |
| IATF16949:2016 Five Core Tools_SPC & APQP | 35 | 6 |

## Leadership Academy - Management Training

### 【Innovative Business Mindset Workshop】

To strengthen the innovative mindset and strategic planning capabilities of mid-to-senior level managers, we held two sessions of this workshop in 2024, with a total of 52 participants. The course satisfaction rate reached 96.7%.



The course was taught by innovative strategy consultant Mr. Tao Yun-Chih. It combined practical exercises, case studies, design thinking, business model innovation, and cross-departmental collaboration to guide managers to break away from traditional frameworks and enhance the quality of their decision-making and problem-solving abilities. A post-course survey indicated that 93.18% of the participants felt the course was helpful in tackling work challenges. Furthermore, some managers have begun utilizing the innovative tools learned in the course for proposal presentations during weekly management meetings, demonstrating the internalization of these concepts into daily meeting and decision-making processes.

**PlayNitride Seminars**

To enhance the personal quality and self-growth of our colleagues, PlayNitride has been hosting a lecture series since 2019, inviting outstanding individuals from various fields to speak at the company. These talks allow colleagues to deeply understand industry development trends, leaders' successful mindsets, innovative thinking, and skills. We hope these events will inspire colleagues' personal and professional growth, and encourage all employees to persevere and forge ahead firmly on the path of promoting the growth of the MicroLED industry.

In 2024, we specifically invited the most influential workplace training master, Mr. Hsieh Wen-Hsien (who was listed by Forbes magazine among Asia's Top 50 Best Companies' trainers and has been consecutively recognized for ten years by Management Magazine as a renowned corporate lecturer in the Chinese-speaking world). Mr. Hsieh shared his accumulated workplace experience, discussing with colleagues how to activate their personal "user manual" and create self-worth. The satisfaction rating for the lecture was as high as 94.8 points.

*"It was a very wonderful lecture; it opened my eyes, and I really like the lecturer's ambition." —Colleague Feedback*

*"The lecturer's stories were very moving and truly inspiring!" —Colleague Feedback*

## 6-3    Friendly Workplace

### Human Rights Management

PlayNitride values its employees and the protection of their human rights. We strictly adhere to relevant labor regulations to create a humane, dignified, and equitable working environment. We also follow internationally recognized human rights standards, such as the "Universal Declaration of Human Rights," the "UN Global Compact," the "UN Guiding Principles on Business and Human Rights," and the "International Labour Organization".

| **Human Rights Management** |
|---|
| • Provide a safe, healthy, and zero-harassment working environment. |
| • Prevent unlawful discrimination and ensure equal employment opportunities. |
| • Prohibit child labor. |
| • Prohibit forced labor. |
| • Foster an environment that encourages communication and establish an open management model. |
| • Support and assist employees in maintaining physical and mental health and work-life balance. |
| • Regularly review and evaluate relevant systems and practices. |

PlayNitride explicitly defines the methods and channels for reporting workplace sexual harassment in its "Work Rules" and "Measures for the Prevention, Complaint, Investigation, and Handling of Sexual Assault and Sexual Harassment." This ensures gender equality and a workplace free from harassment. We have established a Human Rights Policy, which is included in the new employee orientation courses. Furthermore, we use physical bulletin boards within the company and system announcements to ensure colleagues are aware of their rights and relevant complaint channels. In 2024, no complaints involving harassment or discrimination were received.

PlayNitride initiated a "Human Rights Risk Due Diligence" plan starting in 2023. The questionnaire design incorporated internal experts' and departmental perspectives, external experts' professional advice, and referenced industry standards and best practices. The content covers three major areas: Labor Rights (12 questions), Health and Safety (2 questions), and Governance and Ethics (1 question). The investigation was completed in the first quarter of 2024, and mitigation measures for the preliminary identified human rights risks have been developed. In the

| **Human Rights Management** | |
|---|---|
| **Target** | Heads of Departments |
| **Questionnaire Statistics** | ・67questionnaires collected<br>・58 valid questionnaires |
| **Preliminary Identified Potential Human Rights Risks** | ・Personal freedom and safety<br>・Occupational safety<br>・ Work injuries and occupational diseases |

future, we will continue to institutionalize relevant publicity and training to ensure all colleagues are treated with dignity and respect, working with employees to build a sustainable, safe workplace free from harassment and discrimination, fostering open communication, and safeguarding the human rights of all employees and workers.


Human rights risk analysis

**Human rights risk mitigation measures**

【Personal Freedom and Safety】

- Regularly review anti-bullying and harassment policies: Clearly define and prohibit any form of corporal punishment, mental or verbal bullying, humiliation, and harassment, and include reporting mechanisms, investigation processes, and penalties, and keep pace with laws and regulations.
- Training and Education: Provide regular training to employees and management on respecting human rights and workplace codes of conduct to ensure that all employees understand the company's policies and procedures and strengthen their awareness among colleagues.

【Occupational Safety】

- Risk assessment and control: When conducting ISO 45001 risk assessments, relevant units should accurately assess all activities within the unit, identify potential hazards, and implement appropriate control measures.
- Regular inspections: Regularly inspect the equipment/personnel/environment of the factory area, and deal with potential safety hazards immediately.
- Safety Training: Provide comprehensive safety training to employees, ensuring they understand and adhere to all safe operating procedures.
- Emergency Drills: Strengthen formulation and drills to respond to possible safety incidents, ensuring that employees know how to protect themselves in emergencies.
- On-site implementation: Strengthen the publicity and regulation of on-site employee protective equipment, and implement on-site management supervisors to inspect employees wearing protective equipment.

【Work-related Injuries and Occupational Diseases】

- Regular training: Provide road traffic safety promotion or defensive driving related education and training every year.
- Multi-channel publicity: Electronic screens are set up at the elevator passage entrance to push relevant content for publicity, knowledge tests are conducted for all employees every quarter, ministry safety publicity is sent every month, and various promotional videos of different unit categories are produced from time to time.
- Health Monitoring: Conduct regular health check-ups on employees to detect and address signs of occupational diseases early.
- Strengthen the implementation of health examinations for workers with special health hazards: Strengthen the management of special health examinations for workers with special health hazards to ensure that the inspection results are collected and analyzed in a timely manner to check and prevent the occurrence of occupational diseases.
- Regularly arrange on-site physicians and health lectures: Arrange for physicians to be stationed regularly to provide health check-ups and consultation services to employees. Regularly hold health talks, invite experts to give lectures, and answer employees' health-related questions.

## 6-4    Employee health and safety

**Occupational safety and health management system**

With the core concept of "disaster prevention and disaster prevention", we invest resources in occupational safety and health management in factory operations. By establishing an occupational safety culture and proposing effective countermeasures, we will strengthen the safety awareness and protection management of workers to create a "zero occupational accident" environment.

| Occupational Safety and Health Policy |
|---|
| • Compliance with Regulations<br>• Pollution Prevention<br>• Safe Behavior Energy<br>• Saving and Carbon Reduction<br>• Health Promotion<br>• Continuous Improvement<br>• All-staff Involvement<br>• Sustainable Development |

In addition to complying with regulatory requirements, Nitron has introduced and certified the ISO 45001 occupational safety and health management system since 2020, and re-passed the third-party certification in April 2023 to maintain the operating mechanism of the occupational safety management system, continue to implement the safety and health management procedures of activities, products, and service processes related to the promotion of operations, effectively control any negative safety and health-related impacts or non-compliance with regulations, and regularly review performance and continuous improvement.

From risk identification and assessment, planning and implementation of management plans, as well as through regular and irregular safety inspections and change management, we use a continuous improvement mechanism to reduce the risk of employees being exposed to harmful environments. For occupational safety and health and environmental protection management, we have set improvement goals, with short-term goals of "controlling pollution, controlling safety and health risks, and being a law-abiding corporate citizen", and medium- and long-term goals of "preventing pollution, reducing safety and health risks, preventing the occurrence of occupational diseases, and establishing a green and safe corporate image". In 2024, there were no penalties imposed by the competent authorities for violating occupational safety and health-related regulations.

The number of employees covered in the management system is 496, and the total number of non-employee workers is 15 (security and cleaning personnel). Contractors who carry out maintenance or construction activities in the factory area shall keep relevant records in accordance with the law.

| Operating base | End of 2024 Number of workers | | The occupational safety and health management system is used to manage the number of people covered | Included in the internal audit Number of people covered | Incorporate external verification Number of people coveredNote |
|---|---|---|---|---|---|
| | Employees | Non-employee | | | |
| **Taiwan** | 496 | 15 | 511 | 511 | 511 |
| | **Coverage** | | 99.61% | 99.61% | 99.61% |

Note: Assessing occupational safety and health risks at each operating site, the U.S. office is a sales and management office (2 people) and has no substantive operational risks, so it is not included in the operation of the management system.
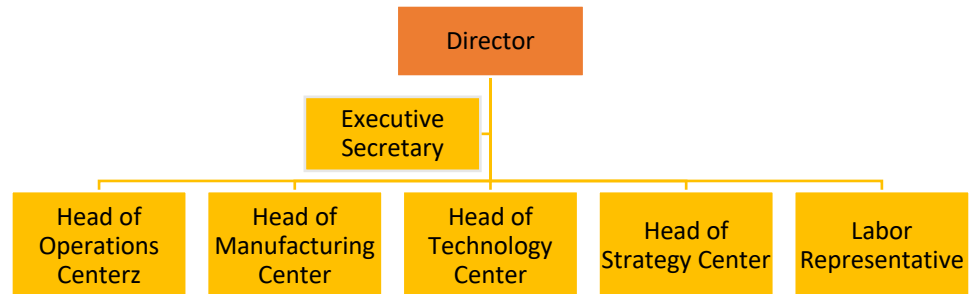
**Operation of the Occupational Safety and Health Committee**

Occupational Safety and Health Committee meetings are held regularly every quarter to review risk identification results, supervise the planning and implementation of management plans, and review and improve performance indicators to ensure the implementation of safety and health policies.

The Occupational Safety and Health Committee is chaired by the CEO, with 1 member and executive secretary, 8 implementation members, and 5 labor representatives (accounting for 35.71% of all members).

| Director |
|---|

| Executive Secretary |
|---|

| Head of Operations Centerz | Head of Manufacturing Center | Head of Technology Center | Head of Strategy Center | Labor Representative |
|---|---|---|---|---|

Employees can respond to relevant occupational safety and health opinions and communicate and consult through telephone, e-mail and other channels at any time, or submit them to labor representatives, unit supervisors, and unit occupational safety windows. Employees can inquire about environmental safety and health related laws and regulations in the announcement area of the employee website, and electronic signage is set up in public areas and work areas to promote environmental safety related regulations, so that employees can fully understand environmental safety information and opinion feedback channels, and jointly improve the safety of the working environment.

**Operational environment risk identification and prevention actions**

In order to grasp the potential hazard risk and degree of hazard in the working environment, the "Hazard Identification and Risk Assessment Management Procedure" is formulated, and the hazard identification and risk assessment is regularly carried out every year, and the investigation of the activities, processes, scope, machine equipment, work items and other operation steps of each department is investigated, and the types of hazards that may occur are physical, chemical, biological, human factors engineering, social and other hazards, the likelihood and severity of their occurrence are estimated, the risk level is calculated, and control and preventive measures are taken for high-risk items. Each high-risk project and control process are listed as projects to facilitate tracking and improvement, and the risk is eliminated or reduced to an acceptable range, and no high-risk items have been identified in 2024. In addition, if there are additions or modifications to machine equipment or partition equipment that fall within the control scope of environmental safety and health change management, hazard identification and risk assessment should be conducted before occurrence.

**2024 Risk Assessment Improvement Projects:**

Improvement of machine safety interlocking device: In order to ensure the safety of machine operation, the factory-wide machine chain device inventory has been conducted, and a total of 77 production machines have been inspected throughout the factory, and 2 machines with safety chain mechanisms have been installed.

Local exhaust pipeline system registration and labeling: In order to strengthen the inspection and type identification of the local exhaust pipeline of the machine, the inventory of the local exhaust pipeline was established and unified labeling, and a total of 5 production areas of the plant have been listed and labeled.

In addition, the company has established an occupational safety inspection plan, and the Ministry of Occupational Safety and Safety conducts weekly inspections of the factory, and if any improvement is found, the relevant departments are requested to reply to the improvement measures and completion date, and the Ministry of Occupational Safety and Safety conducts re-inspection and acceptance, and reviews them at the Occupational Safety and Health Committee every quarter.

### Monitoring of the working environment

In order to grasp the possible impact of the working environment on the health of employees in the factory and serve as the basis for improving the control of hazards in the working environment, a qualified working environment monitoring organization is entrusted to carry out regular working environment monitoring every six months. If the exposure value exceeds the regulations, a hazard control improvement plan should be planned, and the improvement status should be regularly reported to the Occupational Safety and Health Committee. In 2024, all operating areas, including offices and clean rooms, were tested, and the measurement results met regulatory standards.

### Disposal and management of hazardous chemicals

In order to effectively control the operation of hazardous chemicals and enhance employees' awareness of the potential hazards of chemicals, the "Chemical Management Procedures", "Hazardous Chemicals Management Operation Instructions", and "Hazard General Knowledge Program Operation Instructions" have been established. Necessary labeling management is carried out in storage areas and storage containers in accordance with the "Hazardous Chemicals Labeling and General Knowledge Rules" and the "GHS Global Harmonization System for Chemicals". New or in-service on-site staff who perform relevant operations are regularly trained, and safety data sheets are placed in obvious and visible places next to the entrances and exits of the operation area for immediate inspection by personnel and ensure that relevant emergency response measures can be implemented immediately in the event of an emergency.

Grounding Improvement of Explosion-proof Cabinets: To ensure the safety of organic chemical storage and avoid ignition hazards caused by static electricity, a total of 17 grounding wires for explosion-proof cabinets will be installed throughout the factory in 2024.

### Emergency response measures and management

The "Emergency Response Measures Management Regulations" have been formulated and emergency response plans have been prepared, including response mechanisms for fires, chemical leaks, typhoons, earthquakes, power outages, and accidents, and emergency response organizations have been established to respond to various emergencies. In order to accurately grasp various situations when disasters occur, emergency response education and drills are regularly held every six months to familiarize all employees with the response process and minimize disaster losses. In order to ensure employees' own safety and avoid hazards, occupational safety education and training are implemented for new employees when entering the factory, promoting that when encountering life-threatening situations, they can actively avoid dangers without being punished. In 2024, a total of 2 plant-wide emergency response drills were conducted, covering first aid for inhalation and splash injuries caused by fire, poison gas, and chemical leakage, and protective clothing wearing training, with a total of 778 people participating in the drills.

**Implement safety education and training**

We are committed to ensuring that employees are protected to the greatest extent in the workplace, implementing comprehensive safety education and training to enhance the safety awareness of all personnel and create a more secure working environment. Occupational safety and health-related management personnel regularly return to training in accordance with laws and regulations to implement safety and health management.

**【Occupational Safety and Health Education and Training】**

Provide complete occupational safety and health education and training to each new employee to understand how to prevent and manage potential occupational risks in the workplace. Relevant training materials are placed in the company's teaching material sharing area so that employees can access relevant information at any time.

| Employee safety education and training hours | | | | |
|---|---|---|---|---|
| Category | Course Name | Shifts | People | Total hours |
| Safety awareness | Common hazards in the technology industry and the responsibilities of on-site supervisors | 1 | 36 | 216 |
| | The civil defense team trains all year round | 4 | 28 | 16 |
| | General safety and health education and training for new recruits | 39 | 83 | 249 |
| | Precautions for project supervision | 1 | 12 | 1 |
| Hazardous Operations | Hazardous chemicals education and training | 39 | 83 | 249 |
| Emergency response | Emergency response protective clothing wearing education and training | 1 | 8 | 1 |
| | Earthquake and fire escape & public hazardous materials disposal principles | 1 | 36 | 72 |
| | First aid action: CPR, AED and field emergency response | 1 | 45 | 90 |
| | Self-defense fire formation drill Self-defense fire formation drill | 2 | 778 | 8 |

# 【Hazardous Chemicals Education and Training】

Hazardous chemicals are one of the potential sources of hazard, and each new employee is provided with relevant hazardous chemical education and training, including how to avoid exposure to hazardous chemicals, how to use personal protective equipment, and emergency measures to be taken in the event of a chemical accident.

# 【Emergency Response Drill】

Emergency response drills are held regularly every year to help employees familiarize themselves with emergency response procedures and skills, improve their response capabilities, ensure personal safety, and reduce losses related to accidents and disasters.

# 【Promotion of relevant regulations】

From time to time, through announcements, electronic signage, and cooperation with local fire brigades, relevant regulations are publicized to all employees to ensure the implementation of the company's safety policies and regulations. In addition, in response to needs and current incident safety, courses such as earthquake and fire prevention are offered to enable employees to master the latest safety knowledge and skills.

**Disabling Injury Incident**

In 2024, Nitronium can record 0 occupational injuries and 2 false alarm incidents, and subsequent improvements have been made to improve operating procedures and personnel publicity to avoid recurrence.
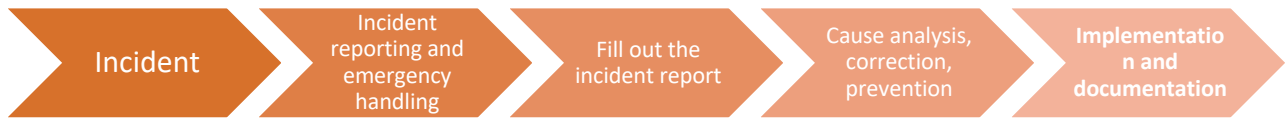
| All employees | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| Working hours throughout the year | 668,571 | 771,408 | 803,088 | 980,672 |
| Occupational injury deaths | 0 | 0 | 0 | 0 |
| Occupational injury deaths | 0 | 0 | 0 | 0 |
| Number of serious occupational injuries | 0 | 0 | 1 | 0 |
| The number of cases where there is no loss of work but work activities are restricted or temporarily transferred from the current position | 0 | 0 | 0 | 0 |
| The number of injuries that do not damage work and work activities are not restricted | 0 | 1 | 0 | 0 |
| Number of false alarm incidents | 1 | 3 | 3 | 2 |
| The number of days of lost working hours | 0 | 0 | 0 | 0 |
| The number of occupational injuries can be recorded | 0 | 0 | 1 | 0 |
| The number of occupational injuries can be recorded | 0 | 0 | 0 | 0 |
| Serious occupational injury rate | 0 | 0 | 0 | 0 |
| Occupational injury rates can be recorded（TRIR） | 0 | 0 | 0.25 | 0 |
| Occupational injury rate of injury or work restriction（DART） | 0 | 0 | 0.25 | 0 |
| Frequency of false alarm events（NMFR） | 0.30 | 0.78 | 0.75 | 0.41 |
| Ratio of lost working days | 0 | 0 | 0 | 0 |

Note：

1. The statistics of "annual working hours" are the number of people from January to December× the number of working days in the month× working hours

2. The calculation method of the indicator does not include traffic injury incidents

3. "Occupational Injury Mortality Rate" = Number of occupational injury deaths ×200,000÷ annual working hours

4. "Serious occupational injury rate" = number of serious occupational injuries ×200,000÷ annual working hours

5. "Recordable Occupational Injury Ratio (TRIR)" = Number of recordable occupational injuries ×200,000÷ number of hours worked throughout the year

6. "Occupational Injury Rate with Loss of Work or Restriction of Work (DART)" = (Number of lost working hours due to occupational injury + number of cases of non-impaired work but restricted or temporarily transferred from the current job) ×200,000 ÷ annual working hours

6. "False alarm event frequency (NMFR)" = number of false alarm injuries ×200,000÷ annual working hours

7. "Lost Work Days" refers to the number of days that the injured person is temporarily (or permanently) unable to resume work, excluding the day of injury and the day of resumption of work, but shall
Including the number of days elapsed in between (including Sundays, holidays, or business unit shutdown days) and any days of inability to work due to the disaster after resumption of work

8. "Number of occupational injuries that can be recorded" counts the number of people covered by the above-mentioned injured persons (those who lost more than 8 hours of working hours)

9. "Serious occupational injury" refers to other injuries (such as amputations) that the injured person cannot recover from, or who cannot return to the working state before the injury within six months

## Accident reporting and investigation process

In order to continuously reduce the probability of accidents and identify the causes from disasters to prevent recurrence, the "Environmental Safety and Health Abnormality Correction and Preventive Measures Management Procedures" and the "Occupational Accident Notification and Investigation Management Procedures" have been established to investigate, analyze, and track the causes of incidents.

Incident → Incident reporting and emergency handling → Fill out the incident report → Cause analysis, correction, prevention → Implementation and documentation

## Contractor safety and health management

In 2024, when the number of working hours of contractors entering the factory was 10,668, there were no disability injuries. In order to ensure the safety and health of other workers and contractors who are not employed workers, we have established the "Contractor Safety, Health and Environmental Protection Management Procedures" to implement pre-entry preparations, hazard notification on the day of entry, construction application control, etc., to manage the safety and health of the contractor's operations during the construction period in the factory, and to ensure the rights and interests of the contractor and Nitron. The contractor shall comply with the provisions of the contract and the Occupational Safety and Health Act and related laws and regulations during the construction period.

The contractor shall conduct safety and health education and training for its employees as stipulated by laws and regulations, and its employees must be aware of and follow the safety and

| Non-employee workers | 2024 |
|---|---|
| **Working hours throughout the year** | 10,668 |
| **Occupational injury deaths** | 0 |
| **Number of serious occupational injuries** | 0 |
| **The number of lost working hours caused by occupational injuries** | 0 |
| **The number of cases where there is no loss of work but work activities are restricted or temporarily transferred from the current position** | 0 |
| **The number of injuries that do not damage work and work activities are not restricted** | 0 |
| **Number of false alarm incidents** | 0 |
| **The number of days of lost working hours** | 0 |
| **The number of days of lost working hours** | 0 |
| **Occupational injury mortality rate** | 0 |
| **Serious occupational injury rate** | 0 |
| **Occupational injury rates can be recorded（TRIR）** | 0 |
| **Occupational injury rate of injury or work restriction（DART）** | 0 |
| **Frequency of false alarm events（NMFR）** | 0 |
| **Occupational injury rate of injury or work restriction** | 0 |

health education materials, assessments, hazard notifications, and other relevant information provided by the company before entering the factory. The internal window responsible for contracting operations must submit project applications, construction applications, high-risk operation control, and construction protection plans before the construction of various projects, and require the contractor to hold a toolbox meeting on the day of construction to conduct pre-service education and operational hazard analysis.

## 6-5 Health promotion

**Occupational health services**

We attach great importance to employees' work autonomy, physical and mental health, and life balance, providing sports facilities and exercise encouragement programs to make exercise a daily health care for employees. We are committed to creating a safe, healthy and friendly working environment for our employees.

**Health checks that are better than regulations**

| Category | Execution Method | 2024 Results |
|---|---|---|
| **Annual health check-ups** | • Target: Employees who have been with the company for three months. (New employees have completed the physical examination before check-in, so there will be no duplicate arrangements.) )<br>• Frequency: Better than regulations, arrange employee health check-ups every year, and the factory management will implement hierarchical management according to the abnormal health examination results.<br>• Encourage employees to manage their own health, and plan various health promotion and health education promotion or activities to promote the physical and mental health of employees and work-life balance. | • In 2024, 330 people were actually inspected during the on-site health inspection, and the inspection rate of those who should be inspected according to laws and regulations was 100%.<br>• The 2024 health checkup plan provides pelvic/prostate and abdominal ultrasound examinations to expand the protection of employees' health, and also provides preferential self-funded screening items for employees to choose from.<br>• Abnormal management or follow-up after health check-up: 199 people in the first level: health promotion activities and lectures, 14 people in the second level and 4 people in the third level, and on-site services from doctors will be arranged for health assessment and guidance management. |
| **Health inspection for special hazardous operations** | • Target: All employees who perform special health hazards on the job, mainly those who are exposed to specified chemical substances by law.<br>• Carry out health inspections or related assessments for special hazard operations in accordance with laws and regulations, conduct hazard assessment and control, and health management grading measures to help improve the working environment to prevent the occurrence of hazards and maintain the health status of colleagues.<br>• It is expected that in 2025, special physical examinations for newcomers in chemical-related positions: Subsidies will be provided at the time of registration to complete the | • In 2024, the number of people who should undergo health inspections in the factory will be 69, with an inspection rate of 100%.<br>• Abnormal management or follow-up after health examination: 61 people in the first level and 48 people in the second level, and on-site services of occupational doctors will be arranged for health assessment guidance and management. |

| | assessment and inspection of special hazard health workers before performing their duties, and the completion of special physical examinations for newcomers will be implemented. | |
|---|---|---|

Note: Health examination classification instructions: The first level is a slight abnormality, and health promotion activities are arranged; The second and third levels are evaluated by occupational nurses and physicians for health education guidance.

**Four major plans for labor health protection**

| Category | Implementation results |
|---|---|
| **Human-induced hazards Prevention plan** | • Evaluate chemical, biological, physical, and human factors that pose health hazards in the workplace, or prevent repetitive tasks and other matters that promote musculoskeletal diseases.<br>• In 2024, in cooperation with the factory's health check-up and factory doctors, 41 people were suspected of being harmed, mainly due to personal living habits. |
| **Maternal health Conservation Plan** | • Assess workplace hazards and ensure a safe working environment, prenatal and postnatal health assessments by occupational doctors, and flexible and friendly breastfeeding spaces.<br>• Respect personal privacy, and pregnant colleagues will take the initiative or notify the factory nurses on behalf of each department to assess, care for and protect pregnancy and postpartum health.<br>• In 2024, on-site physicians will be arranged to assess the suitability of the working environment and content, and there is no need to adjust the work after physician interviews, serving a total of 9 people. |
| **Abnormal workload Disease prevention program** | • In 2024, in conjunction with in-house health inspections and questionnaire surveys, employees with high health risks or overload risks will be screened for interviews by factory nurses or on-site physicians, and the work content will be discussed and adjusted with department heads according to the situation and personal wishes.<br>• In 2024, factory maintenance interviewed 15 colleagues, some of whom have improved after follow-up. |
| **Suffering in the performance of duties Unlawful infringement prevention plan** | • A written statement declaring the elimination of workplace violence in the workplace, and the complaint channel continues to be announced through the employee network and elevator signs, and no related incidents have occurred until 2024. |

**Parental leave without pay**

We are committed to providing an equal and inclusive working environment for our colleagues, complying with relevant laws and regulations such as the Gender Equality Work Act, and providing a variety of friendly leave, including menstrual leave, maternity leave, maternity recuperation, maternity check-up, paternity leave, family care leave, and parental leave applications. To support the needs of employees to settle down and raise their families, the maternity allowance is provided with 1 yuan per child, and the maternity allowance is increased to 2 yuan for the third child or more, and a pregnancy notification mechanism is set up, and the factory nursing provides related resources such as pregnancy and postpartum care, and there is a nursing room in the factory area, and special contracts have been signed with nearby high-quality childcare institutions and other measures to support the childcare needs of colleagues.

In 2024, a total of 7 of the 35 colleagues who met the qualifications for parental leave applied, and 5 out of 8 colleagues who should be reinstated that year were actually reinstated, with a reinstatement rate of 62.50%.

| item | 2022 | | 2023 | | 2024 | |
|---|---|---|---|---|---|---|
| | woman | man | woman | man | woman | man |
| The number of people who are eligible to apply for childcare leave（A） | 16 | 12 | 20 | 9 | 17 | 18 |
| Number of applicants in the current year（B） | 6 | 1 | 10 | 0 | 6 | 1 |
| The number of people who are scheduled to return to work for the year（C） | 1 | 1 | 7 | 0 | 7 | 1 |
| The actual number of people who have been reinstated（D） | 1 | 1 | 5 | 0 | 5 | 0 |
| The number of people who are still employed 12 months after reinstatement（E） | 1 | 0 | 1 | 0 | 4 | 0 |
| Parental leave application rate（B／A） | 37.5% | 8.33% | 50.00% | 0% | 35.29% | 5.56% |
| Reinstatement rate after the retention period（D／C） | 100% | 100% | 71.43% | - | 71.43% | - |
| Retention rate for the anniversary of reinstatement（E／前一年D） | - | - | 100% | - | 80.00% | - |

Note: The number of employees who are eligible to apply for parental leave in 2024 is the total number of employees who have applied for maternity leave, paternity check-ups, and paternity leave in the three years from 2022~2024

**Other health promotion measures**

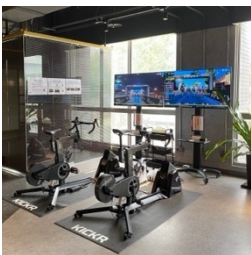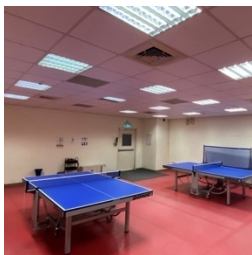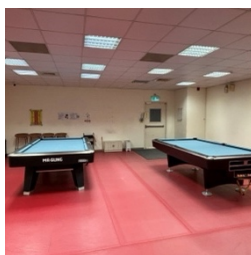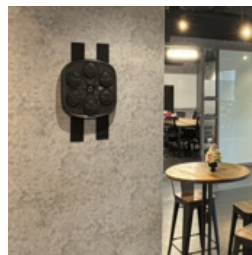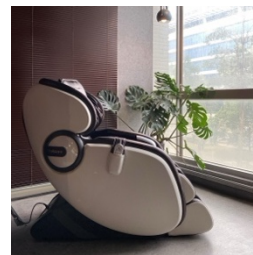| Category | Implementation results |
|---|---|
| **Health Seminar** | • In order to improve work efficiency and quality of life, Dr. Cai Yuzhe, the host of the "Wow Psychology" program, uses brain science empirical research and life applications. 42 participants. |

| | |
|---|---|
| | • "Core Anti-Aging, Beat Super Jogging" was guided by champion coach Xu Dongying to use gentle and effective home activities to increase motivation. 45 participants. |
| **Sports competitions** | • From June to July, "Cumulative Kilometer Flywheel/bicycle, 30 minutes of ultra-jogging every day" was held to encourage colleagues to set healthy exercise habits, and a total of 9 people were rewarded for completing the accumulated number. |
| **Stress relief massage** | • Visually impaired masseurs are hired, with 10 service sessions open every week during working hours, each time for 30 minutes, and colleagues can make unlimited appointments, serving a total of 440 people in 2024. |

**Promotes physical and mental well-being**

It is hoped that colleagues will develop healthier living habits, cultivate or continue their personal interests and hobbies, and encourage personal fitness and participation in the company's various leisure and sports clubs and annual group competitions[1]. The PlayNitride Club currently has 5 clubs: Badminton Club, Xifan Singing Club, Board Game Club, Buzzer Beater Basketball Club and Billiards Club, and the Employee Welfare Committee allocates subsidies to the club's activities every quarter.

| A cozy relaxation space |
|---|
| • Establish a "people-oriented" complete leisure space, set up a variety of welfare facilities, and provide colleagues with different levels of stress relief channels to mediate the body, mind, and soul. <br><br> • The area is equipped with flywheel bicycles, billiards, billiards, and boxing machines to encourage employees to exercise more, maintain good health, and indirectly promote communication among colleagues through sports. There are massage chairs to relax and relieve emotional stress. |

| Flywheel bicycle | Table tennis | Billiards | Boxing machine | Massage chair |
|---|---|---|---|---|
|  |  |  |  |  |

| Exercise and fitness encouragement program |
|---|
| • Emphasizing the leisure life of employees after work, encouraging employees to develop regular exercise habits, and providing each colleague with a "sports subsidy" of NT$6,000 every year, a total of 178 people applied in 2024. <br><br> • Sports that can be subsidized according to personal preferences: running, cycling, fitness, yoga, aerobics, dance, baseball, softball, basketball, billiards, volleyball, badminton, tennis, soccer, golf, swimming, ice skating, inline skating, taekwondo, karate, judo. |

# 7. Corporate citizenship

## 7-1　　MicroLED Knowledge promotion

### MicroLED Knowledge promotion

As one of the few companies that owns and integrates MicroLED display technology, Nitron has a strong R&D team for innovation and development in all technical aspects, and continues to provide products and solutions for diverse application fields through technological innovation. Promote exchanges of experts in different fields inside and outside the industry, communicate with students through campus lectures and corporate visits, and participate in the co-organization of professional learning courses such as international programs and optical generation experimental technology preparatory schools to cultivate future talents in the industry, with a cumulative impact of more than 500 people.

| Activity Type | Activity Name | Sessions | Affect the number of people |
|---|---|---|---|
| Host the forum | PlayNitride 2024 MicroLED Technology Forum | 1 | 200 |
| Industry-academia cooperation | Light Generation Experimental Technology Preparatory School | 1 | 80-100 |
| | Light Generation Experimental Technology Preparatory School | 3 | 180-210 |

### MicroLED forum

In 2023, Nitron held the "PlayNitride 2023 MicroLED Technology Forum" for the first time, with participants from different fields of the MicroLED value chain, including suppliers, customers, shareholders, investment corporations, public associations, and academia, with a total of nearly 60 units and about 200 experts participating, which received high praise and enthusiastic responses from the industry.



In 2024, which marks the 10th anniversary of Nitron's establishment, this forum once again brought together two leading panel companies in Taiwan, AUO and Innolux, as well as experts from the MicroLED industry and market analysts, to deliver 12 exciting keynote speeches focusing on MicroLED technology and share their latest insights on MicroLED technology. Heavyweight guests from the industry, including Chairman Peng Shuanglang of AUO, Chair Professor Cheng Zhanglin of National Yang Ming Chiao Tung University, Fu Shenggang, Section Chief of the Industrial Development Administration of the Ministry of Economic Affairs, Su Zhenping, Vice President of the International Semiconductor Industry Association Taiwan, and Lu Zhengqin, Deputy Secretary-General of the Taiwan

Electronics and Electrical Manufacturers Association, were invited to attend the meeting. The conference also showcased a variety of MicroLED display application products, including the world's first "9.38-inch adjustable transparency MicroLED panel" that can adjust transparency according to the scene, the AR technology "Single-chip full-color FHD high-resolution and high-brightness micro display" that will be mass-produced in 2024, and the "Seamless Splicing Multi-faceted MicroLED Cube Display" with excellent three-dimensional effects, fully reflecting Nitron's innovative breakthroughs in the field of MicroLED.

The forum attracted about 200 industry partners and followers to participate. Through the survey results, the overall satisfaction rate of the event reached 98.83%. It not only demonstrates the company's leading role in the professional field but also promotes communication with stakeholders, strengthens brand identity and knowledge sharing, and lays a good foundation for sustainable innovation.

### Industry-academia exchange





In 2024, he was invited to co-organize the "Light Generation Experimental Technology Preparatory School" again, teaching courses on the development of MicroLED display technology and the application and development of MicroLED technology in the laser field, and sharing the practical application of related technologies in the industry. This year's course content not only introduces basic experimental knowledge and technologies such as laser principles, ultrafast optics, optical components, optoelectronic instruments, electronic technology, instrument electronic control, data analysis, etc., but also adds the introduction of the most advanced technologies such as laser nuclear fusion, laser processing, laser frequency stabilization, high-end harmonics, and laser cooling, so as to prepare the participating students to devote themselves to advanced optical research and cultivate national optoelectronic talents, and the participants are 80-100 college students or researchers.

In order to strengthen the connection between industry, academia, and talents and help students understand the current needs and current situation of the industry, from 2020 to 2024, they have been invited to give lectures on campus or accept applications for visits from relevant departments of colleges and universities to more than 28 times.

## 7-1     Social Engagement

**PlayNitron Flea Market X Good Things Auction for Public welfare**

Adhering to the spirit of exchanging good things and enthusiastically participating in public welfare, PlayNitride organized a 3-day PlayNitride Flea Market X Good Things Auction for Public Welfare" event at the end of the year, decorating the conference room into a flea market, and employees and the company donated second-hand items to participate in the charity sale, promoting resource circulation and sharing, and allowing idle items to find new owners. Employees enthusiastically responded, and all items for the charity sale were sold out. The proceeds were donated in the personal names of the donating employees to the Miaoli Family Support Center in Zhunan Township, Miaoli County, with a total donation of NT$26,045.



**Public Welfare Sponsorship**

PlayNitride supports education and technology application, donating NT$100,000 to sponsor the "PIDA 2024 Siyuan STEM Creative Competition." The event featured a science competition centered on caring for the planet's ecology, titled "Blue Planet My Home," inviting high school and vocational students to form teams to participate. Nearly 50 student teams joined, demonstrating their creativity and appreciation for the Earth through hands-on practice, applying knowledge from physics, chemistry, and other subjects, thereby cultivating future fundamental technology talent. 。

### Beach Cleanup Activities

PlayNitride called upon employees to participate in the "2024 Paying Tribute to the Sea - Taoyuan, Hsinchu, Hsinchu, and Miaoli Quad-County Autumn Joint Beach Cleanup," jointly organized by Miaoli and Hsinchu counties. Employees and their families enthusiastically participated—adults and children alike—contributing their effort to clean up waste on the beach at Evergreen Forest in Zhunan Township. This hands-on experience deepened their understanding of the necessity of environmental maintenance and marine sustainability, inspiring those around them to also serve the ocean and protect the planet. A total of 49 employees and their families participated in this event.



### Blood Donation Events

PlayNitride collaborated with the Hsinchu Blood Center of the Blood Services Foundation and the Taipei Far Eastern Sogo Management Committee to jointly organize a half-day blood donation drive, inviting employees to respond to the call for donations and contribute to society. A total of 47 bags of blood were collected this time, demonstrating the employees' kindness and spirit of dedication.

**Diversity and Inclusion ActivitiesDiversity and Inclusion Activities**

In November, in cooperation with Mian Mian Studio, a total of 39 colleagues and their families were invited to enjoy the stage play at the Taipei Shuiyuan Theater. With gender equality and diversity and inclusion as its core, the troupe explores women's experiences and social phenomena through delicate plays, showing the deep meaning of fertility, creation, and life continuation, arousing the audience's attention to gender issues and bringing a shocking and profound theatrical experience.

# Appendix: GRI Standards Index

| Statement of Use | PlayNitride Display Co., Ltd. has reported the information quoted in the GRI content index from January 1 to December 31, 2023 with reference to the GRI Standards. |
|---|---|
| GRI 1 Used | GRI 1: Foundation 2021 |

## GRI 2：General Disclosures 2021

| Indicator | Disclosure Item | Corresponding Chapter of the Report | | Page | Description |
|---|---|---|---|---|---|
| **The organization and its reporting practices** | | | | | |
| 2-1 | Organizational details | 1-1 | Company Profile | 5 | |
| 2-2 | Entities included in the organization's sustainability reporting | About the Report | | 4 | |
| 2-3 | Reporting period, frequency and contact point | About the Report | | 4 | |
| 2-4 | Contact information | None | | - | |
| 2-5 | External assurance | Not externally assured | | - | |
| **Activities and workers** | | | | | |
| 2-6 | Activities, value chain and other business relationships | 1-3 | Value Chain | 10 | |
| 2-7 | Employees | 6-1 | Talent Attraction and Retention | 81 | |
| 2-8 | Workers who are not employees | 6-1 | Talent Attraction and Retention | 81 | |
| **Goverance** | | | | | |
| 2-9 | Governance structure and composition | 4-1 | Corporate Governance | 51 | |
| 2-10 | Nomination and selection of the highest governance body | 4-1 | Corporate Governance | 51 | |
| 2-11 | Chair of the highest governance body | 4-1 | Corporate Governance | 51 | |
| 2-12 | Role of the highest governance body in overseeing the management of impacts | 4-1 | Corporate Governance | 51 | |
| 2-13 | Delegation of responsibility for managing impacts | 2-1 2-5 | Sustainability Policy and Operations Management Approach to Material Sustainability Issues | 14 24-31 | |
| 2-14 | Role of the highest governance body in sustainability reporting | 4-1 | Corporate Governance | 51 | |
| 2-15 | Conflicts of Interest | 4-1 | Corporate Governance | 51 | |
| 2-16 | Communication of Key Material Incidents | 4-1 | Corporate Governance | 51 | |
| 2-17 | Collective knowledge of the highest governance body | 4-1 | Corporate Governance | 51 | |
| 2-18 | Evaluation of the performance of the highest governance body | 4-1 | Corporate Governance | 51 | |
| 2-19 | Remuneration policies | 4-1 | Corporate Governance | 51 | |

| Indicator | Disclosure Item | Corresponding Chapter of the Report | | Page | Description |
|---|---|---|---|---|---|
| 2-20 | Process to determine remuneration | 4-1 | Corporate Governance | 51 | |
| 2-21 | Annual total compensation ratio | Not disclosed for the time being due to salary confidentiality requirements | | | |
| **Strategy, policies and practices** | | | | | |
| 2-22 | Statement on sustainable development strategy | | Message from the Operator | 1 | |
| 2-23 | Policy commitments | 2-5 | Management Approach to Material Sustainability Issues | 24-31 | |
| 2-24 | Embedding policy commitments | 2-5 | Management Approach to Material Sustainability Issues | 24-31 | |
| 2-25 | Processes to remediate negative impacts | 2-5 | Management Approach to Material Sustainability Issues | 24-31 | |
| 2-26 | Mechanisms for seeking advice and raising concerns | 2-5 | Management Approach to Material Sustainability Issues | 24-31 | |
| 2-27 | Legal compliance | 4-2 | Ethical Corporate Management | 58 | |
| 2-28 | Membership associations | 1-4 | Participation in Public Associations | 11 | |
| **Stakeholder engagement** | | | | | |
| 2-29 | Approach to stakeholder engagement | 2-3 | Identification of key stakeholders | 18 | |
| 2-30 | Collective bargaining agreements | No collective bargaining agreements signed | | - | |

## GRI 3：Material Topics 2021

| Indicator | Disclosure Item | Corresponding Chapter of the Report | | Page | Description |
|---|---|---|---|---|---|
| 3-1 | Process to determine material topics | 2-3 | Identification of Material Sustainability Topics | 23 | |
| 3-2 | List of material topics | 2-4 | Corresponding Disclosure Indicators for Material Sustainability Issues | 23 | |
| 3-3 | Material topic management | 2-5 | Management Approach to Material Sustainability Issues | 24-31 | |
| **GRI 202：Market Presence 2016** | | | | | |
| 202-1 | Ratios of standard entry level wage by gender compared to local minimum wage | Male: 1.11，female: 1.11 The basic salary is NTD 27,470 under the 2024 Labor Standards Act. | | - | |
| 202-2 | Proportion of senior management hired from the local community | Taiwan：100% America：100% | | - | |
| **GRI 205：Anti-corruption 2016** | | | | | |
| 205-2 | Communication and training about anti-corruption policies and procedures | 4-2 | Ethical Corporate Management | 58 | |

| Indicator | Disclosure Item | | Corresponding Chapter of the Report | Page | Description |
|---|---|---|---|---|---|
| 205-3 | Confirmed Corruption Incidents and Actions Taken | 4-2 | Ethical Corporate Management | 58 | |
| **GRI 305：Emissions 2016** | | | | | |
| 305-1 | Direct (Scope 1) GHG emissions | 5-2 | GHG Emission Management | 71 | |
| 305-2 | Energy indirect (Scope 2) GHG emissions | 5-2 | GHG Emission Management | 71 | |
| 305-4 | GHG emissions intensity | 5-2 | GHG Emission Management | 71 | |
| 305-7 | Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emission | 5-6 | Emissions Management | 80 | |
| **GRI 401：Employment 2016** | | | | | |
| 401-1 | New employee hires and employee turnover | 6-1 | Talent Attraction and Retention | 81 | |
| 401-2 | Benefits provided to full-time employees that are not provided to temporary or part-time employees | 6-1 | Talent Attraction and Retention | 81 | |
| **GRI 402： Labor/Management Relations 2016** | | | | | |
| 402-1 | Minimum notice periods regarding operational changes | The Company's major operational change notice periods are handled in accordance with local laws. | | | |
| **GRI 403： Occupational Health and Safety 2018** | | | | | |
| 403-1 | Occupational Safety and Health Management System | 6-4 | Employee Health and Safety | 96 | |
| 403-2 | Hazard identification, risk assessment, and incident investigation | 6-4 | Employee Health and Safety | 96 | |
| 403-3 | Occupational Health Service | 6-4 | Employee Health and Safety | 96 | |
| 403-4 | Worker participation, consultation, and communication on occupational health and safety | 6-4 | Employee Health and Safety | 96 | |
| 403-5 | Worker training on occupational health and safety | 6-4 | Employee Health and Safety | 96 | |
| 403-6 | Promotion of worker health | 6-5 | Health Promotion | 103 | |
| 403-7 | Prevention and mitigation of occupational health and safety impacts directly linked by business relationships | 6-4 | Employee Health and Safety | 96 | |
| 403-8 | Workers covered by an occupational health and safety management system | 6-4 | Employee Health and Safety | 96 | |

| Indicator | Disclosure Item | Corresponding Chapter of the Report | | Page | Description |
|---|---|---|---|---|---|
| 403-9 | Occupational injury | 6-4 | Employee Health and Safety | 96 | |
| **GRI 406：Non-discrimination 2016** | | | | | |
| 406-1 | Incidents of discrimination and corrective actions taken | No related incidents occurred in 2024 | | - | |
| **GRI 416： Customer Health and Safety 2016** | | | | | |
| 416-2 | Incidents of non-compliance concerning the health and safety impacts of products and services | No related incidents occurred in 2024 | | - | |
| **GRI 417： Marketing and Labeling 2016** | | | | | |
| 417-1 | Requirements for product and service information and labeling | No related incidents occurred in 2023 | | - | |

## Voluntary GRI Topics and Indicators

| Indicator | Disclosure Item | Corresponding Chapter of the Report | | Page | Description |
|---|---|---|---|---|---|
| **GRI 201：Economic Performance 2016** | | | | | |
| 201-1 | Direct economic value generated and distributed | 4-3 | Operational Performance | 60 | |
| **GRI 302：Energy 2016** | | | | | |
| 302-1 | Energy consumption within the organization | 5-3 | Energy Management | 75 | |
| 302-3 | Energy intensity | 5-3 | Energy Management | 75 | |
| 302-4 | Reduction of energy consumption | 5-3 | Energy Management | 75 | |
| **GRI 303：Water and Effluents 2018** | | | | | |
| 303-3 | Water withdrawal | 5-4 | Water Resource Management | 77 | |
| **GRI 306：Waste 2020** | | | | | |
| 306-3 | Waste generated | 5-5 | Waste Management | 78 | |
| 306-4 | Waste diverted from disposal | 5-5 | Waste Management | 78 | |
| 306-5 | Waste directed to disposal | 5-5 | Waste Management | 78 | |
| **GRI 405：Diversity and Equal Opportunity 2016** | | | | | |
| 405-1 | Diversity of governance bodies and employees | 4-1 6-1 | Corporate Governance Talent Attraction and Retention | 51 81 | |
| 405-2 | Percentage of basic salary and remuneration of females to males | 6-1 | Talent Attraction and Retention | 81 | |

# Appendix: Certificate Information List

| Standard Name | Initial Certification | Certificate Validity Period |
|---|---|---|
| ISO 9001:2015  Quality Management System | 2019 | 2025/11/15 |
| ISO 14001:2015  Environmental Management System | 2020 | 2026/5/11 |
| ISO 45001:2018  Safety and Health Management System | 2020 | 2026/5/11 |

# Appendix: SASB Standards Index

| Sector | Technology and Communication |
|---|---|
| Industry | Semiconductors |

| Topic of Disclosure | Indicator Code | Accounting Metric | Disclosure Content | Corresponding Section |
|---|---|---|---|---|
| **GHG Emissions** | TC-SC-110a.1 | Disclose the following GHG emissions information:<br>(1) Gross global GHG emissions (Scope 1)<br>(2) Total emissions from perfluorinated compounds (PFCs) | （1）1,512.01 tonnes $CO_2e$<br><br>（2）740.82 tonnes $CO_2e$ | 5-2 GHG Emission Management |
| | TC-SC-110a.2 | Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets | Please refer to 5-2 GHG Emission Management | |
| **Energy Management in Manufacturing** | TC-SC-130a.1 | Disclosure of the following information on energy consumption:<br>(1) Total energy consumed (including fuel and electricity)<br>(2) Percentage grid electricity<br>(3) Percentage renewables | （1）25,963.58 GJ<br><br>（2）94.71%<br><br>（3）0% | 5-3 Energy Management |
| **Water Resource Management** | TC-SC-140a.1 | Disclosure of the following water withdrawal information:<br>(1) Total water withdrawn, and percentage withdrawn from regions with water stress (high or extremely high)<br>(2) Total water consumed, and percentage consumed from regions with water stress (high or extremely high) | PlayNitride's production facility is located in Zhunan Industrial Park. The region is not considered a high or high-risk area according to the WRI Aqueduct Water Risk Atlas.<br>（1）Total water withdrawal：27.01 thousand cubic meters<br>（$m^3$）‧0% in the water stress zone.。<br>（2）Total water consumption：Water consumption from evaporation, transpiration or consumption not related to manufacturing. | 5-4 Water Resource Management |
| **Waste Management** | TC-SC-150a.1 | Amount of hazardous waste from manufacturing, and percentage recycled. | （1）Weight of hazardous waste：109.13 tonnes<br><br>（2）Hazardous waste recycling ratio：1.98% | 5-5 Waste Management |

| Topic of Disclosure | Indicator Code | Accounting Metric | Disclosure Content | Corresponding Section |
|---|---|---|---|---|
| **Employee Health and Safety** | **TC-SC-320a.1** | Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards. | The ISO 45001:2018 Occupational Safety Management System is employed by PlayNitride for risk identification and assessment, the planning and execution of management proposals, regular and random safety inspections, as well as change management. Continuous improvement mechanisms are used to reduce the risk of employee exposure to harmful environments. | 6-4 Employee Health and Safety |
| | **TC-SC-320a.2** | Total amount of monetary losses as a result of legal proceedings associated with employee safety and health violations | There were no employee health and safety violations that led to PlayNitride being penalized by the competent authority in 2024. | |
| **Global Talent Attraction and Retention and Management** | **TC-SC-330a.1** | Percentage of employees that are (1) foreign nationals, and (2) located offshore. | （1）The number of foreign **employees** is 9, accounting for 1.81% of the total **number of employees** at the end of 2024. <br>（2）Ratio of expatriate **employees**: 0% (Current **employees** are mainly based at the Zhunan Science Park, Taipei Office, and Tainan Office as the main **operational headquarters**, with no overseas expatriate **employees**; the US office hires local talent).。 | 6-1 Talent Attraction and Retention |
| **Product Lifecycle Management** | **TC-SC-410a.1** | Percentage of products by revenue that contain IEC 62474-declarable substances | 0% | 3-4 Hazardous Substance Management |
| | **TC-SC-410a.2** | Energy efficiency at the overall system level of the processor: <br>(1) Servers, (2) Desktops, and (3) Laptops | Not applicable as we are a company that provides R&D, manufacturing, and sales of nitride semiconductor materials for related applications, it is not applicable to the products covered by this indicator. | |
| **Materials Sourcing** | **TC-SC-440a.1** | Description of the management of risks associated with the use of critical materials | Monthly evaluations and annual audits of suppliers are conducted by PlayNitride to obtain a full picture of current supplier status and reduce doubts about risky procurement. <br>Definition of key suppliers: All direct materials and outsourced processing suppliers are key suppliers. | 3-5 Supply Chain Management |

| TC-SC-520a.1 Intellectual property protection and competitive behavior | TC-SC-520a.1 | Total monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations | There were no incidents relating to violation of intellectual property protection and competitive behavior regulations at PlayNitride in 2024. | 3-3 Intellectual Property Management |
|---|---|---|---|---|

| Indicator Code | Activity Indicator | Disclosure Content | Corresponding Section |
|---|---|---|---|
| TC-SC-000.A | Total production | Pixel chip substrate COC：16,476 pcs | 1-2 Products and Services |
| TC-SC-000.B | Percentage of production from owned facilities | 100% | |

# Appendix: TWSE Sustainability Disclosure Indicators - Semiconductor Industry

| No. | Indicator | Indicator Type | Annual Disclosure Status | Unit |
|---|---|---|---|---|
| 1. | (1) Total energy consumption<br>(2) Percentage of purchased electricity<br>(3) Renewable energy utilization rate | Quantification | （1）32,861.86 GJ<br>（2）82.19%<br>（3）0% | Gigajoules (GJ), Percentage (%) |
| 2 | (1) Total water withdrawal<br>(2) Total water consumption | Quantification | （1）Total water withdrawal：16,074 thousand cubic meters（$m^3$）<br>（2）Total water consumption: Water consumption from evaporation, transpiration or consumption not related to manufacturing | Thousand cubic meters ($m^2$) |
| 3 | Hazardous waste generated<br>(1) Weight and (2) Recycling percentage | Quantification | （1）Weight of hazardous waste:：94.18 tonnes<br>（2）Hazardous waste recycling ratio：4.71% | Tonnes (t), Percentage (%) |
| 4 | Describe the type, number and rate of occupational accidents | Quantification | （1）In 2024, there was one case of disabling injury among employees of PlayNitride.<br>（2）Number of recordable incidents [Note]：0<br>（3）Total recordable incident rate (TRIR)[Note]：0 | Percentage (%), Quantity |
| 5 | Disclosure of product life cycle management: (1) Weight and (2) Recycling percentage of end-of-life products and electronic waste | Quantification | Not applicable as we are not a manufacturer of end products. | Tonnes (t), Percentage (%) |

| No. | Indicator | Indicator Type | Annual Disclosure Status | Unit |
|---|---|---|---|---|
| 6 | Description of risk management associated with the use of critical materials | Qualitative Description | Monthly evaluations and annual audits of suppliers are conducted by PlayNitride to obtain a full picture of current supplier status and reduce doubts about risky procurement. Definition of key suppliers: All direct materials and outsourced processing suppliers are key suppliers. | Not applicable |
| 7 | Total pecuniary losses caused by legal proceedings related to the anti-competitive practices ordinance | Quantification | There were no incidents relating to violation of intellectual property protection and competitive behavior regulations at PlayNitride in 2024. | Reporting currency |
| 8 | Production volume of major products by product category | Quantification | Pixel chip substrate COC：16,476pcs | Varies by product type |

Note: "Number of recordable incidents" refers to the number of injured persons (those with a loss of working hours of more than 8 hours), "Total recordable incident rate (TRIR)" = Number of recordable incidents x 200,000 ÷ Annual working hours

# Appendix: GHG Inventory and Assurance Status

We are a company with a "capital of less than NTD 5 billion". According to the regulations of the Sustainable Development Roadmap for Listed Companies, we have not yet reached the time frame for mandatory disclosure, and disclosure is voluntary.

The information on GHG emissions in this report is based on the inventory conducted in accordance with ISO 14064-1:2018. The boundary of the inventory includes Scope 1, Scope 2, and Scope 3 items (some items in Categories 1, 2, and Categories 3-6). The organizational boundaries and the scope of assurance are consistent with the scope disclosed in this report.

**GHG emissions (Scope 1 and Scope 2; Category 1 and Category 2)**

| Scope 1 (Category 1) | | | | |
|---|---|---|---|---|
| **Scope of Emissions** | **Total Emissions (tonnes CO$_2$e)** | **Intensity (tonnes CO$_2$e/NTD million)** | **Assurance Agency** | **Description of Assurance** |
| Taiwan | 1,512.01 | 0.8550 | Note 1 | The verification opinion is attached |
| Scope 2 (Category 2) | | | | |
| **Scope of Emissions** | **Total Emissions (tonnes CO$_2$e)** | **Intensity (tonnes CO$_2$e/NTD million)** | **Assurance Agency** | **Description of Assurance** |
| Taiwan | 3,302.47 | 1.8674 | Note 1 | The verification opinion is attached |

**GHG emissions (Scope 3; Categories 3 - 6)**

| Category 3 (Categories 3 - 6) | | | |
|---|---|---|---|
| **Scope of Emissions** | **Total Emissions (tonnes CO$_2$e)** | **Assurance Agency** | **Description of Assurance** |
| 3-1 Goods and services purchased (Category 4.1) | 97.87 | Note 1 | The verification opinion is attached |
| 3-2 Capital goods (Category 4.2) | - | | |
| 3-3 Fuel and energy related activities not in Scope 1 or 2 (Category 4.1) | 677.91 | Note 1 | The verification opinion is attached |
| 3-4 Upstream transportation and distribution (Category 3.1) | 12.61 | Note 1 | The verification opinion is attached |
| 3-5 Waste generated from operations (Category 4.3) | 97.56 | Note 1 | The verification opinion is attached |
| 3-6 Business trips (Category 3.5) | 9.74 | Note 1 | The verification opinion is attached |
| 3-7 Employee commuting (Category 3.3) | - | | |
| 3-8 Upstream leased production (Category 4.4) | - | | |
| 3-9 Downstream transportation and distribution (Category 3.2) | - | | |
| Total for Scope 3 | 895.69 | | The verification opinion is attached |

# Appendix: TCFD Recommended Disclosures

| TCFD Recommended Disclosures | Corresponding Chapter in the Report | Page |
|---|---|---|
| **Governance** | | |
| Describe the Board of Directors' oversight of climate-related risks and opportunities. | 5-1 Climate Strategy | 66 |
| Describe management's role in the reassessment and management of climate-related risks and opportunities. | 5-1 Climate Strategy | 66 |
| **Strategy** | | |
| Describe the climate-related risks and opportunities identified by the organization in the short, medium, and long term. | 5-1 Climate Strategy | 66 |
| Describe the impacts of climate-related risks and opportunities on the organization's business, strategy, and financial planning. | 5-1 Climate Strategy | 66 |
| Describe the organization's strategic resilience, considering different climate-related scenarios (including a 2°C or more severe scenario). | 5-1 Climate Strategy | 66 |
| **Risk Management** | | |
| Describe the organization's processes for the identification and assessment of climate-related risks. | 5-1 Climate Strategy | 66 |
| Describe the organization's processes for the management of climate-related risks. | 5-1 Climate Strategy | 66 |
| Describe how the processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management framework. | 5-1 Climate Strategy | 66 |
| **Indicators and Goals.** | | |
| Describe the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management processes. | 5-1 Climate Strategy | 66 |
| Disclose Scope 1, Scope 2, and Scope 3 (if applicable) greenhouse gas emissions and related risks. | 5-2 GHG Emission Management | 71 |
| Describe the targets used by the organization to manage climate-related risks and opportunities, and performance against those targets. | 5-1 Climate Strategy | 66 |

# Appendix: United Nations Sustainable Development Goals (SDGs)

| | SDGs | Corresponding Section |
|---|---|---|
| **Goal 3. Good Health and Well-being** | 3.4) By 2030, reduce non-communicable disease mortality through prevention and promote mental health.<br>3.7) By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information & education | **Friendly Workplace**<br>6-4 Employee Health and Safety<br>6-5 Health Promotion |
| **Goal 4. Quality Education** | 4.4) By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.<br>4.7) By 2030, ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development. | **Friendly Workplace**<br>6-2 Talent Development<br>7-2 Social Engagement |
| **Goal 5. Gender Equality** | 5.1) End all forms of discrimination against women.<br>5.5) Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. | **Friendly Workplace**<br>6-1 Talent Attraction and Retention<br>6-3 Human Rights Management |
| **Goal 8. Decent Work and Economic Growth** | 8.2) Achieve higher levels of productivity of economies through diversification, technological upgrading and innovation, including through a focus on high value added and labor-intensive sectors.<br>8.5) By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.<br>8.8) Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women, and those in precarious employment. | **Sustainable Product Innovation**<br>3-1 Product Advantages<br>3-2 Technical Advantages<br>**Friendly Workplace**<br>6-1 Talent Attraction and Retention<br>6-4 Employee Health and Safety |
| **Goal 12. Responsible consumption and production** | 12.5) By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse.<br>12.6) Adopt sustainable practices and integrate sustainability information into the Company's reporting. | **Sustainable Product Innovation**<br>3-2 Technical Advantages<br>**Environmental Sustainability**<br>5-4 Water Resource Management<br>5-5 Waste Management |
| **Goal 13. Climate Action** | 13.2) Integrate climate change measures into national policies, strategies and planning.<br>13.3) Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning. | **Corporate Governance**<br>5-1 Climate Strategy<br>**Environmental Sustainability**<br>5-2 GHG Emission Management |