



PLAYNITRIDE

2021年 永續會計準則報告書 2021 SASB Report

From the Chairman

PlayNitride was asked a question when our sustainability program was about to get under way: “Which industry does PlayNitride fall into?” That was a good question. PlayNitride is actually pioneering a brand new industry that falls somewhere between semiconductors, optoelectronics, and LED. We have similarities to all of them but are also different in some ways. From PlayNitride’s point of view, we are creating a new, next-generation display industry - the MicroLED industry.

MicroLED plays an important role in human-machine interactions at the application level of displays. It incorporates the technological advantages of big data and IoT but can also create a variety of terminal applications. We believe that our industry will soon enter the popular consciousness. Spurred by the international push on net zero carbon emissions, national governments and leading global enterprises are now focusing their efforts on responding to the risks of climate change and exploiting the resultant opportunities. Amidst this interplay of forces, MicroLED environmentally friendly attributes such as low carbon emissions and low power consumption make it an important technology for putting ESG concepts into practice.

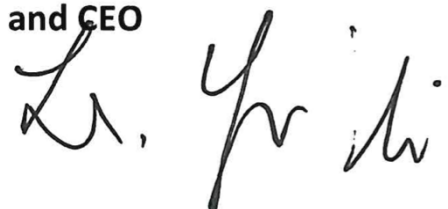
ESG has become the center of attention during PlayNitride’s operations and fund-raising efforts over the past year. The issue of balancing ESG development with product R&D and innovation was not just raised by directors at Board meetings. Potential institutional investors also provided ESG-related topics or questionnaires as part of the investment assessment and discussions, with PlayNitride expected to provide our current practices or explain our management approach. The sustainability program was therefore launched by PlayNitride in the first half of 2021. Sustainability awareness training was introduced for all company managers and members of the relevant departments. A Sustainability Committee was also set up in the second half of the year with the Chief Strategy Officer (CSO) serving as the Chief Sustainability Officer. This was followed by the formal convening of the Sustainability Committee and the formulation of short-term goals for 2022 ~ 2023 by all relevant departments.

PlayNitride is a new start-up whose management systems are still being refined. Though there are some areas of management that still require more work, a general outline for the sustainability of PlayNitride is now beginning to take shape through sustained communication and discussion. Not all goals will be properly defined in the short-term but the establishment of a complete framework and the implementation of proper metrics are all critical to the demonstration of sustainability by PlayNitride.

This Sustainability Accounting Standards Board Report (SASB Report) is the first step taken by PlayNitride towards the demonstration of sustainability. It will also serve as the cornerstone of continued investments in improvement and growth in the future. In conclusion, I offer this quote from the speech made by John Kennedy, the President of USA, on going to the moon because it perfectly captures PlayNitride’s attitude in pioneering the MicroLED industry and promoting sustainability-“*We choose to go to the Moon.....We choose to go to the Moon, not because they are easy, but because they are hard.*”-**We, PlayNitride, we are willing to take the challenge.**



Chairman and CEO



About this Report	4
1. Sustainability Topic Management	5
1-1 Sustainability Topic Management Process	5
1-2 Identification of key stakeholders	6
1-3 Key Stakeholder Engagement.....	8
1-4 Investigation of Material Sustainability Topics.....	9
1-5 Identification of Material Sustainability Topics	10
1-6 Material sustainability topics and corresponding sustainability disclosure standards	11
2. About PlayNitride.....	12
2-1 Company Profile	12
2-2 Products and Services	13
2-3 Product Advantages	14
2-4 Technical advantages	16
2-5 Value Chain.....	17
2-6 Organizational Structure	18
2-7 Operational Performance.....	19
2-8 Milestones.....	20
3. SASB Topics of Concern	21
3-1 GHG Emissions.....	21
3-2 Energy Management in Manufacturing	23
3-3 Water Resource Management	24
3-4 Waste Management.....	25
3-5 Employee Health and Safety	26
3-6 Global Talent Recruitment and Management.....	28
3-7 Product Lifecycle Management.....	29
3-8 Materials Sourcing.....	30
3-9 Intellectual property protection and competitive behavior.....	31
4. Other ESG Topics.....	32
4-1 Governance Topics	32
4-2 Environmental Topics.....	33
4-3 Social Topics	34
4-4 Supplementary disclosure on related topics	35
Appendix: SASB Standards Index	37

About this Report

PlayNitride Inc. (hereafter referred to as "PlayNitride") focuses on innovative R&D in the MicroLED domain to supply the most appropriate products for different applications. As part of our business expansion and in response to stakeholder expectations, sustainability planning was introduced by PlayNitride to review our operating environment and risks, and realize the vision and goals of PlayNitride through an operating strategy that incorporates sustainability. The 2021 SASB Report (hereafter referred to as "This Report") is the first sustainability disclosure report to be published by PlayNitride. Information related to this report are disclosed below:

<p>Scope of disclosure</p>	<p>This is the first time that this report has been published. The Sustainability Report will be published in its place in the next financial year in accordance with the Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies. A report will continue to be published annually on a voluntary basis before the criteria for mandatory disclosure is reached. The scope of this report is from January 1 through to December 31, 2021. Disclosure will cover the business activities of all PlayNitride business combinations (PlayNitride Inc. Taiwan Branch, PlayNitride Display Co., Ltd.) as well as its operating performance in the economic, social and environmental aspects. The main operation location is Zhunan Science Park in Zhunan Township, Miaoli County, and applies for the rest of the report. As PlayNitride's production lines only commenced operation in 2019, disclosure will focus on the data from 2021 due to the volatility of the operating environment and higher information collection variability over the past 3 years.</p>
<p>Applicable standards</p>	<p>The stakeholder identification procedure was carried out in accordance with the AA1000 Stakeholder Engagement Standards (AA1000 SES) developed by the UK-based organization AccountAbility. The relevant information was compiled in accordance with the AA1000 v3 standard for accountability principles. The management procedure for material sustainability topics followed the GRI Standards issued by the Global Reporting Initiative (GRI).</p> <p>PlayNitride took trends in sustainability disclosure into account during the evaluation of stakeholder expectations by incorporating Sustainability Accounting Standards Board (SASB) into the core topics of sustainability. The Semiconductors industry standard in the SASB Technology and Communications Sector was adopted as the basis for the compilation of this report. Supplementary disclosure was also provided for selected topics on topics of concern to stakeholders and related sustainability assessments.</p>
<p>Management approach</p>	<p>Financial performance disclosed in this report are based on CPA-certified financial reports. All monetary values are in New Taiwanese Dollars (NTD), and disclosure of financial data complies with the International Financial Reporting Standards (IFRS). 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.</p> <p>The data or information disclosed in this report were provided by the competent units to the report working groups for the compilation of this report. The completed report was then submitted to the heads of each department and the Chief Sustainability Officer for verification before being presented to the Chief Executive Officer for review. The report was published on the PlayNitride website once the internal review procedure was completed.</p>
<p>Contact information</p>	<p>If you have any questions regarding this report or any suggestions for PlayNitride, please do not hesitate to contact us through the following methods.</p> <p>Company address: No. 13, Kezhong Rd., Zhunan Township, Miaoli County, Taiwan (R.O.C) Company telephone: +886-3-758-6610 e-Mail: esg@playnitride.com Company website: https://www.playnitride.com/en/</p>

1. Sustainability Topic Management

1-1 Sustainability Topic Management Process

PlayNitride followed the GRI Standards by engaging in a 4-stage material sustainability topic management process (shown in table below) based on the four reporting principles of “Stakeholder inclusiveness”, “Sustainability Context”, “Materiality”, and “Completeness.”

The aim of the material sustainability topic management process was to assess the impact of material sustainability topics, understand the background environment of business activities and products, and through continuous assessment and discussion, designate material sustainability topics as key factors to consider in the business strategy and goals of PlayNitride. Impact on business was analyzed in accordance with the degree of stakeholder concern. The outcomes of the analysis were then used to formulate a management approach and short-term goals that served as the first step towards sustainability management at PlayNitride and the fulfilment of stakeholder expectations.

The scope of impact by each topic was examined by PlayNitride to confirm the boundary of management goals, devise a management approach for each topic, and serve as a reference for the determining the Boundary of future disclosures in sustainability information.

Summary of 2021 Sustainability Topic Management Outcomes

Stage 1
Identification of key stakeholders

Stakeholder assessment was carried out by 43 PlayNitride managers involved with ESG projects in accordance with the five dimensions of the AA1000 SES Standard. Four types of key stakeholders were subsequently identified after discussions between senior managers.

Stage 2
Collection and Identification of sustainability Topics

To establish stakeholder interest and expectations on sustainability initiatives at PlayNitride, global sustainability disclosure guidelines, industry benchmark enterprises, as well as domestic and overseas sustainability trend reports were used as a reference to compile a survey of 2 core management topics and 16 sustainability topics.

Stage 3
Degree of Concern Opinion Survey

Questionnaire surveys were distributed to key stakeholders through the competent departments in 2021. An understanding of each stakeholder’s degree of concern for each sustainability topic was obtained through the 92 responses recovered.

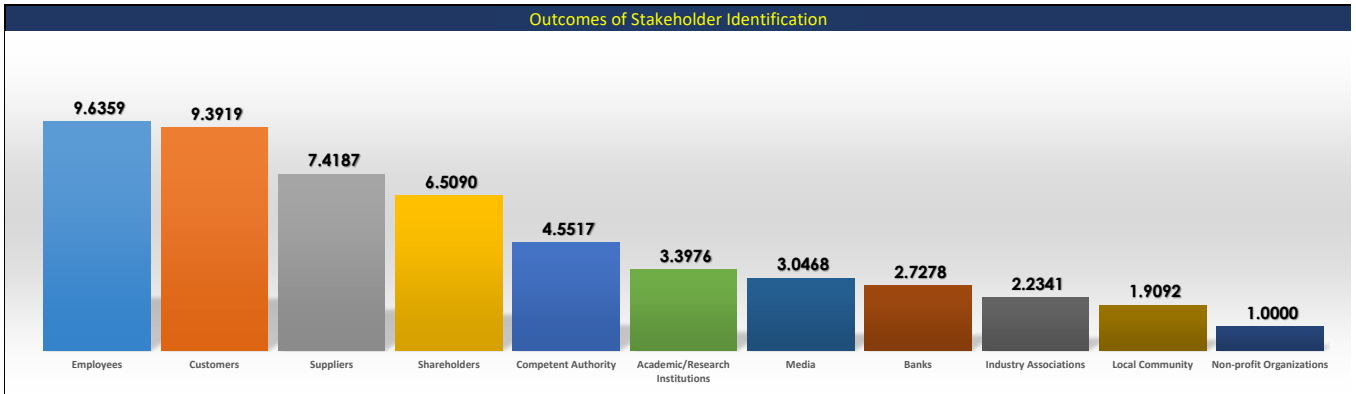
Stage 4
Impact Analysis and Determination of Material Sustainability Topics

The Sustainability Committee made up of senior managers was convened. Impact analysis with severity and likelihood as its two dimensions was conducted using the findings on degree of key stakeholder concern. The actual and potential impact of each topic on PlayNitride in the environmental, social and governance aspects were also taken into account. Communication and discussion of the results from the analysis were used to arrive at 14 material sustainability topics.

1-2 Identification of key stakeholders

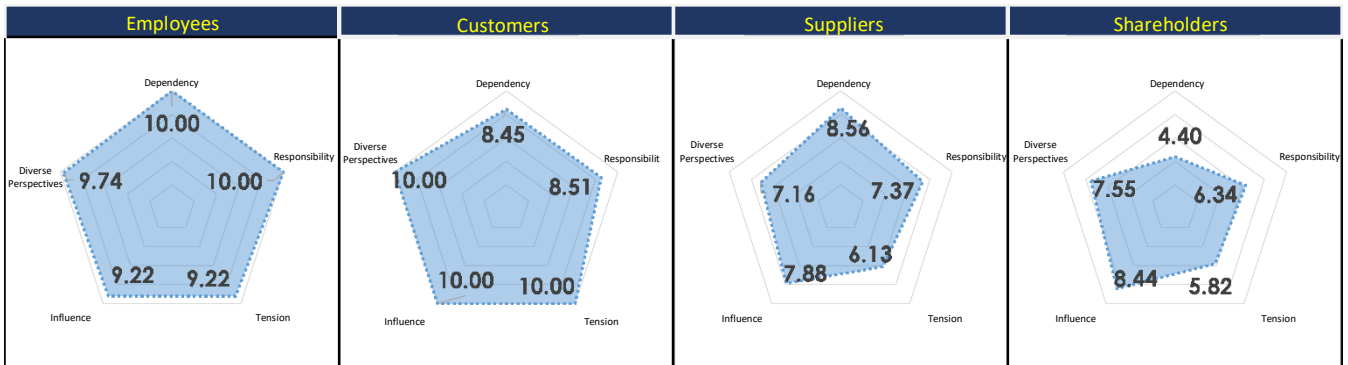
Stakeholder identification was carried out by 43 managers and staff members involved with ESG projects in accordance with AA1000 SES. The correlation between each type of stakeholder and PlayNitride was then examined against the 5 aspects of “responsibility, influence, tension, diverse perspectives, dependency.” The overall scores were examined and discussed to settle on Employees, Customers, Suppliers and Shareholders as the four key stakeholder types for 2021. The scores for each of the 5 aspects are shown in the figure below.

Outcomes of General Stakeholder Identification



Note: The longitudinal axis represented materiality based on the scores assigned by each manager and is a summary of the analytical outcomes from all 5 aspects.

Key Stakeholder Scores in the 5 Aspects



Importance of Each Stakeholder to PlayNitride

Key Stakeholder	Importance to PlayNitride
Customers	<p>PlayNitride is the pioneer of the MicroLED industry. We not only seek to replace existing products with more energy-efficient and eco-friendly products but are also actively developing new markets or innovative applications. We aim to dominate the market by supplying customers with products that offer the best performance and energy-efficiency.</p>
Employees	<p>A plentiful and stable supply of human capital is essential to sound business operations and the improvement of organizational competitiveness. Innovative and diverse compensation and benefits packages are therefore offered to meet the expectations of different employees. They also boost employee contributions to the team as a whole so that the business goals of PlayNitride can be realized.</p>
Shareholders	<p>Greater attention is now being placed on responsible investment and investor engagement with PlayNitride on the sustainability aspect is gradually increasing as well. A strong emphasis is placed on sustainability and transparency by PlayNitride in our current phase of development. Continue communication with shareholders and key investors on PlayNitride’s plans and accomplishments in the sustainability aspect is crucial to our continued growth in the future.</p>
Suppliers	<p>Supply chain management and carbon management topics are now key trends in the technology industry. PlayNitride must not do more to implement sustainability but also work to strengthen constitution of the supply chain in the MicroLED industry. We must realize a sustainable management model for the supply chain in the environmental and social aspects during the process of vertical cooperation.</p>

1-3 Key Stakeholder Engagement

Survey questionnaires on sustainability topics are not the sole channel for PlayNitride to learn about the issues of concern to stakeholders. Diverse channels of communication as well as a transparent methods are utilized during the PlayNitride business process to engage in constant communication and engagement with stakeholders on material topics. This is to ensure that all stakeholder areas of concern and expectations can be taken into consideration in our business strategy and goals, and that we respond to stakeholders through substantive operating results. A list of our communication channels with key stakeholders in 2021 is provided below.

Key Stakeholder Communication Channels and Frequency

Stakeholder	Communication channel	Communication frequency	Description
Employees	<ul style="list-style-type: none"> Occupational Health and Safety Committee Labor-Management Meeting Employee Welfare Committee Counseling/Employee Interview Employee Suggestion Box/Sexual and Workplace Harassment Complaints Box 	<ul style="list-style-type: none"> Quarterly Quarterly Quarterly Ad hoc On demand 	<ul style="list-style-type: none"> 4 meetings convened in 2021 4 meetings convened in 2021 4 meetings convened in 2021 7 employee interview cases were opened in 2021 and all cases are now closed. 5 suggestions were received in 2021 and all cases are now closed.
Customers	<ul style="list-style-type: none"> Customer visits, Conference-call e-mail Project meeting Customer satisfaction survey 	<ul style="list-style-type: none"> Ad hoc On demand Ad hoc Yearly 	<ul style="list-style-type: none"> Developed at least 1 new customer each quarter in 2021 Customer satisfaction survey score of 85.2 in 2020
Suppliers	<ul style="list-style-type: none"> New supplier assessment Supplier audit Environmental safety risk assessment 	<ul style="list-style-type: none"> Ad hoc Yearly Ad hoc 	<ul style="list-style-type: none"> Hazardous substance report required for validation and review of new and alternative materials Targeted audits for tier-1 raw material suppliers Safety and hygiene assessments conducted for contractors or service providers working on-site
Shareholders	<ul style="list-style-type: none"> Convening of General Shareholders' Meeting Convening of Board of Directors 	<ul style="list-style-type: none"> Yearly Quarterly 	<ul style="list-style-type: none"> An annual general shareholders' meeting is convened each year in accordance with the Company Act and the Articles of Incorporation. The Board of Directors is convened every quarter with additional sessions convened as necessary.

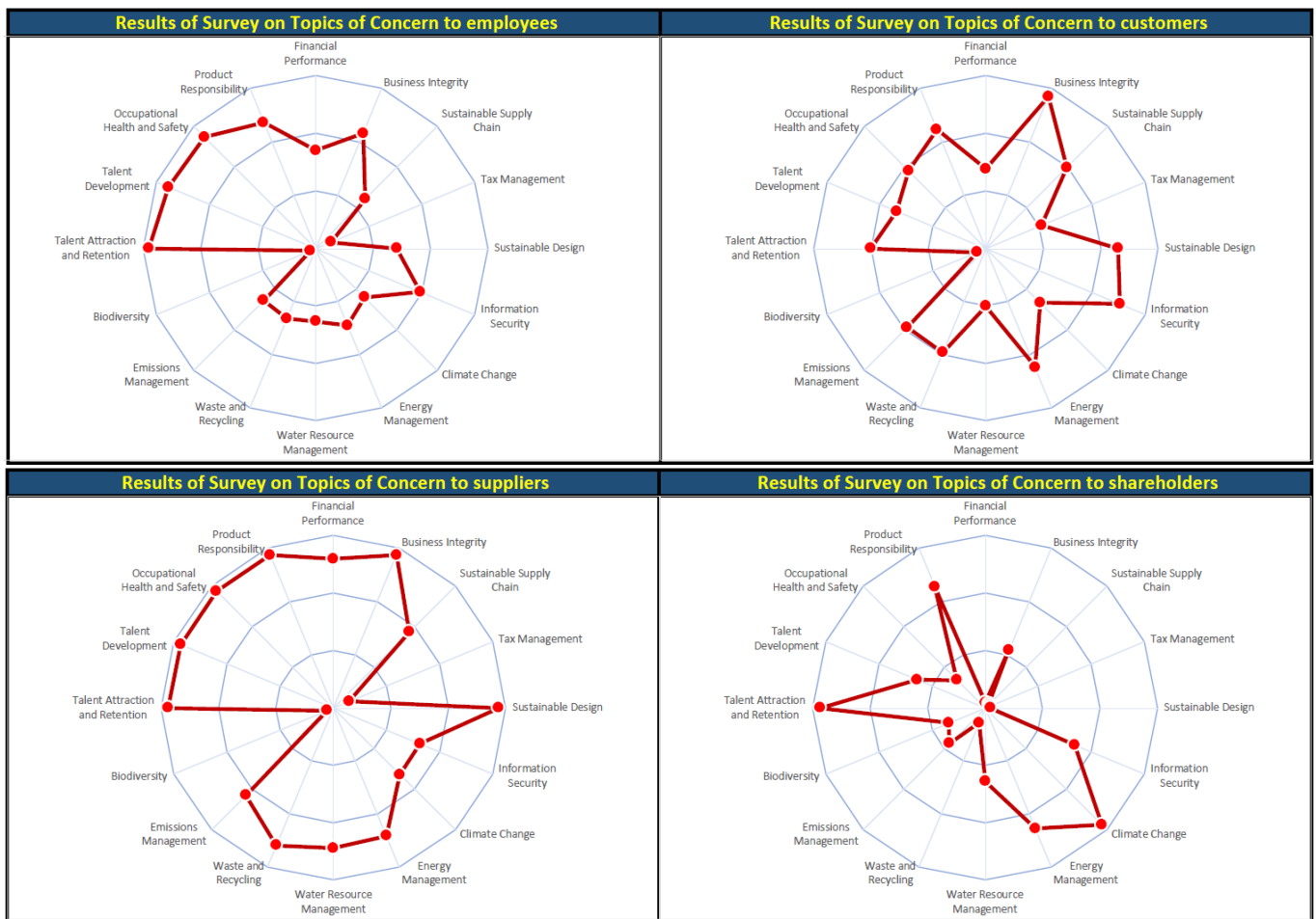
Topics of concern to key stakeholders involve the investment and allocation of funding, manpower and associated resources. The crowding-out effect of limited resources meant planning is required to realize their gradual implementation during the business process. During the process of stakeholder engagement, PlayNitride examined our correlation with each type of stakeholder as well. By thinking about the purpose and focus of our response, we can come up with strategic objects for short-term actions and long-term engagement.

1-4 Investigation of Material Sustainability Topics

Using global sustainability disclosure guidelines, industry benchmark enterprises, and domestic/overseas sustainability trend reports as a reference, PlayNitride listed corporate governance and human rights management as the 2 core sustainability topics for management. Other related topics were compiled into a questionnaire survey with 16 sustainability topics. A survey of key stakeholders was conducted in November 2021 to determine the level of stakeholder concern and their expectations of PlayNitride for each sustainability topic.

A total of 92 questionnaires responses were covered. Based on the feedback from the questionnaires, we identified the topics of concern to each key stakeholder and sorted them by the degree of concern as shown in the following figure.

Results of Survey on Topics of Concern to Stakeholders



1-5 Identification of Material Sustainability Topics

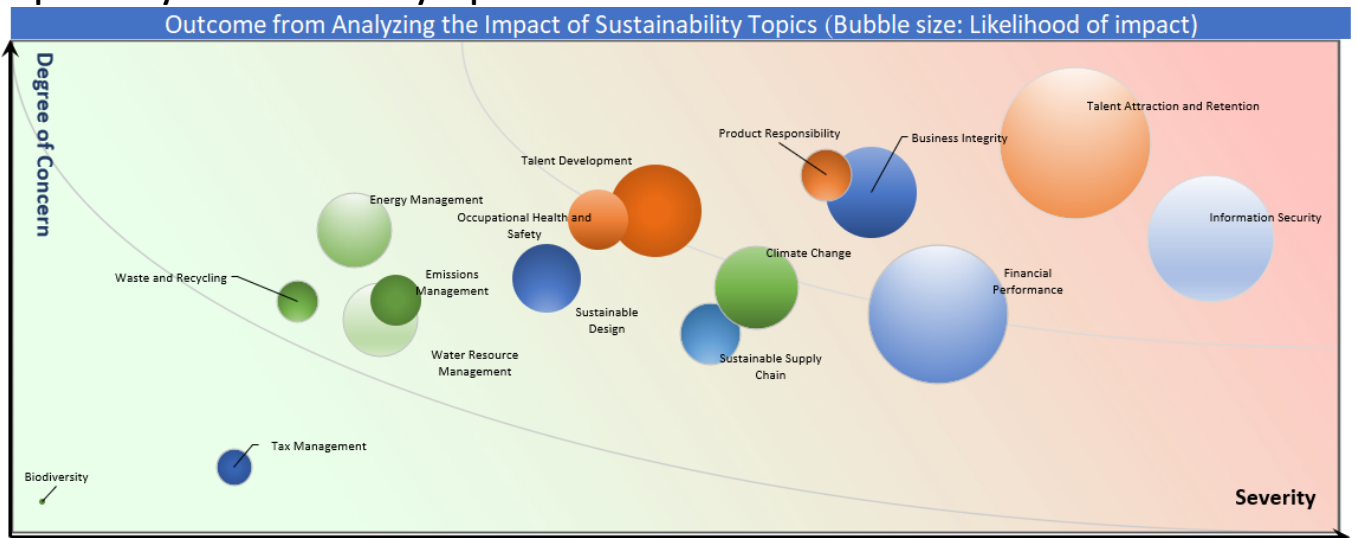
Once the survey on the degree of stakeholder concern for sustainability topics was completed, the potential impacts of each topic were assessed on their “severity” and “likelihood” by managers above the grade of director to determine whether there will be any stakeholder, environmental and social impact from PlayNitride in such sustainability topics. The results of the assessment as well as the degree of key stakeholder concern in each sustainability topic were then compiled into the Sustainability Topic Impact Graph (shown below).

Each sustainability topic underwent comprehensive discussion and assessment while taking government agencies, shareholders, external sustainability assessments as well as customer concern and requirements into account. Information security, talent attraction and retention, ethical management, product responsibility and financial performance were then designated as the 5 core sustainability topics. As PlayNitride is in the semiconductor industry, the relevant SASB requirements were applied to designate the 7 critical topics, these being climate change, product responsibility, sustainable supply chain, occupational health and safety, water resource management, energy management, as well as waste and recycling. These along with the 2 topics of corporate governance and human rights management mentioned before make up the 14 sustainability topics material to the promotion of sustainability management at PlayNitride.

Short-term goals were formulated by PlayNitride after the material sustainability topics were identified. The identified topics and formulated goals were then reported to the Board of Directors to obtain the Board’s opinions and recommendations on the promotion of sustainability management at PlayNitride. In 2022, PlayNitride will continue developing and formulating long-term management plans based on results of identified sustainability topics to reduce their potential impacts and provide a basis for future disclosure of sustainability information.

The sustainability management program at PlayNitride was only activated for the first time in the second half of 2021. The management approach, purpose and actual performance for each sustainability topic used for the authoring of the 2021 SASB Report were therefore based on 7 core topics specified by SASB. Plan for the preparation of the report for the actual management policy, promotion results and future plans for 2021.

Impact Analysis of Sustainability Topics



Note: Bubble size corresponds to degree of stakeholder concern

1-6 Material sustainability topics and corresponding sustainability disclosure standards

GRI Standards is the most important sustainability disclosure standard used internationally, followed by SASB which was developed more recently from an investor’s perspective. The nature of PlayNitride products and processes place us in the Semiconductors industry of the “Technology and Communications” sector.

The material sustainability topics that we identified were matched to the GRI Standards and SASB to provide a basis for future sustainability initiatives, respond to the concerns of stakeholders and institutional investors, and adhere to the Financial Supervisory Commission policy on corporate governance. The table below shows the correlation for each material sustainability topic.

Correlation between Material Sustainability Topics and the GRI/SASB Standards

Topic Category	Corresponding GRI Standards Topic or SASB Indicator
Corporate Governance	GRI 102 Governance 2016
Human Rights Management	GRI 406 Non-discrimination 2016 GRI 412 Human Rights Assessment 2016
Financial Performance	GRI 201 Economic Performance 2016
Business Integrity	GRI 205 Anti-corruption 2016 GRI 307 Environmental Compliance 2016 GRI 419 Socioeconomic Compliance 2016 TC-SC-520a.1 Intellectual property protection and competitive behavior
Sustainable Supply Chain	GRI 204 Procurement Practices 2016 GRI 308 Supplier Environmental Assessment 2016 GRI 414 Supplier Social Assessment 2016 TC-SC-440a.1 Materials sourcing
Climate Change	GRI 305 Emissions 2016 TC-SC-110a.1, TC-SC-110a.2 GHG emissions
Talent Attraction and Retention	GRI 401 Employment 2016 GRI 405 Diversity and Equal Opportunity 2016 TC-SC-330a.1 Recruiting & managing a global & skilled workforce
Talent Development	GRI 404 Training and Education 2016
Occupational Health and Safety	GRI 403 Occupational Health and Safety 2018 TC-SC-320a.1, TC-SC-320a.2 Employee health and safety
Energy Management	GRI 302 Energy 2016 TC-SC-130a.1 Environment: Energy management in manufacturing
Water Resource Management	GRI 303 Water 2018 TC-SC-140a.1 Water management
Waste and Recycling	GRI 306 Waste 2020
Product Responsibility	GRI 416 Customer Health and Safety 2016 TC-SC-410a.1 Product lifecycle management
Information Security	Self-defined Topic

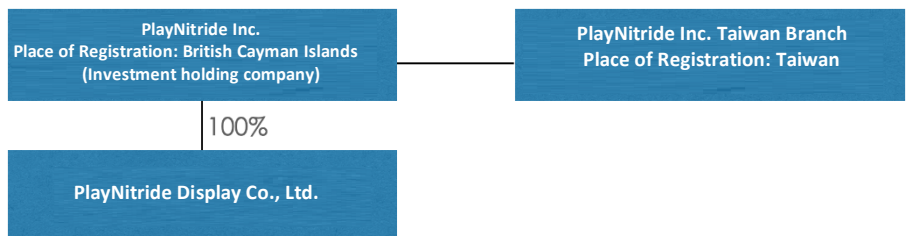
2. About PlayNitride

2-1 Company Profile

PlayNitride Inc. was established in February 2014 and an investment holding company was set up in the Cayman Islands. “PlayNitride Inc. Taiwan Branch” was set up in June of the same year, and the subsidiary “PlayNitride Display Co., Ltd.” was established in February 2016. PlayNitride applied for public listing in Taiwan in February 2022 (at the time of this report, PlayNitride’s application had been approved by the TWSE, making it the first company to be listed on the Taiwan Innovation Board.)

PlayNitride’s primary business is the research, development, manufacturing and sale of applications related to nitride semiconductor materials. We focus on the research and development of MicroLEDs for next-generation display technology including epitaxy, die fabrication, mass transfer, inspection, testing and maintenance. MicroLED technology is still in its infancy so there are fewer players in the market. PlayNitride set up our first MicroLED production line in July, 2019, and is the only supplier shipping in commercial quantities. Our products are mainly shipped to foreign end-user display brands and major panel makers. Related applications cover large and all kinds of automotive, bezel-free, ultra-high brightness wearable, and ultra-thin flexible displays.

Company Name	PlayNitride Inc.
TWSE	6854
Chairman	Dr. Yun-Li Li
Established	2014
Publicly listed	2022 (Taiwan Innovation Board)
Business Headquarters	No. 13 Kezhong Rd., Hsinchu Science Park, Zhunan Township, Miaoli County (Zhunan Campus of Hsinchu Science Park)
Operating Locations	Taiwan
Service	The research, development, manufacturing and sale of applications related to nitride semiconductor materials
Product Lines	Chip on Carrier (COC) and MicroLED samples
Registered Capital	NTD 1.08 billion (at the end of 2021)
Employees	364 (at the end of 2021)
Revenue	NTD 205 million (FY2021)



Group Structure

2-2 Products and Services

Product Introduction

Existing products and services		Development plans for new products and services
COC (Chip on Carrier)	6" Red MicroLED COC	Continue to miniaturize chip dimensions while maintaining their luminous efficiency.
	6" Green MicroLED COC	
	6" Blue MicroLED COC	
Technical services	PixeLED® Display MicroLED display	A reference product with 9.38" transparent display and 65% transparency for automotive applications. It is being offered to auto makers to assess its application in front windshields, instrument panels, and side windows.
	PixeLED Matrix™ MicroLED display (Unit module)	Offered in reference 19" light box modules that customers can stitch together to form large outdoor signage.
	μ-PixeLED™ MicroLED display	0.49" FHD full-color reference panels will be promoted to leading AR vendors to facilitate rapid assessment and discussion of custom products.

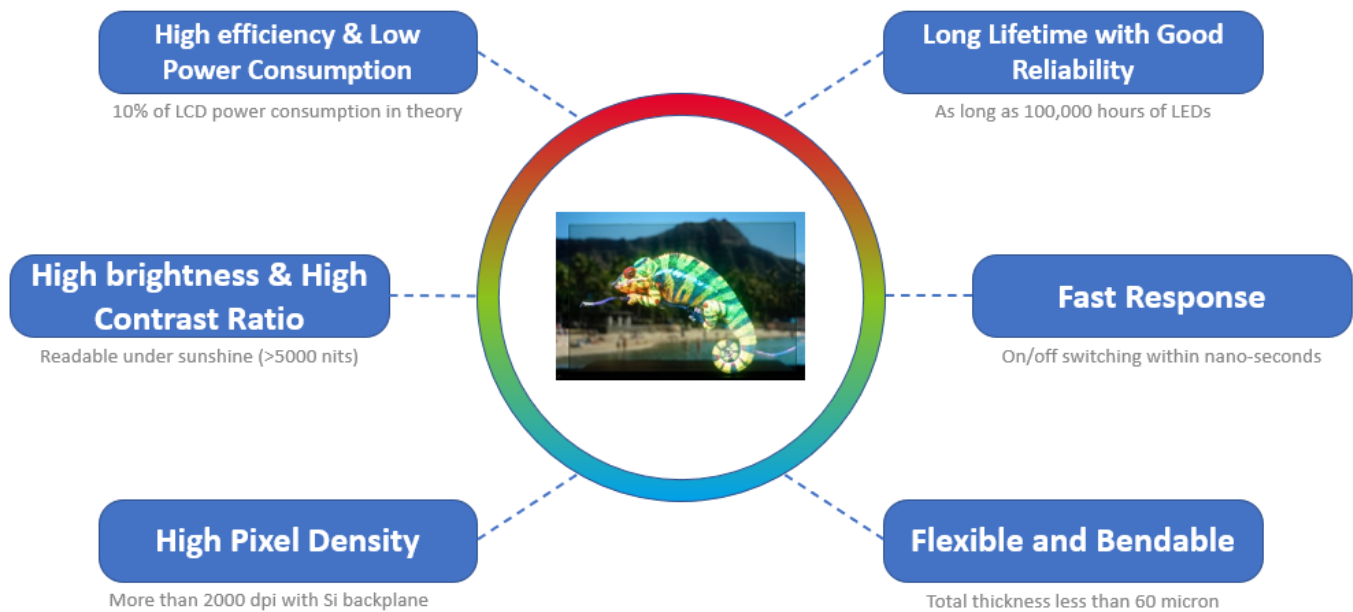
Note: The development plans for new products and services will develop reference products for sale targeted at key applications.

SASB Business Activity Metrics

Indicator	Indicator Code	2021 Business Activity and Performance	
Total production	TC-SC-000.A	COC (6")	6,965 pcs
		Technical services	13,108 set
		Other	3,246 pcs
Percentage of production from owned facilities	TC-SC-000.B		100%

Note: Early PlayNitride products focused on R&D and production. 4" was the standard product type during initial production. Once our owned factory entered mass production in 2020, 6" became the standard product type.

2-3 Product Advantages



Advantages offered by the non-organic materials used in MicroLED include better resistance to humidity, corrosion, and screen burn-in. MicroLED contrast is also superior to OLED. As the light-emitting element of MicroLED has been reduced to the nano-scale, its screen resolution is unrivalled by any other display technology. It is generally considered the ultimate next-generation display technology in the industry as its associated technologies and specifications are all superior to other conventional display technologies.

PlayNitride can now offer complete MicroLED solutions including customized development and design on RGB wavelength, chip footprint, and structural strength without compromising on function, quality, and safety. The PlayNitride team has built up a strong reputation in the industry and we are one of the few vendors capable of shipping in commercial quantities at present.

The rise of emerging fields such as 5G communications, big data, and IoT are all expected to bring new applications and business opportunities for the display market. These include demand from decision-making carriers derived from AIoT systems, demand for energy-efficiency and low carbon emissions derived from developments in environmental sustainability, as well as demand from interactive technologies derived from ubiquitous smart living.

MicroLED Removes Constraints on Production of Large Displays

The demand for home displays (TV) over 75" in size is growing every year and ultra-large displays have become mainstream. For Gen 10.5 fabs, 75" LCD remain the maximum size for economic cuts of TFT glass substrate. 125" is the maximum size of LCD that can be produced at the moment. LCD bezels also prevent seamless stitching of displays, placing constraints on product size. OLED is currently only produced in Gen 8.5 fabs, making a breakthrough in dimensions even more difficult to achieve. MicroLED displays however are free from size constraints imposed by production.

MicroLED Display Technologies Provides Virtual-Real Fusion Interactive Platform for Electric Vehicle and Smart Transportation Displays

Rapid advances in information and communications technology are now spurring countries to actively invest in smart transportation solutions such as autonomous and electric vehicles. Taiwan is now pushing for the transportation industry to install satellite positioning and other ADAS for passenger and

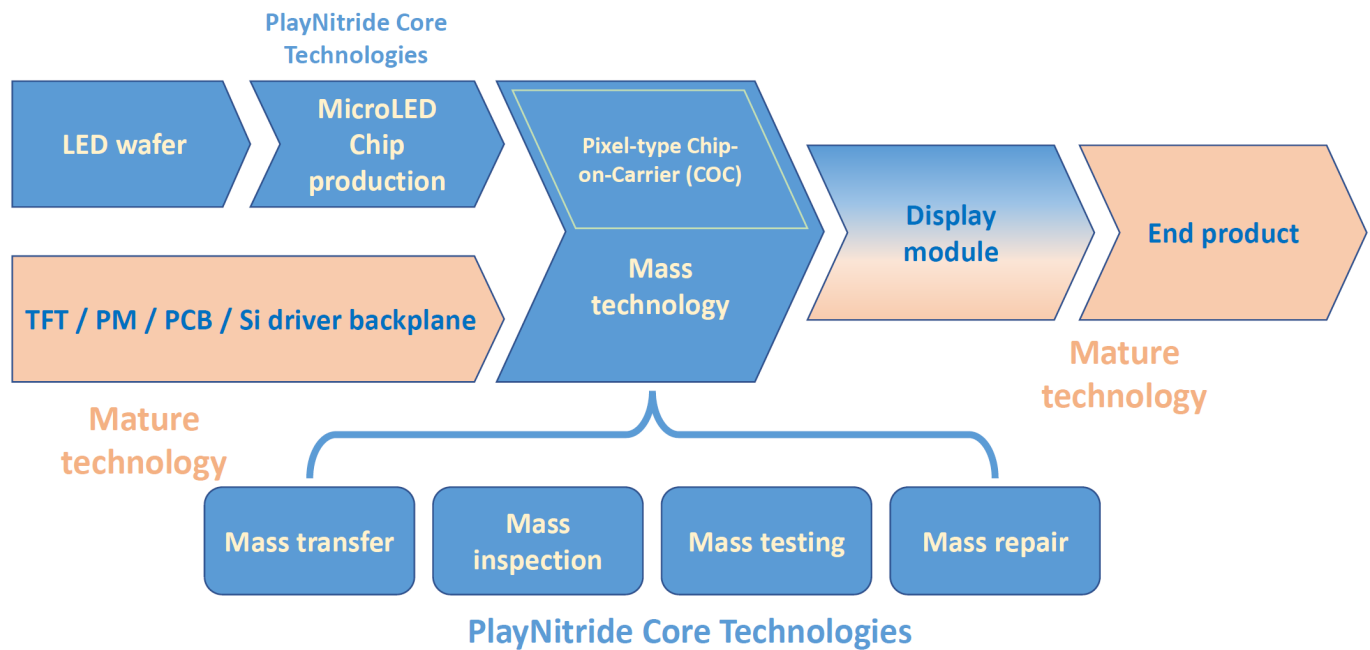
cargo vehicles. These include lane departure warning, electronic rearview mirror, blind-spot monitoring, and warning system for difference in turning radius of inner wheels. Electric vehicle and smart transportation require display technologies and associated applications to improve the level of integration for transportation information. Multi-display cockpit systems for example can be developed as virtual-real fusion interactive platforms with transparent displays for car windows. Ultra-bright transparent MicroLED displays can be integrated with biometric sensing, and a highly responsive real-time real-virtual fusion interactive model to provide people in or outside of the vehicle with the real-time information they need and improve traffic safety.

MicroLED Set to Become Key Display Component for Metaverse

The development of AR/VR devices have attracted widespread attention ever since a top foreign social media company announced its future roadmap for the metaverse. Sight accounts for around 80% of human sensory input, so the display plays a critical role in delivering an immersive experience for virtual worlds. During the age of film, the accepted wisdom in movie circles was that visual memory meant the human brain took at least 1/24 second to process each frame of image. A refresh rate of 24 fps was therefore set for film and TV formats at the time because a higher refresh rate was thought to be a waste of film. With today's VR headsets, the visual acuity of the human eye may vary for different age groups but the industry believes that a display with at least 8 ~ 16K resolution and a refresh rate of more than 120 fps is needed to provide a realistic level of immersion. Failure to meet this requirement may lead to 3D sickness similar to car/sea-sickness due to deviations in brain-eye coordination. Technology is constantly evolving so there have been continued updates to film formats as well. MicroLED's advantages of high-efficiency, low-power consumption and compact size means there is no need to compromise on resolution, brightness and power consumption. Other components can also be integrated (e.g. sensors) to minimize the overall footprint of the VR headset and make wearable devices lighter. It is therefore the most optimal solution for VR headsets at the current stage. In AR glasses for example the MicroLED display can be integrated with the optical system to create a lighter, see-through wearable display. Its ultra-high brightness can help counter strong ambient light so a clear, high-contrast virtual image can be generated by the optical lenses. LCD and OLED may offer adequate resolution but fall short on brightness. Most AR glass applications must therefore be used indoors at present to provide an adequate level of contrast. Based on the above, the many advantages of MicroLED means it's now widely considered to be the key display technology needed by the human-machine interface of the next-generation metaverse.

2-4 Technical advantages

MicroLED is a next-generation display technology and the focus of R&D efforts at PlayNitride. Scope of R&D covers the full gamut of the entire supply chain including epitaxy development, MicroLED IC design, mass transfer, inspection and testing, and module design. The company is therefore developing a brand new field of display technologies. As neither existing LED nor display companies have the capability to develop MicroLED technology on their own, it demonstrated the flexibility of PlayNitride in R&D and production process design.



Successful Development of Technologies or Products in the Past Five Years

Year	Item	Description
2017	0.9吋 Full-color Passive MicroLED Display	Shown for the first time at SEMICON Taiwan.
2018	5" Passive Transparent MicroLED Display	The world's first passive matrix transparent MicroLED display was showcased at SID Week in Los Angeles where it won the "I-zone Best Prototype Honoree."
2019	7.56" Transparent 3-sided Micro-edge Bezel MicroLED Display	Partnered with Tianma to reveal the world's first active 7.56" MicroLED display at SID Week in San Jose, winning the "People's Choice Award - Best Small Booth" and "Best Display Technology."
2020	9.4" Flexible Active MicroLED Display	The 9.4" flexible active MicroLED display was revealed in partnership with AU Optronics 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.
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.

2-5 Value Chain

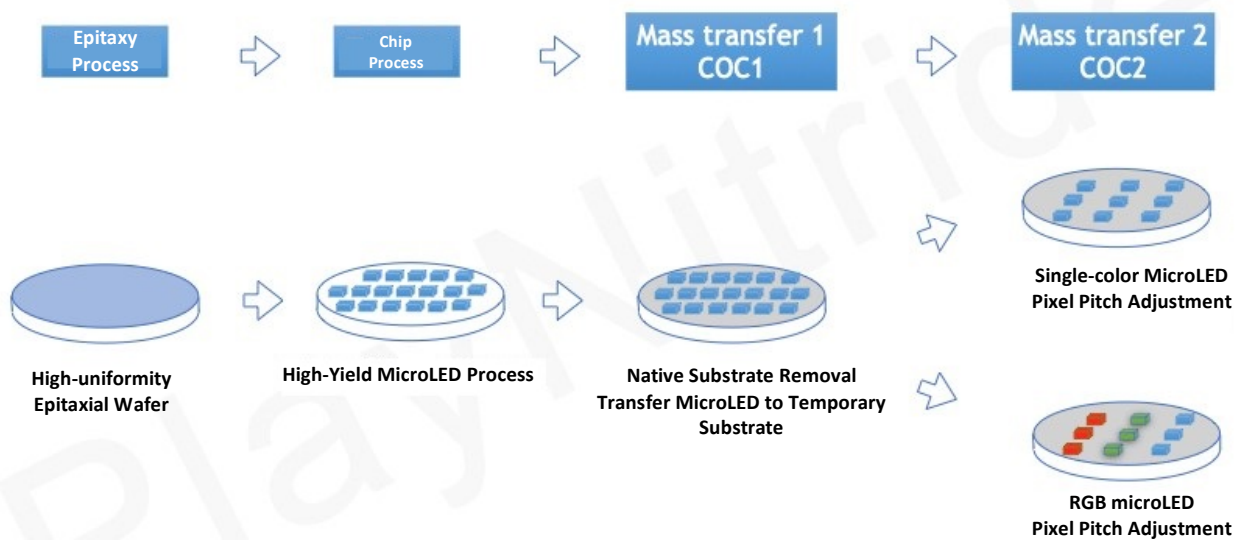
PlayNitride built our own upstream and downstream supply chain to develop an end-user market for MicroLED products. Cooperation between vendors replaced competition to create a tight-knit MicroLED supply chain. We also drew on our years of R&D experience and customer cooperation to develop highly customized products. We are also continuing to develop products with mass production potential in response to future market requirements in order to maintain our leadership in the field.

Industry Chain Connections

The MicroLED industry focuses mainly on the research, development, manufacture and sale of applications related to nitride semiconductor materials. We also develop and design prototypes based on customer specifications. The prototypes are passed to the customer for trial production. Products that pass testing can then be mass produced and sold. Correlation between the upstream, mid-stream and down-stream parts of the MicroLED industry. :

Upstream	Midstream	Downstream
<ul style="list-style-type: none"> • Material Supplier: Glass, sapphire substrate, targets, and semiconductor-related chemicals. • Touch Control IC Supplier: Driver IC, timing controller, system IC, etc. 	<ul style="list-style-type: none"> • Midstream Supplier: Chip and display module vendors; mass transfer, inspection, testing and repair. • Thin-film Transistor Liquid Crystal Display Device (TFT-LCD) vendor; epitaxial wafer and MicroLED. 	<ul style="list-style-type: none"> • Display Vendors with Different Requirements: 3C display products, and vehicles. AR glasses and public information displays

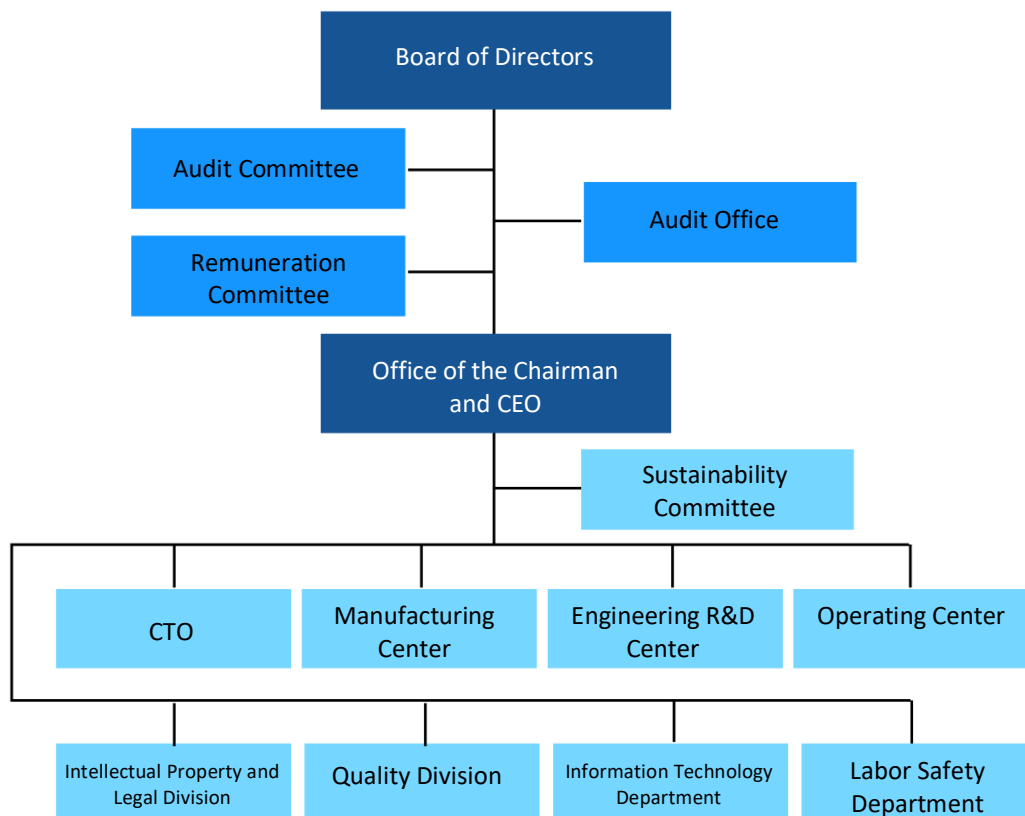
MicroLED Process



2-6 Organizational Structure

The PlayNitride Chairman and Chief Executive Officer (CEO) oversees the Office of the Chief Technology Officer (CTO), 3 centers, 2 divisions, and 2 departments. The establishment of a “Sustainability Committee” under the Office of the Chairman to implement sustainable development in line with international trends was also proposed and approved at a meeting of the Board of Directors in September 2021. The position of Chief Sustainability Officer was created and is held concurrently by the Chief Strategy Officer.

The Sustainability Committee is convened quarterly and the first meeting was held in December 2021. The meeting finalized the operating mechanism of the Sustainability Committee and carried out an impact analysis of sustainability topics for PlayNitride in 2021. The general direction for each unit’s ESG goals in the coming year was discussed with substantive short-term goals (2022 ~ 2023) to be submitted at the first meeting of the Sustainability Committee in 2022.



2-7 Operational Performance

The industry currently has two mainstream display technologies. LCD is primarily pitched at mature and low-cost markets while OLED is targeted at smart phone, wearables, and high-end TV markets. MicroLED is an emerging technology that is still in the early stages of development. Current technological developments and market trends suggest that neither LCD nor OLED will be able to satisfy emerging market specifications for display components such as ultra-large TV, transparent automotive displays, and AR glasses however. PlayNitride has made this our key domain while MicroLED is still in its infancy.

The chosen product and application market for MicroLED is a growing one. PlayNitride is still in the early stages of technology development so considerable investments in capital and R&D are currently underway. R&D spending in 2021 amounted to NTD 748 million.

2021 revenues amounted to NTD 205 million. We are not yet in the black but a number of key products have been successfully developed so far. PlayNitride is continuing to invest in technology R&D to improve yields and reduce production costs. Demand from various end-user display application markets will continue to grow in the future. MicroLED will not only satisfy product specifications on the application side but also play a key role in product energy-efficiency. Climate change will therefore provide PlayNitride with growth opportunities.

Item	Unit: Thousands NTD 2021
Operating Income	204,981
Operating Costs	389,047
Operating Profit	(184,066)
Selling Expense	33,699
Management Expense	248,442
R&D Expense	747,997
Operating Expense	1,030,138
Net Operating Loss	(1,214,204)
Non-operating Income (Expense)	(3,905)
Net Profit for Current Period	(1,218,109)
Other Comprehensive Income or Loss after Tax	(18,830)
Comprehensive Income or Loss	(1,236,939)
Earnings per Share	(14.14)

2-8 Milestones

Company Milestones

Year	Chronology
2014	PlayNitride Inc. founded.
2019	First MicroLED production line opened. Best New Technology and Best Small Booth awards at SID Show in the U.S.
2020	CEO Yun-li Li presented with special contribution award by the Society for Information Display in the U.S. in recognition of Dr. Li and his team at PlayNitride's accomplishments in MicroLED technology development and commercialization.
2020	Won Taiwan's Gold Panel Award Innovative Product Award at Taiwan Digital Signage Awards Hsinchu Science Park 40th Anniversary Product Innovation Award
2021	CEO Yun-li Li appointed the Chairman of MicroLED SIG (Special of Interest Groups) for connecting the upstream, midstream and downstream parts of the MicroLED supply chain Hsinchu Science Park 41th Anniversary Product Innovation Award

Product Development Milestones

Year	Chronology
2018	Automotive MicroLED display application showcased at SEMICON Taiwan
2021	All-new 89" 5K ultra-wide curved MicroLED display showcased at Touch Taiwan Demonstrated AR application using 0.39" 1411 ppi full-color Micro-Display at Touch Taiwan

3. SASB Topics of Concern

3-1 GHG Emissions

Disclosure topic: GHG Emissions	
Accounting Metric	2021 Disclosures
<p>Indicator Code: TC-SC-110a.1 Disclose the following GHG emissions information: (1) Gross global GHG emissions (Scope 1) (2) Total emissions from perfluorinated compounds (PFCs)</p>	<p>(1) Gross GHG emissions (Scope 1): 906.78 tonnes CO₂e (2) Perfluorinated compounds (PFCs) emissions: 282.03 tonnes CO₂e</p>
<p>Indicator Code: 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</p>	<p>(1) The main source of GHG emissions at PlayNitride is Scope 2 emissions from electricity usage and accounted for 79.62% of all emissions in 2021, followed by Scope 1 emissions for combustion of natural gas and special gases given off by production processes at 20.38%. (2) Scope 1 equipment that run on fuel were assessed to reduce their fuel consumption through process improvements or optimization of production parameters. Electrification of related equipment was also studied to plan for future improvements. (3) PlayNitride is currently in the midst of expanding our business in response to growing demand. We will therefore set 2022 or 2023 as the baseline year for annual intensity reduction targets.</p>

Note 1: The Global Warming Potential (GWP) of each greenhouse gas was based on the 6th Assessment Report (6AR) issued by the IPCC in 2021.

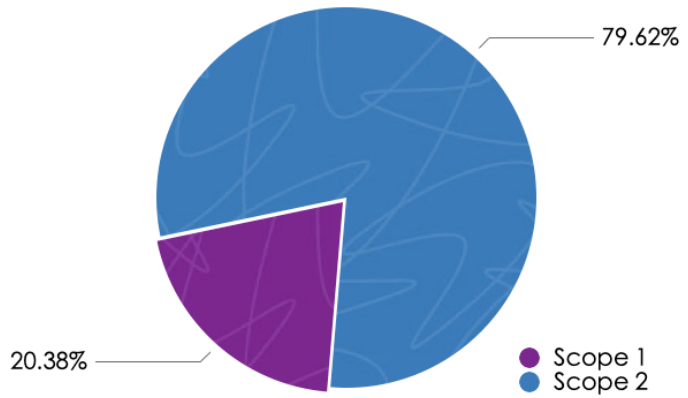
Note 2: The Scope 1 emissions coefficient was sourced from the EPA GHG Emissions Factor Management Table 6.0.4.

A GHG inventory was conducted by PlayNitride in 2021 in accordance with the ISO14064-1:2018 standard. We also introduced internal employee training courses, analyzed significant indirect emissions, established the coefficients of related emission sources, and collated activity data. At the same time, we carried out internal verification operations, authored GHG inventory procedural documents, registered all emissions, and compiled a GHG inventory report.

2021 GHG Emissions

Unit: Tonnes CO₂e

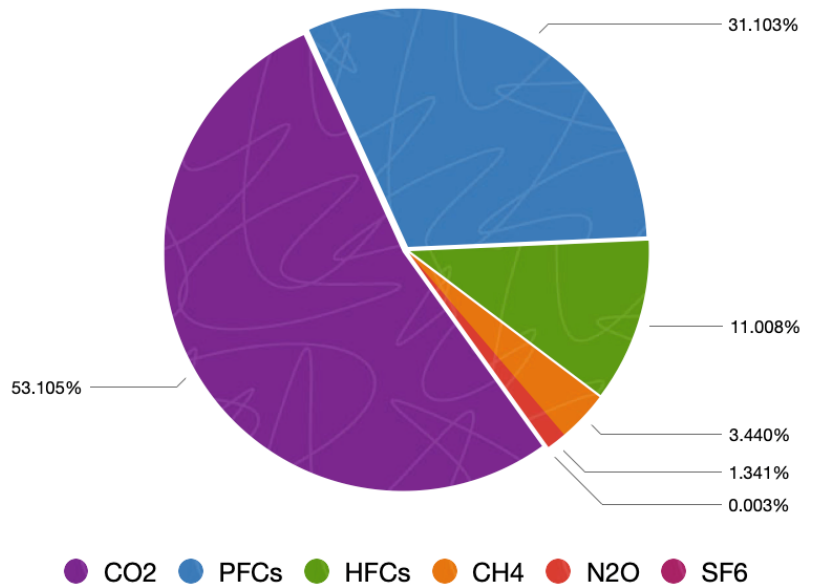
Emission Type	2021 Emissions
Scope 1	906.78
Scope 2	3,542.84



2021 Greenhouse Gas Emissions (Scope 1)

Unit: Tonnes CO₂e

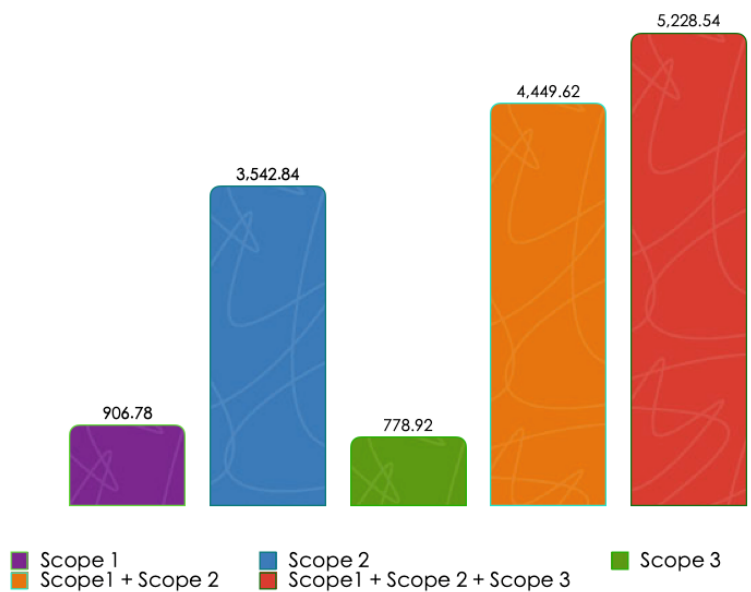
Emission Type	2021 Emissions
CO ₂	481.54
PFCs	282.03
HFCs	99.82
CH ₄	31.19
N ₂ O	12.16
SF ₆	0.03
Total Emissions	906.78



2021 Gross GHG Emissions

Unit: Tonnes CO₂e

Scope	2021 Emissions
Scope 1	906.78
Scope 2	3,542.84
Scope 3	778.92
Scope 1 + Scope 2	4,449.62
Scope 1 + Scope 2 + Scope 3	5,228.54



3-2 Energy Management in Manufacturing

Topic of Disclosure: Energy Management in Manufacturing	
Accounting Metric	2021 Disclosures
Indicator Code: TC-SC-130a.1 Disclosure of the following information on energy consumption: (1) Total energy consumed (including fuel and electricity) (2) Percentage grid electricity (3) Percentage renewables	(1) Total energy consumption: 25,280.85GJ (2) Percentage grid electricity: 100% (3) None of PlayNitride’s energy consumption in 2021 came from renewables.

Note: Unit conversion 1 kWh = 860 Kcal, 1 Kcal = 4.186798 J, therefore 1 kWh = 3.6 × 10⁻³ GJ.

PlayNitride’s production facility at Zhunan Science Park is leased from Epistar. All building infrastructure are managed and supplied by Epistar as well. Electricity supply consists of low-voltage electricity supplied by Epistar’s transformer station. It is used to power PlayNitride’s production lines, warehouses, offices and other spaces. Electricity is the main type of energy consumed by the MicroLED production process. Other equipment such as the back-up generators are owned by Epistar. In the event of an emergency, Epistar will supply PlayNitride with power from the back-up generators. All PlayNitride company vehicles are currently electric vehicles, so there was no consumption of petrol. 2021 total energy consumption: 25,280.85GJ

PlayNitride places a strong emphasis on energy efficiency. A monitoring system was set up in 2021 to track the use of chilled water, and compressed dry air (CDA). Usage tracking was significantly improved in the second half of the year so it can now provide reasonable and accurate usage data. Efficiency management indicators will be defined in 2022. There is no room for the installation of renewable energy equipment in our leased facilities at present. We plan to purchase renewable energy or install renewable energy generation equipment when appropriate based on our future business development strategy. We are continuing to discuss and make plans with Epistar based on our analysis of energy consumption. Energy-intensive systems (chilled water, CDA) will be prioritized for energy-efficiency improvement projects.

3-3 Water Resource Management

Topic of Disclosure: Water Management	
Accounting Metric	2021 Disclosures
Indicator Code: TC-SC-140a.1 Disclosure of the following water withdrawal information: (1) Total water withdrawn, and percentage withdrawn from regions with water stress (high or extremely high) (2) Total water consumed, and percentage consumed from regions with water stress (high or extremely high)	(1) 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. (2) Total water withdrawal: 11,486m ³ (3) Total water consumption: Water consumption from evaporation, transpiration or consumption not related to manufacturing

The electricity and water resources for all facilities in the PlayNitride building are centrally managed and supplied by Epistar. Water resources used by PlayNitride consist of purified water and domestic water. Purified water is used by PlayNitride’s own production lines; the wastewater treatment and recovery system of plant is centrally operated and managed by Epistar as well. Reclaimed water is mostly supplied to the cooling towers and as secondary water in the toilets.

PlayNitride plans to modify production line equipment and manufacturing parameters in the future to increase the frequency of water reclamation from production processes, increase their water efficiency, and reduce the use of water resources.

3-4 Waste Management

Topic of Disclosure: Waste Management

Accounting Metric	2021 Disclosures
Indicator Code: TC-SC-150a.1 Amount of hazardous waste from manufacturing, and percentage recycled.	(1) Amount of hazardous waste: 62.64 tonnes (2) Percentage of hazardous waste recycled: 0%

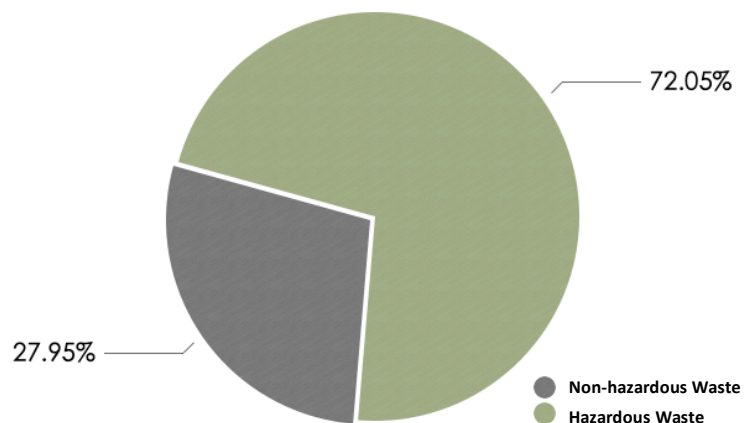
Note: Percentage recycled = Mass of recyclable hazardous waste / Total mass of hazardous waste generated.

Waste management is practiced by PlayNitride in accordance with waste disposal regulations. A ISO 14001 certified management is also in operation. In addition to submission of waste disposal plans to the competent authority for approval, the production, storage, disposal, and quantity of waste processed are reported online in accordance with waste disposal and EPA regulations.

The three main types of hazardous industrial waste generated during manufacturing include general waste liquid, empty barrels/bottles, and substrate scraps. All are removed and processed by EPA-approved and qualified contractors as outlined in the waste disposal plan. The entire process complies with the requirements of waste disposal regulations. In 2021, PlayNitride generated 86.94 tonnes of waste. These included 62.64 tonnes of non-recyclable hazardous waste. In the future, PlayNitride will continue to work on waste reduction and resource conservation in manufacturing in order to reduce the amount of waste we produce and our burden on the environment.

2021 Waste Production
(Hazardous/Non-hazardous)
Unit: Tonnes

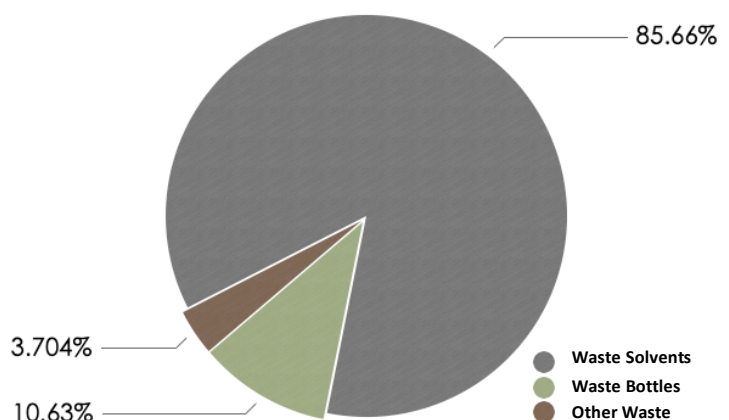
Type of Industrial Waste	2021 Production
Non-hazardous Waste	24.30
Hazardous Waste	62.64



Hazardous Waste Produced in 2021
(Non-recyclable)

Unit: Tonnes

Category of Hazardous Industrial Waste	2021 Production
Waste Solvents	53.66
Waste Bottles	6.66
Other Waste	2.32



3-5 Employee Health and Safety

Topic of Disclosure: Employee Health and Safety

Accounting Metric	2021 Disclosures
<p>Indicator Code: TC-SC-320a.1 Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards.</p>	<p>The ISO 45001 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.</p>
<p>Indicator Code: TC-SC-320a.2 Total amount of monetary losses as a result of legal proceedings associated with employee safety and health violations</p>	<p>There were no employee health and safety violations that led to PlayNitride being penalized by the competent authority in 2021.</p>

Resources are invested by PlayNitride under the core philosophy of “disaster prevention and containment” towards occupational health and safety problems in plant operations. By establishing an occupational safety culture and proposing effective countermeasures, the safety awareness and protection management of workers are strengthened to create a “occupational hazard-free” environment.

PlayNitride has already obtained ISO 45001:2018 occupational health and safety management system certification. Improvement targets have also been set for the management of occupational health and safety as well as environmental protection. Short-term goal was defined as “control of pollution and control of health and safety risks as a law-abiding corporate citizens.” Medium and long-term goals are defined as “Pollution prevention, reduction of health and safety risks, prevention of occupational disease, establish a corporate image of being green and safe.”

Health and safety management for business-related activities, products, service processes and stakeholders are implemented and promoted in accordance with the ISO 45001 international standard. This is to effectively manage any matters that have a negative impact on or does not comply with health and safety rules. Continuous improvements is also conducted on health and safety performance. There were no disabling injuries at PlayNitride during 2021. Related indicators such as the rate of serious occupational injuries, the total reportable incident rate (TRIR) and lost days rate were all zero.

Employee Health and Safety Management Items:

- **Convening of Occupational Health and Safety Committee:** The OHS committee is convened on a regular basis to examine the results of risk identification, planning and execution of supervision and management plans, as well as the review and improvement of performance indicators to ensure the proper implementation of the health and safety policy.
- **Education and Training :** All new employees undergo occupational health and safety education and training. All employees are regularly educated on related rules and given refresher training to strengthen their safety awareness. Emergency response training and exercises are held every year.

Occupational Health and Safety Policy

- Compliance and Pollution Prevention**
- Safe Behavior, Energy Conservation and Carbon Reduction**
- Health Promotion and Continuous Improvement**
- Total Engagement and Sustainable Development**

Education and training for occupational health and safety management is now a part of the annual education and training plan.

- **Inspection of operating environment:** The production line must undergo regular inspection of its operating environment. Legitimate testing organizations have also been commissioned to test for chemical and physical hazard factors.
- **Production Line Patrol:** A patrol plan has been drawn up to regularly inspect each production line and audit their implementation of safety management.
- **Physical and Mental Health Management for Employees:**
 - Assessments are conducted on chemical, biological, physical, and ergonomic factors in the workplace that pose a health hazard. The necessary preventive measures and planning are taken for maternal health protection, abnormal workload, special hazardous operations, physical or mental abuse by others during the performance of one's duties, or musculo-skeletal injury triggered by repetitive operations.
 - Health exams or related assessments are conducted for tasks involving special health hazards as required by law as part of hazard assessment and control. A tiered health management system is also in place to bring about improvements to the working environment, prevent hazards, and maintain the health of employees.
 - Health exams are conducted as required by law. Tiered management is then carried out for anomalies in health exam results. Interviews with on-site physicians are organized depending on the state of an employee's health and their requirements to provide health guidance and management. A variety of health promoting and hygiene education activities were also planned to promote the physical and mental health of employees, and help them with achieving work-life balance.
 - Employees are encouraged to engage in self-health management with regular blood pressure measurements for the effective prevention of cardiovascular disease.
 - A dedicated epidemic prevention team was established with rolling discussions each week on how to adapt to the epidemic and build a safe working environment.

3-6 Global Talent Recruitment and Management

Topic of Disclosure: Global talent recruitment and management

Accounting Metric	2021 Disclosures
<p>Indicator Code: TC-SC-330a.1 Percentage of employees that are (1) foreign nationals, and (2) located offshore.</p>	<p>(1) In 2021 there were 3 foreign employees and these accounted for 0.82% of all employees. (2) The percentage of employees located offshore was 0% (PlayNitride’s sole operating location is located at Zhunan Science Park so there are no offshore employees as yet.)</p>

PlayNitride recruits like-minded partners to join innovative R&D efforts in pursuit of sustainable growth and development. The employment and recruitment of foreign employees are mainly conducted through talent banks. Once the resume of a foreign partner has been received an interview is organized. If their career requirements are consistent with PlayNitride goals they are hired after going through the internal assessment. They must go through an internal assessment before signing the employment contact. All foreign employees are R&D personnel at present. Internal training is the same as for other Company employees in the same role. Equivalent learning and advancement opportunities are also provided; the PlayNitride bilingual policy is also being progressively refined due to new employees that speak another language.

An adaptive learning and development system is essential for corporate sustainability. Employee growth and cultivation is important to PlayNitride, so we provide diverse and macroscopic education and training to strengthen employees’ professional skills in the workplace. To foster a co-learning and co-development environment, PlayNitride regularly hosts internal seminars as well to provide employees with learning and stimulus from other internal aspects.

Education and Training

PlayNitride set up the PlayNitride Academy to enhance the individual qualities and self-development of employees. Outstanding people from different fields are invited to give speeches at the plant and share their experiences with employees.

The first PlayNitride Lecture in 2019 was given by Dr. Shuji Nakamura, the “Father of Blue Light” and winner of the Nobel Prize for Physics. We learned from Dr. Nakamura’s presentation the many problems he encountered during the R&D process and how he overcame these different challenges to eventually develop the blue LED. An in-depth forum between company executives and Dr. Nakamura was also held after the lecture. The products developed by PlayNitride were used to conduct an exchange on the development of MicroLED and the difficulties encountered so far.



The experiences brought by guest speakers at the PlayNitride Lectures over the years brought new energy into PlayNitride. They also motivated all employees to continue forging ahead in the research and development of MicroLED.

The experiences brought by guest speakers at the PlayNitride Lectures over the years brought new energy into PlayNitride. They also motivated all employees to continue forging ahead in the research and development of MicroLED.

For more information about PlayNitride education and training lectures, please visit the following link:
<https://www.playnitride.com/corpesg/>

3-7 Product Lifecycle Management

Topic of Disclosure: Product Lifecycle Management	
Accounting Metric	2021 Disclosures
Indicator Code: TC-SC-410a.1 Percentage of products by revenue that contain IEC 62474-declarable substances	(3) Percentage of products by revenue that contain IEC 62474-declarable substances: 0%
Indicator Code: TC-SC-410a.2 Processor energy efficiency at a system level: (1) Servers, (2) Desktops, and (3) Laptops	(4) Not applicable, as PlayNitride is engaged in the research, development, manufacturing and sale of applications related to nitride semiconductor materials rather than a manufacturer of end products.

Green product management mechanisms have been introduced by PlayNitride in response to international environmental trends and customer requirements to ensure that the materials used in our products conform with international, regional, national, and customer standards on the content of environmental and hazardous substances in products. Management requirements at PlayNitride are currently based on the EU RoHS and REACH directives as well as Taiwan’s CNS standard. The entire product lifecycle from product planning, development to end of production conforms to environmental guidelines for products to prevent environmental pollution and harm to human health.

Product Management Items

- **Material approval:**
 - A management list of environmental substances and hazardous substance compliance standards for products is maintained. The R&D department includes the requirement for suppliers to provide the Safety Data Sheet (SDS) and test report from an independent third-party in the “Material Approval Sheet” to ensure compliance with standards in subsequent procurements.
 - Customer requirements on disclosure of hazardous substance information for products such as lead-free, halogen-free, RoHS and REACH are identified. Particular emphasis is given to the requirements of potential customers on hazardous substance standards (e.g. RoHS and REACH).
- **Supplier Management:** Supplier materials that conform to PlayNitride’s management standards on environmental and hazardous substances can undergo the green product rating program of PlayNitride’s supplier management standards. Once it meets all other standards then the supplier can be added to the list of approved suppliers for procurement. Regular supplier audits will be conducted in accordance with the supplier management regulations to ensure their management effectiveness.
- **Procurement Management:** Under the “Hazardous Substances in Products Management Procedure”, suppliers are required to provide their SDS, “Declaration of non-use of substances prohibited/restricted by the relevant environmental regulations”, and RoHS test report.
- **Quality Assurance Inspection:** Suppliers must carry out third-party X-Ray Fluorescence Spectrometer (XRF) testing for all materials they supply. An ICP test report from within the last year must also be provided by suppliers. If more than one year had passed then a test report from an independent third-party must be provided or the materials will be rejected. If materials with non-compliant hazardous substance reports are used, the final product must be marked at once. The products are then moved to the designated quarantine area and may not be put into production.
- **Education and Training:** Employees are trained on professional knowledge and operating methods related to environmental protection and hazardous substances in products. The latest international regulations and customer standards on hazardous substances are also published periodically.

3-8 Materials Sourcing

Topic of Disclosure: Materials Sourcing

Accounting Metric	2021 Disclosures
Indicator Code: 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.

PlayNitride is engaged in the research, development, manufacture and sale of applications related to nitride semiconductor materials. Due to the nature of our business, the three main categories of suppliers are materials, packaging in contact with products, and outsourced production. Supplier management consist of monthly evaluations and annual audits. A procurement meeting is held by Procurement Division every month for the reporting of suppliers’ monthly evaluation results and review of improvements. The meeting provides relevant units with a full picture of current supplier status and reduce procurement risks by preventing information gaps.

Material Management

The procurement department requires the following documentation for direct materials/packaging materials/metals to be provided in accordance with internal rules on material acceptance:

1. Declaration of non-use of substances prohibited/restricted by the relevant environmental regulations
2. RoHS test report from within the past year
3. Safety Data Sheet (SDS)
4. Conflict Minerals Report (CMRT)

Conflict Minerals Management:

Materials and equipment components/parts provided by suppliers must not contain conflict minerals such as Gold (Au), Tantalum (Ta), Tin (Sn), Tungsten (W), Cobalt (Co), and their derivatives sourced from the Republic of Congo and its surrounding countries/regions. Suppliers must submit to PlayNitride a report filled out in accordance with the Conflict Minerals Reporting Template (CMRT).

3-9 TC-SC-520a.1 Intellectual property protection and competitive behavior

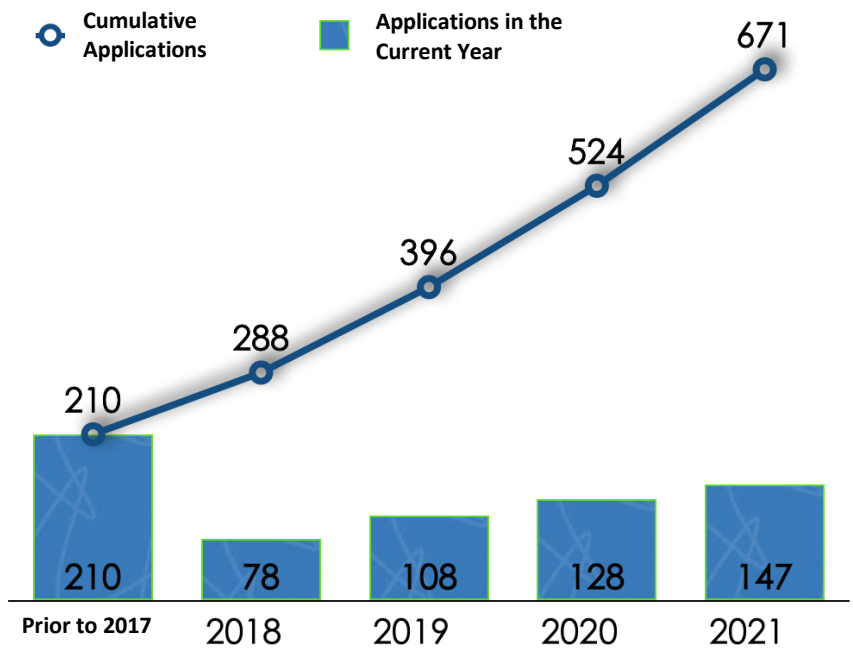
Intellectual Property Protection & Competitive Behavior	
Accounting Metric	2021 Disclosures
Indicator Code: TC-SC-520a.1 Total monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	There were no incidents relating to violation of intellectual property protection and competitive behavior regulations at PlayNitride in 2021.

PlayNitride maintains our leading position in the MicroLED industry through our own proprietary manufacturing technologies and trade secrets. Sound authorization management is enforced for R&D documentation and data at every stage to protect our intellectual property such as R&D results and technologies. Production processes and R&D results related to new technologies are also protected through patenting. The use of personal storage devices and image-recording equipment are prohibited within our plant. The information protection and physical control measures outlined above are used to protect the integrity of PlayNitride’s intellectual property and prevent the leaking of information.

The “Intellectual Property and Legal Division” is responsible for intellectual property protection and management. The “Intellectual Property Assurance Procedure” was drawn up to facilitate the effective execution of R&D operations. Whenever a new technology or improvement proposal is created, they are patented to protect their trade secrets. Patent protection is already in place for the self-built machines, epitaxial materials, epitaxial structure, die structure, and mass control technology as a whole. Non-disclosure agreements are signed during talks with every prospective customer to protect the contents of our discussions and ensure proper protection of core technologies.

The outstanding R&D capabilities of PlayNitride have resulted in more than 671 MicroLED-related international patents being filed as of 2021, putting us 6th in the global patent filing rankings. 65% of the applications are for core mass production technologies and 35% for technologies with R&D potential. We also registered more than 40 trademarks for technologies corresponding to each display application market to establish the PlayNitride brand in advance.

In addition to the protection of innovative technologies, PlayNitride also uses trademarks to make our technologies more recognizable in the market. PlayNitride patents cover different applications for panel products. Our production line can produce panel products of different sizes for commercial, automotive, bezel-free, ultra-bright wearable and ultra-slim flexible applications, so the scope of end-user applications is very broad. A comprehensive patent portfolio has already been set up by PlayNitride for the end-user applications outlined above to build a solid moat of patented technologies.



4. Other ESG Topics

4-1 Governance Topics

In addition to “3-8 Material Sourcing” and “3-9 Intellectual Property Protection and Competition Management” as mentioned in Chapter 3 “SASB Topics of Concern”, the topics material to PlayNitride in the Governance aspect also included corporate governance, financial performance and ethical management, sustainable supply chain, and information security. Governance topics were discussed by competent units such as the Engineering R&D Center, Industrial Safety Department, Information Technology Department, Quality Assurance Division, Audit Office and governance officers then submitted to the Sustainability Committee for confirmation. The Sustainability Committee will be periodically convened during 2022 to track and follow-up on the status of implementation.

2022 Promotion Goals for Governance Topics

Governance Topics	Sub-topic	Short-term goal
Corporate Governance	Risk Management	- Planning of emergency response management regulations and conducting of exercises
	Operation of the Board of Directors	- Establishment of Audit and Remuneration committees
	Tax Transparency	- Formulation of tax policy, compliance with the national taxation regulations in the country of the operating location, and payment of taxes
Financial Performance	Business Performance	- Periodical publication of Sustainability Report in accordance with the regulations for public companies.
Business Integrity	Business Ethics	- Establishment of complete complaints mechanism and whistleblower protection scheme - Periodic promotion of code of ethics, anti-corruption, and anti-bribery - Annual implementation of education and training on ethics and integrity (directors, all employees)
Innovation Management	Sustainable Design	- Evaluation of sustainable design improvement goal: Recycling of production materials - Evaluation of sustainable design improvement goal: Reuse of packaging
Sustainable Supply Chain	Supply Chain Management	- Formulation of supply chain management policy - Identification of key stakeholders, introduction of tiered management scheme - Formulation of supplier self-assessment form and promotion of supplier self-assessment
Information Security	Digital Governance	- Comprehensive mechanism for evaluation of information security management - Regular promotion, education and training on information security topics - Convening of information security committee at the CEO-level - Introduction of ISO 27001 information security management system

Note: Short-term goals are for 2022 ~ 2023

4-2 Environmental Topics

Material topics in the Environmental aspect at PlayNitride as mentioned in Chapter 3 “SASB Topics of Concern” ranged from “3-1 GHG Emissions” through to “3-4 Waste Management” as well as “3-7 Product Lifecycle Management.” Promotion goals for related environmental topics such as climate change, energy management, water management, waste and recycling, and product management have also been added. The aforementioned goals were discussed by the Engineering Department, Industrial Safety Department, Facilities Management Department and Quality Division then submitted to the Sustainability Committee for confirmation. The Sustainability Committee will be periodically convened during 2022 to track and follow-up on the status of implementation.

2022 Promotion Goals for Environmental Topics

Environmental Topics	Sub-topic	Short-term goal
Climate Change	Climate Strategy	<ul style="list-style-type: none"> - Promotion of ISO 14064-1 GHG inventory and verification - Evaluate the introduction of climate risk management mechanism and oversight by the Board of Directors. - Formulate operational strategies and goals based on the outcomes of the climate risk assessment
Energy Management	Energy Management	<ul style="list-style-type: none"> - Evaluate intensity of electricity usage and set electricity-saving targets
Water Resource Management	Water Resource Management	<ul style="list-style-type: none"> - Set water conservation targets
Waste and Recycling	Waste Management	<ul style="list-style-type: none"> - Analyze waste production and evaluate waste reduction proposals
Product Management	Product Supervision	<ul style="list-style-type: none"> - Establish clear mechanism for chemical management
	Operational eco-efficiency, source material management	<ul style="list-style-type: none"> - Analyze, evaluate and propose improvements for current material usage.

4-3 Social Topics

Material topics in the Social aspect at PlayNitride included not only “3-5 Employee Health and Safety” and “3-6 Global Talent Recruitment and Management” as mentioned in Chapter 3 “SASB Topics of Concern”, they also included human rights management, talent development, talent attraction and retention, occupation health and safety, and product responsibility. Social topics were discussed by the HR Division, Employee Relations Department, Industrial Safety Department and Quality Division then submitted to the Sustainability Committee for confirmation. The Sustainability Committee will be periodically convened during 2022 to track and follow-up on the status of implementation.

2022 Promotion Goals for Social Topics

Social Topics	Sub-topic	Short-term goal
Human Rights Management	Human Rights	- Establish and disclose human rights policy
Talent Development	Development of human capital	- Development of career roadmap/competency inventory - Develop education and training framework based on grade and role
Talent Attraction and Retention	Talent Attraction and Retention	- Development of compensation and advancement system
Occupational Health and Safety	Health and Safety	- Refinement of the occupational health and safety system, and promotion of safety culture - Establish indicators related to disabling injuries and concrete goals for near-misses - Promotion of physical and mental health promotion plans for employees - Continue to promote epidemic prevention measures for infectious diseases
Product Responsibility	Product quality and recall management	- Evaluate the requirements of international safety standards/quality management systems for automotive products

4-4 Supplementary disclosure on related topics

Human Rights Management

PlayNitride treats all employees with dignity and respect in accordance with our “Human Rights Management Policy” based on the internationally recognized human rights standards such as the UN Universal Declaration of Human Rights, the UN Global Compact, United Nations Guiding Principles on Business and Human Rights, and UN International Labour Organisation. We also comply strictly with the relevant labor regulations and foster a dignified and equitable working environment to protect the human rights of all personnel including permanent employees, contract and temporary personnel, and interns.

Human Rights Management Approach
<ul style="list-style-type: none"> • Provide a safe and healthy working environment free from harassment • Eliminate illegal discrimination and ensure equality of working opportunities • Ban on child labor • Ban on forced labor • Foster an environment that encourages communication and set up an open management model • Support and assist employees with maintaining their physical/mental well-being and work-life balance • Regularly inspect and evaluate related schemes and practices

Education Promotion

The PlayNitride R&D team embraces new challenges and continues to come up with products and solutions for diverse applications through innovative technologies. The continued promotion of MicroLED-related knowledge is aimed at popularizing MicroLED in everyday environments as soon as possible.

PlayNitride not only participates in corporate lectures and industry information sessions organized by the PIDA. We also cooperate with engineer faculties for physics, optoelectronics and electro-mechanical engineering from leading universities to provide topical courses on MicroLED technology and related applications through campus events or company tours. In addition to enhancing the professional know-how of students, this also expands student horizons on industry development and new technologies. More than 15 such sessions have been organized so far. Many company tours have been organized by related faculties at universities at the same time. During the tour, the visitors are not only introduced to the technology but also the exhibits and environment to provide students with a better understanding of PlayNitride’s corporate culture, working environment, and corporate development. They also gain a better understanding of current MicroLED developments and applications.

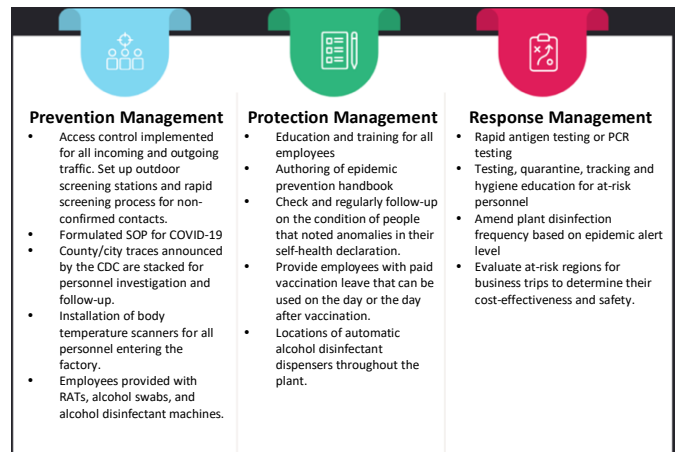
For more information about PlayNitride education and training lectures, please visit the following link:

<https://www.playnitride.com/corpesg/>

COVID-19 Management

Continuing management and safeguarding the health and safety of employees have been the top priority of PlayNitride since the start of the COVID-19 pandemic in 2020. Our current epidemic prevention management principles and measures are as follow:

- **Convening of Epidemic Prevention Meetings:** An epidemic prevention task force was set up to regularly update epidemic prevention based on adjustments made by the Central Command Center. e-mails are sent out to all employees and posted on the cloud office bulletin board future reference.
- **Flexible Office:** Close contacts of a confirmed case that exhibit symptoms undergo health management in the form of working from home, applying for a change of roster, or leave.
- **Visitor Restrictions:** Routine vendors or non-routine visitors that need to enter the plant may not be a close contact of a confirmed case. The nature of the close contact must be verified. The following measures were executed simultaneously upon entering the plant:
 - Measure body temperature
 - Fill out visitor and contractor form for self-perceived symptoms
 - Scan visitor QR Code
- **Common Community Health and Safety:** Each employee is provided with a RAT and alcohol swab before the company starts work. RAT testing should be conducted and inspected at home to protect the community. This will help community and complete testing in advance at home in order to protect their health and safety.
- **Vaccination Insurance for Employees:** Provide vaccination insurance for employees upon arrival. To learn about the details of PlayNitride’s investment in guaranteeing employees industrial experience should be carefully studied.



<https://www.playnitride.com/corpesg/>

Philanthropy (Temporary hiatus from charity events due to COVID-19 in pandemic)

Saint Francis of Assisi Joint Fund-raising Carnival

PlayNitride had the honor of participating in the St. Francis of Assisi joint fundraising event at Maolimeow Family Park in Miaoli in October 2020. We partnered with the St. Francis of Assisi Child Care Center and purchased 200 carnival tickets to give to employees for family activities. We also adopted and set up market stalls with all proceeds donated to the Child Care Center. We gained not only a sense of satisfaction from donating to this small charity event. Employees were also proud of working together on purchasing ingredients, preparing ingredients, cooking, packaging, transportation, and running a stall. Many employees had never tried this before, so they were moved and challenged by every single task. The employee spirit of innovation and excellence can be found in every activity. Everything from their performance at work to their participation in activities outside of work all demonstrated their “PlayNitride Power!”

PlayNitride x Hsinchu City Fall Coastal Clean-up

In October 2020, PlayNitride invited 83 people including employees and their families to take part in the “Hsinchu City 2020 Fall Coastal Clean-up.” Picking up trash on the beaches made each employee appreciate the importance of protecting the environment and marine sustainability even more. It also inspired others around them to do their part for the sea and make the Earth a better place. PlayNitride cleans up to help the environment and the planet.

Appendix: SASB Standards Index

Topic of Disclosure	Accounting Metric	Indicator Code	Corresponding Section
GHG Emissions	Disclose the following GHG emissions information: (1) Gross global GHG emissions (Scope 1) (2) Total emissions from perfluorinated compounds (PFCs)	TC-SC-110a.1	3-1 GHG Emissions
	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	TC-SC-110a.2	
Energy Management in Manufacturing	Disclosure of the following information on energy consumption: (1) Total energy consumed (including fuel and electricity) (2) Percentage grid electricity (3) Percentage renewables	TC-SC-130a.1	3-2 Energy Management in Manufacturing
Water Resource Management	Disclosure of the following water withdrawal information: (1) Total water withdrawn, and percentage withdrawn from regions with water stress (high or extremely high) (2) Total water consumed, and percentage consumed from regions with water stress (high or extremely high)	TC-SC-140a.1	3-3 Water Resource Management
Waste Management	Amount of hazardous waste from manufacturing, and percentage recycled.	TC-SC-150a.1	3-4 Waste Management
Employee Health and Safety	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards.	TC-SC-320a.1	3-5 Employee Health and Safety
	Total amount of monetary losses as a result of legal proceedings associated with employee safety and health violations	TC-SC-320a.2	
Global Talent Recruitment and Management	Percentage of employees that are (1) foreign nationals, and (2) located offshore.	TC-SC-330a.1	3-6 Global Talent Recruitment and Management
Product Lifecycle Management	Percentage of products by revenue that contain IEC 62474-declarable substances	TC-SC-410a.1	3-7 Product Lifecycle Management
	Processor energy efficiency at a system level for: (1) Servers, (2) Desktops, and (3) Laptops	TC-SC-410a.2	
Materials Sourcing	Description of the management of risks associated with the use of critical materials	TC-SC-440a.1	3-8 Materials Sourcing
Intellectual property protection and competitive behavior	Total monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	TC-SC-520a.1	3-9 Intellectual property protection and competitive behavior
Activity Indicator		Indicator Code	Corresponding Section
Total production		TC-SC-000.A	2-2 Products and Services
Percentage of production from owned facilities		TC-SC-000.B	2-2 Products and Services