



PERVASIVE DISPLAYS

2025 Sustainability Report

Committed to Innovation and Sustainability in E-Paper Technology. As a member of Vusion, the global leader in electronic shelf labels, we are dedicated to providing low-power, environmentally friendly electronic display solutions.

Company Overview

Basic Information : Founded in March 2010, headquartered in the Tainan Science Park. 73 employees, total capital of NT\$250 million.

Products and Service : Design and sales of E-Paper Display Modules and Application System

Global Leadership and Sustainable Commitment:

1. First global company (Vusion) to ship over 700 million EPDs (E-Paper Displays).
2. The most experienced manufacturer of industrial-grade EPDs
3. The ONLY EPD company with 100% design and quality control in Taiwan.
4. Continuously supporting retail and industrial customers achieve sustainability through low-power, eco-friendly display technology.

History of company

2007 | E-Paper Project Launched

- Chilin Technology initiated an internal e-paper R&D project and developed the first 2-inch e-ink screen, expanding into the ESL market.

2008 | Business Unit Established

- Established a dedicated e-paper business unit focused on low-power display technologies. Its scope included module design, hardware/software development, equipment setup, and quality management. Mass production began the same year.

2010 | Pervasive Displays Inc. Established

- In response to market expansion and application demand, the e-paper business unit was spun off as “Pervasive Displays Inc.”, focusing on low-power e-label applications and actively driving upgrades in smart retail and industrial fields.

2016 | Joined Vusion S.A. (formerly SES-imagotag, renamed Vusion in 2023.)

- Became part of the global leader in Electronic Shelf Labels (ESL), combining technical strengths to advance digital retail transformation and ESG goals.



Milestones

2023 - Smart Display Application Award

– Smart Retail Category, for the Engage Rail multimedia shelf display, enhancing in-store promotions and digital experiences

2022 - Smart Display Application Award

– Smart Retail Category, for the CAPTANA shelf out-of-stock management solution

2016 - In partnership with BOE, responsible for the transfer of key production technology, establishing the world's first and largest-capacity automated EPD production facility in Chongqing.

2014 - Launched the world's first e-label product capable of stable operation in freezer environments; Formed strategic alliance with Imagotag to promote tri-color ESLs, implemented in Media Mart

2013 - Partnered with Ishida Trading to develop the Japanese ESL market

2012 - Lux Research Most Innovation Company of the Year / Red Herring Global Top 100 Award

Sustainability Report Overview

1

Reporting Period

January 1 to December 31, 2025 (aligned with the company's fiscal year)

2

Publication Frequency

Annual. The current edition was published in August 2026.

3

About This Report

Chinese and English versions are available for download on the official website. All monetary values are expressed in NTD, unless otherwise stated.

This Sustainability Report provides a comprehensive overview of Pervasive Displays' key actions and performance in corporate governance, sustainable innovation, green operations, responsible supply chain practices, and social impact.

Pervasive Displays welcomes all inquiries or suggestions related to this report or our sustainability initiatives. We sincerely invite you to connect with us.

sustainability@pervasivedisplays.com



Message from the General Manager



A stylized handwritten signature in black ink, consisting of the Chinese characters '王锐' (Wang Rui).

Pervasive Displays Inc.

We operate in the display industry, and we understand that the value of technology lies not only in performance, but in the change it can bring to the environment and society. Low-power e-paper displays embody exactly this kind of technology: update once, display persistently, replacing traditional screens that require repeated power-consuming updates, while also reducing paper waste. This is our most direct contribution to carbon reduction, and one of the reasons our company exists.

Over the past year, we have turned our commitments into concrete actions. Electricity consumption fell by nearly 10% year-over-year, as we continued to advance greenhouse gas inventories and supply chain carbon footprint surveys, gradually building a pathway toward net zero by 2050. Our quality management achieved ISO 9001 international certification, our talent development earned a TTQS Bronze Award, and we were also honored with the 2026 Green Enterprise Mark — achievements that give us greater confidence in advancing our ESG initiatives.

Sustainability is not something a company can achieve alone. We continue to deepen supply chain management, requiring our partners to jointly uphold principles of fairness, transparency, and accountability. Our partners have also responded positively to these ESG initiatives, allowing us to move forward together. Internally, we have strengthened information disclosure and risk management so that every decision responds to stakeholder expectations. This reflects our ongoing efforts to build a safe, diverse, and respectful workplace, and the driving force behind our continued progress. The path to sustainability is long, but as long as we move in the same direction, we will continue to advance steadily.

Looking ahead, Pervasive Displays will continue to deepen digital transformation in smart retail and industrial applications, internalizing ESG thinking as part of everyday decision-making. Our goal is not only business growth, but ensuring that every innovation creates lasting value for both the environment and society.

Corporate Governance - Quality & Certification



ISO 9001:2015

Certified for product and service quality, process efficiency, and continuous improvement across global standards.



TTQS Bronze Award

Talent is the foundation of sustainability — we invest in training and growth to strengthen long-term competitiveness.



Green Enterprise Mark

Recognized for our commitment to environmental protection, resource conservation, and low-carbon operations.



Sustainable Procurement

Sustainable Procurement and Purchasing Policy

No reported violations or incidents in 2025

Procurement practices are guided by environmental, social, and governance (ESG) principles, with a focus on delivering sustainable value across the supply chain through the following approaches.

- Ensure all raw materials comply with international environmental regulations such as REACH, RoHS, and WEEE
- Promote low-carbon product design, resource recycling, and pollution prevention
- Require suppliers to uphold human rights, legal labor practices, occupational safety, and fair treatment
- Prohibit the use of 3TG conflict minerals that may finance armed conflict, with a focus on supply chain transparency
- Follow OECD Due Diligence Guidelines and the principles of the UN Global Compact to fulfill corporate social responsibility
- Conduct supplier risk control through self-assessments, internal audits, and third-party evaluations (e.g., EcoVadis)
- Monitor supplier performance to drive full supply chain sustainability



Supplier Conduct

Supplier Code of Conduct

No reported violations or incidents in 2025

We expect all suppliers to uphold the following principles to ensure responsible and sustainable business conduct

- Implement environmental protection measures to reduce emissions, pollution, and hazardous substances
- Disclose conflict mineral sources via CMRT reporting to maintain transparency
- Prohibit child labor and forced labor, and ensure safe, fair, and non-discriminatory workplaces
- Ensure employees receive lawful wages, reasonable work hours, and statutory leave
- Respect freedom of association and collective bargaining; prohibit retaliation
- Maintain occupational health and safety measures, including PPE and emergency protocols
- Prohibit all forms of bribery, corruption, and conflicts of interest
- Comply with data privacy and intellectual property regulations
- Begin ESG self-assessments and provide compliance documentation
- Report any major violations promptly



Ethical Business Practices

Code of Ethics

A strong ethical foundation is essential to responsible business practices.

The following principles guide operations and interactions across the organization:

- Uphold the highest standards of integrity, transparency, and ethical behavior
- Enforce zero tolerance for bribery and corruption
- Require all employees to comply with laws, internal policies, and ethical principles
- Prevent conflicts of interest, bribery, and undue influence
- Regulate gifts, hospitality, sponsorships, and donations to avoid improper conduct
- Comply with anti-money laundering, international trade, and data privacy regulations
- Promote respect for human rights, non-discrimination, and anti-harassment in the workplace
- Ensure occupational health and safety and support environmental stewardship
- Protect confidential information and promote transparency
- Provide secure channels for employees to report misconduct or unethical behavior

Conflict Minerals Policy

We support responsible sourcing of 3TG minerals (tin, tungsten, tantalum, and gold) through the following actions to promote conflict-free supply chains:

- Comply with applicable conflict minerals regulations and international standards
- Require suppliers to conduct due diligence on mineral sourcing and traceability
- Ensure suppliers cascade the same standards through their own supply chains
- Include conflict minerals declarations in supplier audits and self-assessments
- Impose corrective measures on non-compliant suppliers and monitor progress



Environmental Responsibility

2025 Performance

- **100% of suppliers were compliant with conflict minerals requirements**
- **All suppliers submitted CMRT (Conflict Minerals Reporting Template) declarations**



Environmental Responsibility

Vision and Commitment

- Leverage innovation to advance environmental responsibility and create positive societal impact through technology
- Build a sustainability management system aligned with international standards
- Commit to reducing greenhouse gas emissions, energy consumption, waste, and hazardous substances
- Promote recycling and the development of a circular economy

Strategic Focus – Three Pillars of Smart Retail Sustainability

- Digital Transformation: Turn physical stores into digital assets
- Low-Carbon Business: Support decarbonization and sustainable digital transition

Environmental Commitments

- Reduce absolute emissions and carbon intensity
- Develop low-impact, eco-friendly products
- Enhance sustainability education for employees and suppliers
- Target a 20–25% reduction in electricity use by 2035 (compared to 2024 baseline), with partial adoption of renewable energy

RoHS and REACH Policy **No reported violations or incidents in 2025**

All products are compliant with REACH, RoHS, and WEEE directives. Efforts are made to reduce the use of hazardous substances in accordance with REACH, RoHS, and WEEE directives, prioritizing the protection of human health and the environment

- Products do not contain lead, cadmium, mercury, hexavalent chromium, PBBs, PBDEs, DEHP, BBP, DBP, or DIBP, as restricted under RoHS
- All parts and raw materials from suppliers must comply with REACH and RoHS, and meet WEEE recycling requirements
- Sustainability goals are aligned with low-waste, low-carbon, and digital transformation strategies in partnership with customers

Office-Level Initiatives

- Use energy-efficient equipment and reduce single-use items
- Encourage reductions in business travel
- Promote circular usage (e.g., reusable bottles, cups, and eco bags)

Education and Stakeholder Engagement

- Foster a sustainability culture through employee training and ESG newsletters
- Enhance environmental awareness among suppliers and partners



Environmental Responsibility

Energy and Water Resource Efficiency

Pervasive Displays operations primarily focus on design and product development, including laboratory-based activities. Manufacturing is outsourced to qualified partners, and as such, no production lines are housed within Pervasive Displays’ operational facilities. This results in relatively low direct resource consumption.

Resource Circulation

Cooperating with Vusion to promote the refurbishment and reuse of electronic tag products, more than 15 million devices have been refurbished

Energy Efficiency Improvements

In collaboration with CTBC Tech., we conducted a hotspot analysis identifying three major energy-consuming areas. Measures such as replacing air-conditioning systems and improving cooling towers are expected to be completed by 2026, with anticipated annual electricity savings exceeding 150,000 kWh.



Electricity Usage

In 2025, electricity intensity was 4,177 kWh per NT\$ million in revenue, down 8.7% from 2024, reflecting continued improvement in energy efficiency.

Water Resources

In 2025, water use intensity was 5.63 m³ per NT\$ million in revenue, down 6.3% from 2024, demonstrating the continued effectiveness of water management measures



Integrity

0

Disputes

There are no controversies involving anti-competition, monopoly or corruption.

100%

Ethics Training

All employees complete ethical conduct training and sign a letter of commitment

91%

Customer Satisfaction

Reflects ongoing improvements in customer experience and service quality

Corporate Governance – 2025 Performance Summary



Education

Promoted CSR and ESG training via 360Learning platform



IT and Office Decarbonization Measures

Installed motion-sensor lighting in restrooms and common corridors for energy savings; conducted hotspot analysis to identify further energy-saving improvement targets



Resource Circularity

Scrap cost as a percentage of operating cost was 0.0073%, reflecting losses incurred during product R&D and inventory management. We will continue tracking this metric and introduce preventive scrap management mechanisms to improve overall resource efficiency.

E-Paper Technology and Sustainable Development

Core technical features of e-paper

Bistable display

EPDs support bistable display, enabling 100% power cut-off after image update

Reflective display

No backlight is required for display, with extremely low power consumption and long-term visibility

Eye-friendly

Reduces exposure to high-energy visible light (HEV), providing an eye-friendly, non-emissive display alternative.

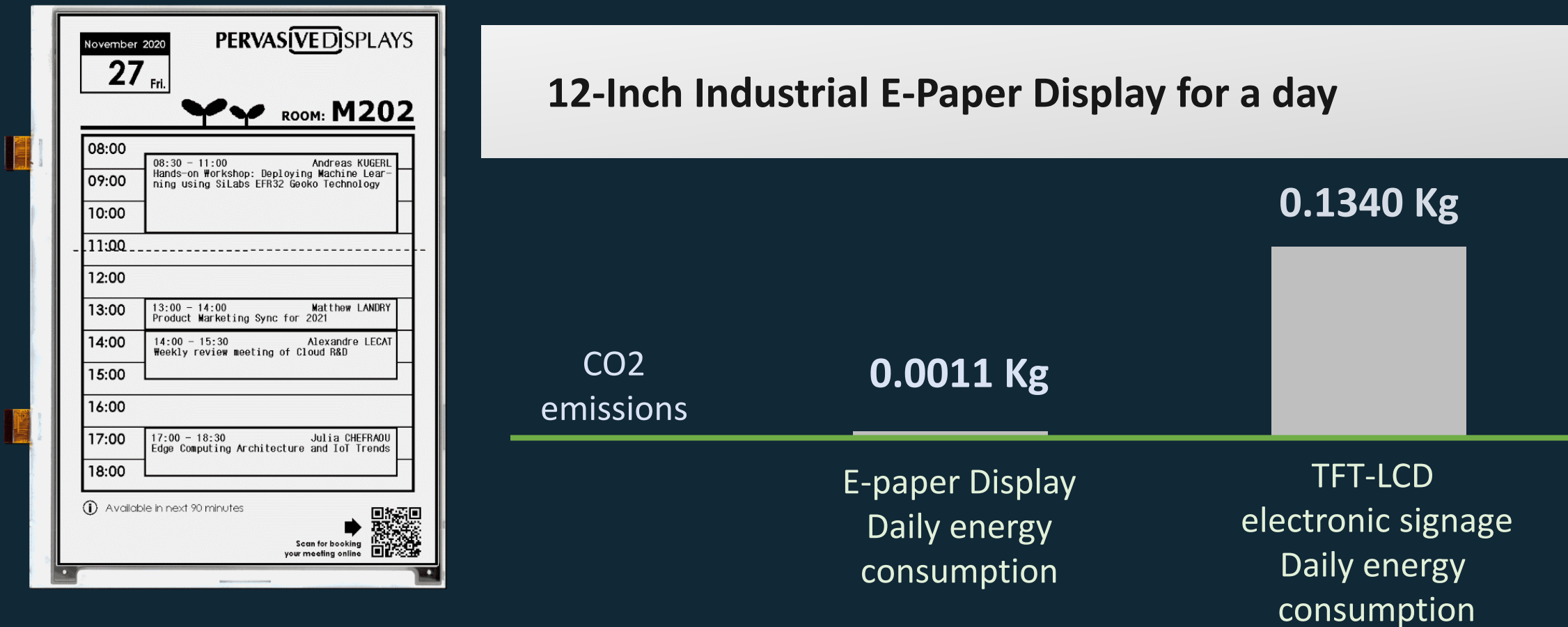
Patent Portfolio

As of 2025, Pervasive Displays holds 26 active patents related to e-paper innovations



Environmental Benefits of E-Paper BW Labels

Based on a 12-inch industrial black-and-white e-paper display¹, approximately 1,440 image changes occur per day. Daily carbon emissions² are approximately 0.0011 kg CO₂e. Compared to a traditional TFT-LCD color e-board³, e-paper technology achieves an approximate reduction of **280x** in carbon emissions, demonstrating e-paper's significant advantage in environmental protection and energy savings.



Note 1: The 12-inch industrial black-and-white e-paper display is driven at 3V, with a 60-second image cycle (40 seconds between updates, 20 seconds for updating), totaling 1,440 image cycles per day.

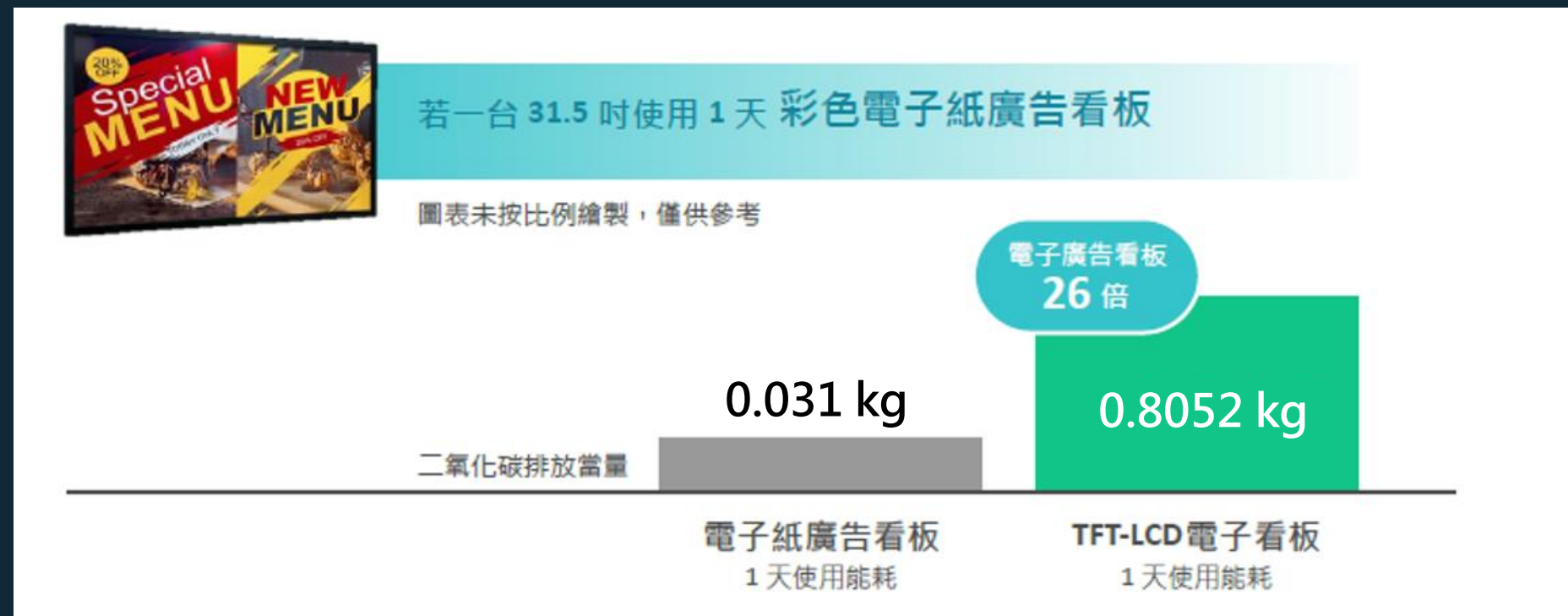
Note 2: The total daily power consumption of the 12-inch industrial black-and-white e-paper display is 0.0024 kWh; 0.466 KgCO₂e/kWh (2025 carbon emission factor published by the Bureau of Energy);
0.0024 kWh x 0.466 KgCO₂e/kWh = 0.001184 KgCO₂e ≈ 0.0011 KgCO₂e

Note 3: The daily power consumption of a 12-inch Samsung Full HD commercial display QBR-M Series is 0.6600 kWh;
0.6600 kWh x 0.466 KgCO₂e/kWh = 0.3076 KgCO₂e; 0.3076 KgCO₂e / 0.0011 KgCO₂e = 279.6x

Environmental Benefit of E-Paper Indoor Advertising Displays

Based on a 31.5-inch color e-paper indoor advertising display¹, approximately 1,234 image changes occur per day. Daily carbon emissions² are approximately 0.031 kg CO₂e.

Compared to a traditional TFT-LCD color e-board³, e-paper technology achieves an approximate reduction of **26x** in carbon emissions, demonstrating e-paper's significant advantage in environmental protection and energy savings.



Note 1: 31.5-inch Spectra 6 is driven at 12V, with a 70-second image cycle (50 seconds between updates, 20 seconds for updating), totaling 1,234 image cycles per day.

Note 2: The total daily power consumption of the 12-inch industrial black-and-white e-paper display is 0.066 kWh; 0.466 KgCO₂e/kWh (2025 carbon emission factor published by the Bureau of Energy); 0.066 kWh x 0.466 KgCO₂e/kWh = 0.030756 KgCO₂e ≈ 0.031 KgCO₂e

Note 3: The daily power consumption of a 32-inch Samsung professional-grade commercial display QMR-B series is 1.728 kWh; 1.728 kWh x 0.466 KgCO₂e/kWh = 0.805248 KgCO₂e; 0.805248 KgCO₂e / 0.031 KgCO₂e = 25.97x

Data source: E Ink Holdings 2023 ESG Report

E-Paper Applications Showcase - Advanced Technologies

1

Fast Refresh

By optimizing waveform driving technology, Pervasive Displays enables rapid screen updates with minimal ghosting. This improves user experience and supports real-time information displays across various scenarios.

2

Wide Temperature

With enhanced waveform control, the operational temperature range of the display materials has been extended from -15°C to $+60^{\circ}\text{C}$. This significantly expands the use cases for EPDs and improves product durability in challenging environments.

3

Graphic Library

Pervasive Displays provides a comprehensive and user-friendly graphic library that allows developers to easily create templates, switch layouts, and build interactive interfaces via simple parameter settings. This reduces development time and cost while accelerating innovation and conceptual deployment.

4

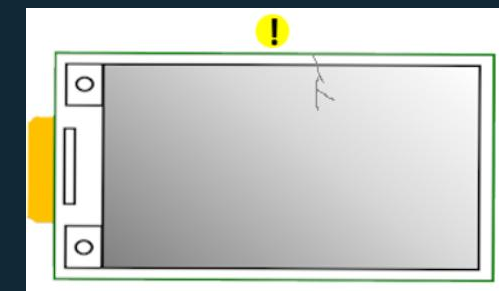
Total Solution

Pervasive Displays offers system-level integration services tailored to customer needs, including front lighting, touch panel solutions, and reinforced cover designs. These value-added services enhance the functionality and versatility of EPDs across product lines.

5

Panel Breakage Detection (Patented)

Combines TFT circuit with COG signal to detect microfractures before image update. Enhances system protection and detects structural issues invisible to the naked eye. Fully implemented across all product sizes.



Application Showcase

Smart Retail

- Electronics



- Grocery



Smart Industrial

- Smart scale label



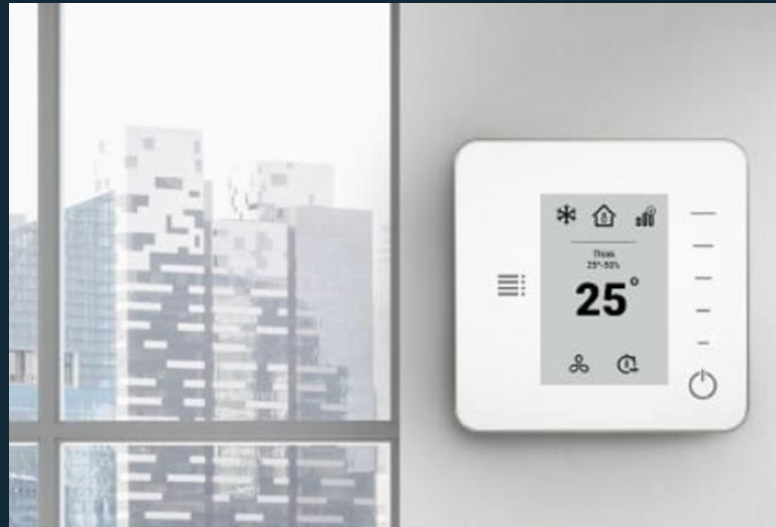
- Milking automation



Application Showcase

Smart Home

- HVAC Applications



- Window Control Applications



Smart Logistics

- Environmental Condition Monitors



- Containers (with Real-Time Location)



Application Showcase

Smart Healthcare

- Hospital Ecosystem (Bedside Cards, Environmental Monitoring, etc.)



Human Rights Policy

Purpose: Supplements our Global Human Rights Policy to ensure fair, safe, and respectful working conditions

Scope: All employees, suppliers, partners, and contractors

Standards: ILO Core Conventions, UN Global Compact, Labor Standards Act (ROC)

- **Freedom of Association**
Right to organize and join unions; no retaliation
- **No Forced Labor**
Prohibits trafficking, debt bondage, and prison labor
- **No Child Labor**
Complies with ILO Conventions 138 & 128; no hazardous work under 18
- **Anti-Discrimination & Anti-Harassment**
No bias in hiring, promotion, or dismissal; online ethics training for all staff; anonymous reporting via MyLily and ethics@vusion.com
- **Gender Equality**
Supports women's career growth; maternity/paternity leave beyond legal minimums
- **Health & Safety**
Safe workplace as a retention priority
- **Working Hours, Wages & Benefits**
Compliant with local labor regulations
- **Career Development & Equal Opportunity**
Merit-based recruitment and promotion; equal advancement opportunities for all genders.
- **Supplier Responsibility & Auditing**
must meet local legal and ethical standards
- **Personal Data & Privacy Protection**
All staff trained in data protection and information security

Human Rights Policy – 2025 Performance



- Institutionalized mentorship program and supervisor development training
- Interactive ethics and diversity & inclusion training courses



- Parental Leave and Family Support
- Family Day and flexible work arrangements are provided to support parenting and work-life balance.



- Complaint & Grievance Mechanism
- Established an internal reporting platform and anonymous feedback mechanism



Employee Net Promoter Score >50



- Employee Learning Resources
- Access to LinkedIn Learning and 360Learning platforms is available for continuous learning on topics such as unconscious bias and DEI.

Compensation & Benefits

- Bonuses for five traditional festivals, occasional afternoon tea, and employee trips
- Annual employee health checkups; enhanced checkups after 6 years of service
- Group insurance extended to spouses and children
- Monthly vending machine allowance
- Retirement benefits in accordance with the Labor Standards Act and Labor Pension Act, with monthly reserve contributions to secure retirement livelihoods
- Salary and benefits exceed the local statutory minimum wage; bonuses determined by annual performance evaluation
- Paid leave, holiday leave, family care leave, back-to-school leave, maternity leave, prenatal checkup leave, paternity leave, and paternity checkup leave are all provided beyond statutory requirements; additional leave is granted to women during pregnancy and to their spouses.

Item	Description
Holiday Leave	5 days of paid holiday leave per year, emphasizing work-life balance.
Family Care Leave	5 days of paid family care leave per year.
Back-to-School Leave	1 additional paid day for employees with children age 7 or under.
Parental Leave	3 additional paid days for employees with children age 12 or under.
Maternity Leave	10 weeks of maternity leave, exceeding the statutory requirement.
Prenatal Checkup Leave	10 days of paid prenatal checkup leave, exceeding the statutory requirement.
Paternity Leave & Paternity Checkup Leave	20 days of paternity leave and 10 days of paid paternity checkup leave, exceeding the statutory requirement.
Women may take an additional 3 days of leave during pregnancy; spouses may take an additional 1 day of leave during the pregnancy.	

Community & Social Engagement

- Charitable gift boxes for five traditional festivals in support of social causes
- ESG Green Living Day, Family Day, Sports Day, and other activities
- In 2025, a six-month walking campaign was held with strong result (calculated based on average car emissions of 0.2 kg CO₂e per km)

Participants

66 people

Total steps

81.5M+

Carbon emissions reduced

11.7 tonnes



Diversity & Inclusion Policy

Individual Level

- Leadership training
- Individual development plans

Organizational Level

- Ensure women's equal task assignment & speaking opportunities
- Eliminate bias and gender discrimination

Family Support

- Flexible hours during pregnancy
- Return-to-work interviews & support
- 4 days parental leave, back-to-school leave, lactation room
- Annual Kid's Day and Family Day events



2025 Statistics

- Female managers: 29.4%
- Gender-balance: 43.1% female, 56.9% male
- High-potential development completion: 100%
- Mid-high performers retention: 90%

VusionGroup **PERVASIVE**DISPLAYS

Liugui Eighteen Arhats Mountain Cleanup and Community Experience

- ✓ **Environmental Action** | Removal of invasive plants and forest litter cleanup.
- ✓ **Eco Tour** | Exploring the unique landscape and ecological stories.
- ✓ **Local Culture** | Experience Suann-a-kha culture, DIY hammer dyeing and authentic meal.

SDGs | This event supports the **UN Sustainable Development Goals**

SDG 13 Climate Action | Mitigating climate change impact.

SDG 15 Life on Land | Restoring ecosystems, and reducing invasive species.

SDG 11 Sustainable Cities and Communities | Supporting local community development and revitalizing local culture and economy.

SDG 12 Responsible Consumption and Production | Promoting eco-friendly lifestyles and reducing single-use items.



Liugui Eighteen Arhats Mountain Cleanup and Community Experience



Appendix. Sustainability Disclosure Framework: GRI Standards and UN SDGs Mapping Table

GRI	Corresponding Section/Page	SDG
GRI 1: Foundation 2021	prepared with reference to this standard	—
GRI 2: General Disclosures 2021		
2-1 Organizational details and reporting	Company Overview / 2	SDG 12
2-2 Entities included in the organization's sustainability reporting	Company Overview / 2	SDG 12
2-6 Activities, value chain and other business relationships	Product Innovation / 12	SDG 9, SDG 12
	E-Paper Application Showcase / 16	
2-7 Employees	Diversity & Inclusion Policy / 23	SDG 5, SDG 8
2-23 Policy commitments	Corporate Governance / 5	SDG 16
2-27 Compliance with regulations	Conflict Minerals / 7	SDG 12, SDG 17
	Restricted Hazardous Substances Policy / 9	SDG 12, SDG 17
	Code of Business Conduct / 7	SDG 12, SDG 17
	Labor Human Rights Policy / 19	SDG 12, SDG 17
2-29 Approach to stakeholder engagement	Code of Business Conduct / 7	SDG 16, SDG 17
	Labor Human Rights Policy / 19	SDG 16, SDG 17

GRI	Corresponding Section/Page	SDGs
GRI 205: Anti-corruption		
205-2 Communication and training about anti-corruption policies and procedures	Code of Business Conduct / 7	SDG 16
GRI 302: Energy 2016		
302-1 Energy consumption within the organization	Energy & Water Efficiency / 10	SDG 7, SDG 12, SDG 13
GRI 401: Employment 2016		
401-2 Benefits provided to full-time employees (not including temporary or part-time employees)	Compensation & Benefits / 21	SDG 8
GRI 403: Occupational Health and Safety		
403-6 Promotion of worker health	Health Promotion Program / 21	SDG 3
GRI 404: Training and Education 2016		
404-1 Average hours of training per employee per year	Human Rights Policy / 20	SDG 4, SDG 8
GRI 405: Diversity and Equal Opportunity 2016		
405-1 Diversity of governance bodies and employees	Diversity & Inclusion Policy / 23	SDG 5, SDG 10

PERVASIVE  **IVE** DISPLAYS