ZYXEL GROUP

2023 SUSTAINABILITY REPORT

ZYXEL Group

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About the Report

Zyxel Group has published a CSR report every year since 2011. The Company's implementation of corporate sustainability has been disclosed in detail for adherence to the initial goal and commitment to our first CSR report.

Zyxel Group is dedicated to the fulfillment of corporate responsibility, boosting customer trust in our good corporate governance, allowing the employees to be identified with the Company, and facilitating cooperation with our partners in creating a multi-win situation. The Report discloses our commitments and efforts in a detailed manner. We will continue the fulfillment of corporate responsibility and promise all stakeholders sustainable development.

Scope of the Report

This report is based on materiality assessment and includes Zyxel Group and its subsidiaries Zyxel Communications, Zyxel Networks, and MitraStar in Taiwan. Due to its smaller scale, Black Cat Information, a subsidiary, is not included. Other overseas subsidiaries report only financial and human resource information.
Compared to the previous reporting period, this report includes environmental-related information from MitraStar's subsidiary, Wuxi MitraStar Technology.

Content

Report period: January 1~December 31, 2023

Issues of Stakeholders' Concern

This part covers the consideration of the potential impacts of stakeholders on the Company as well as the identification of significant issues associated with the operations and actual achievements in terms of economy, environment and society and discloses the Company's strategies, implementation processes, and outcomes. The significant issues this year are slightly different from those in the report for the previous year. Please refer to Chapter "Communication with Stakeholders" for details.

UN Sustainable Development Goals (SDGs)

Zyxel Group supports the 17 SDGs set by the UN. In 2023, we focused on 7 SDGs which were adopted as the core and achieved in a sustainable manner.
Zyxel Group Sustainability Committee" discussed economic, social and environmental issues concerning the Company's benefits and prioritized the issues discussed according to their significance for the Company and stakeholders and the importance of the issues to the management of Zyxel Group to formulate its CSR strategies in line with our SDGs.

Report Structure

Pursuant to TWSE's "Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies" and "Corporate Social Responsibility Best Practice Principles for TWSE/GTSM Listed Companies", disclosures were made based on the framework of the Global Reporting Initiative (GRI) Standards, Sustainability Accounting Standards Board (SASB) Standards, and Task Force on Climate-related Financial Disclosures (TCFD). The disclosure framework reference table is attached as an appendix to the Report.

GRI Standards

The Report was prepared in accordance with the framework of the GRI Standards: Core option. Materiality analysis results, disclosures, and reviews will be described in the following respective chapters.

SASB Standards

The Company first adopted the disclosure framework of the SASB Standards in the Report to disclose information on MitraStar Technology in the "electronic manufacturing services (EMS) and original design manufacturing (ODM) industry" and on Zyxel Communications and Zyxel Networks in the "hardware industry".

TCFD

The opportunities and risks of the financial impacts of climate change, as well as the response measures, were evaluated and disclosed.

Internal Audit

this report has been disclosed only after internal audit.
Department review: Reviewed by the heads of relevant business departments.
Sustainability Committee: The Sustainability Committee's communications team compiles the information, drafts the report after discussing with relevant departments
Chief Sustainability Officer: submit for approval.
external verification: verification audit
Board of Directors: submit for approval by the Board of Directors
Disclosure on the official website

External Verification

Financial Information: The financial figures in this report are prepared in accordance with International Financial Reporting Standards (IFRS) as recognized by the Financial Supervisory Commission. The financial data is audited and confirmed by KPMG. All figures are reported in New Taiwan Dollars (NTD).
Report Verification: This report has been verified by an independent third-party verification agency, AFNOR Asia Ltd. The verification statement is included in Appendix IV of this report.

Report Publication

The Sustainability Report is published annually by Zyxel Group. Previous version issued in June, 2023. Current version issued in Aug, 2024. Next version to be issued in Aug, 2025.

Management System Verification Certificates

- ISO 9001 Quality Management System
- QC 080000 Hazardous Substance Process Management System
- TL 9000 Telecommunications Quality Management System
- ISO 14001 Environmental Management System
- ISO 45001 Occupational Health and Safety Management System
- ISO 14064-1 Greenhouse Gas Inventory Certificate
- ISO 27001 Information Security Management System

Feedback

If you have any questions or suggestions regarding the content or activities of this report, please feel free to contact us.

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Any revisions to the information in this report will be noted with a description of the changes at the relevant disclosure sections.

Message From Our Chairman

As industrialization continues to escalate, the exponential increase in direct and indirect carbon emissions from human activities has led to intensifying greenhouse effects, extreme climates, and escalating natural disasters. Our planet and its ecosystem cannot sustain such patterns without facing impending destruction. To counteract the worsening climate crisis, global initiatives have been undertaken to reduce carbon emissions and achieve net-zero emissions by 2050. International trade regulations and carbon tariffs have also been established to curb emissions across industrial supply chains, including those involving cross-border trade.

As responsible global citizens, and in alignment with customer and national expectations, we have a duty to ensure the reduction of carbon emissions in our own production processes and upstream supply chains. This commitment not only aligns with green operational resilience but also represents a critical competitive edge for our sustainable development.

At Zyxel Group, a leading international networking brand, our mission is to build a sustainable enterprise. Our vision entails creating economic value, fostering environmental sustainability, and promoting positive social values. To this end, we have established the Zyxel ESG Committee, guiding our sustainable development policies and strategies. From top to bottom, our group is dedicated to innovative breakthroughs, launching carbon reduction initiatives, and providing green product solutions. Our actions reflect our dedication to addressing the significance and expectations associated with ESG (Environmental, Social, and Governance) concerns among stakeholders.

We will continue to communicate with colleagues worldwide, urging collaborative efforts that influence positive change. Together with our customers and suppliers, we co-create green economic value, shaping a sustainable future.

Message From Our CSO

At Zyxel Group, we're more than just talking when it comes to sustainability - we take action. Our unwavering commitment to sustainable operations sets us apart from the competition. As global concerns about climate change and net zero continue to grow, we're proud to be leading the way in developing eco-friendly and energy-efficient products that minimize our environmental impacts.

We're also dedicated to strengthening our green supply chain, cultivating top talent, and giving back to the community. We don't just talk about making a difference - we actually make it happen. By implementing sustainable concepts across all aspects of our operations, we're empowered to create a positive impact on the world. So why not join us? Together, we can work towards achieving the United Nations Sustainable Development Goals (SDGs) and create a brighter, more sustainable future for all.

About Zyxel Group

The Zyxel Group Corporation began operations on August 16, 2010 in Shin-chu Taiwan, as it was set up to reorganize from Zyxel Communications which is founded in 1989 by Dr. Shun-I Chu. Zyxel Group has Zyxel Communications and MitraStar Technology as its subsidiaries is listed in the Taiwan Stock Exchange (TSE) under ticker number 3704 replacing Zyxel Communications. Zyxel Group offer complete networking solutions of Telco, SME and digital Home for a wide range of deployment scenarios.

Zyxel Communication Corp. develops innovative products under the Zyxel brand for telco, enterprise and home customers, while MitraStar concentrates on customized hardware/software integration of advanced products and technology for industrial needs.

Zyxel Group emphasizes on customer-oriented product and application design; this core value has been extended into products and services from every affiliated companies. Despite striving for individual growth, all our companies focus on better competitive advantage as a whole to contribute to the advancement of communication technology, which in turn fulfills the needs of the evolving Internet and its demanding users. This not only differentiates us from the rest of the pack, but also fosters higher momentum of the Group on the market.

Today, Zyxel Group has subsidiaries in America, China, Southeast Asia, Europe and Middle East. and 150 global markets served. As a responsible corporate citizen, the Zyxel Group operates under highly open and proficient governance to maintain healthy value growth and their commitment to a green environment.

Organizational Development

August, 2010: Zyxel Group Holding Corporation was funded through a share swap with Zyxel Communications. Zyxel Communications has been a totally held subsidiary of Zyxel Group Holding Corporation from then on.

January, 2011: The Product R&D and Manufacturing Business Unit was separated from Zyxel Communications. Zyxel Group Holding Corporation established MitraStar Technology, another totally held subsidiary thereof. Zyxel Group Holding Corporation is the parent company with Zyxel Communications and MitraStar Technology as its main affiliates.

February, 2019: Zyxel Communications segmented its channel business units. Zyxel Group Holding Corporation founded Zyxel Networks. Since the organizational segmentation and adjustment were carried out, Zyxel Communications has concentrated on the development of its business in the telecommunication market to offer well-structured broadband solutions and application services to telecommunications service providers and meet their needs for customization. Zyxel Networks has been devoted to satisfying the needs of small and medium-sized enterprises as well as domestic users.

June, 2023: The company changed its English name from "Unizyx Corporation" to "Zyxel Group Corporation."

ZYXEL COMMUNICATIONS

ZYXEL NETWORKS

MitraStar

4.1

NT$4.1 billion Capital

30.38

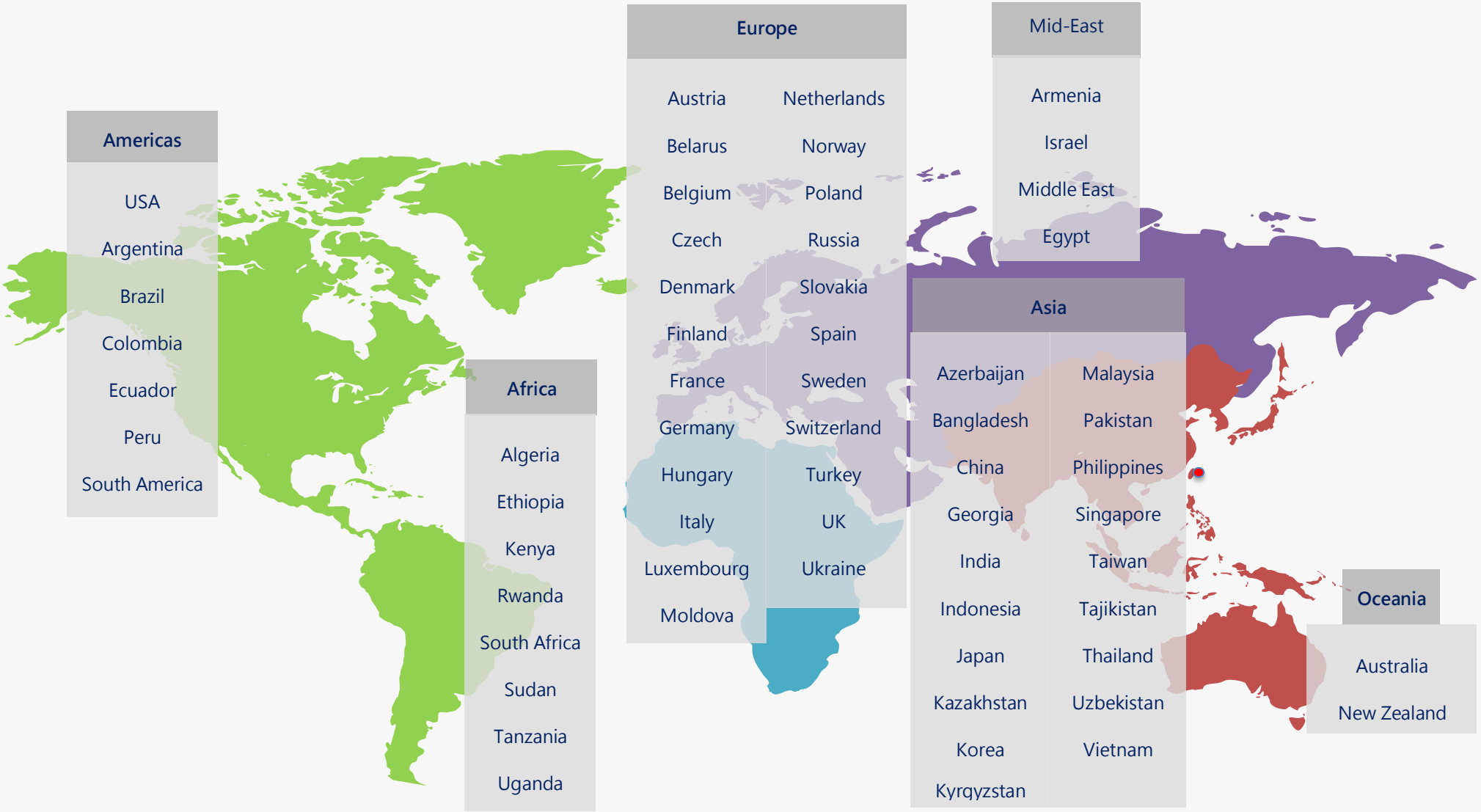
NT$30.38 billion Revenue in 2023

3,893

Total Employees in 2023

Global Market

Zyxel Group currently has markets in the Americas, China, Southeast Asia, Europe and the Middle East, serving 150 regional markets around the world. More information: 2023 Zyxel Group annual report



Products & Services

The Zyxel Group offers service providers, businesses and home users with products and services through the Zyxel brand and MitraStar DMS services. In collaboration with customers, suppliers and all partners, Zyxel Group strives to stay ahead of the digital wave with its advanced, reliable broadband connectivity products and solutions.

To satisfy every demand from consumer devices to remote central office equipment, wired to wireless, home to cloud applications, we at Zyxel Group created a solid foundation with next-generation network technologies built into every new product for customers to design their own integrated applications. The efforts also allow the Zyxel Group to have a cross-the-board understanding on the global market and to create a more comprehensive range of solutions that empowers users to enjoy the best contemporary, smart networking experience.

We share the same values with our customers, and we are eager to satisfy them as well. Backed by our experienced teams, outstanding products and exceptional customer services, we are confident about every promise with our name on it.

For more details of products and services, please visit the Zyxel Communications, Zyxel Networks, MitraStar Technology websites.

Target Market

Service Provider	Business	Home
EMPOWERING SERVICE PROVIDERS TO UNLOCK THE POTENTIAL OF BROADBAND	EXPERIENCE A TRUE ONE NETWORK LIKE NO OTHER	INSPIRE SMART DIGITAL LIFE

Key Products

Zyxel Group takes the new generation of network communication technology as the core, and focuses on the product development and manufacturing of wired and wireless broadband networks, new generation networks, digital home multimedia and smart life applications, as well as Zyxel brand expansion. The main products and solutions can be divided into the following areas:

Broadband access equipment		Fiber optic equipment		Equipment for Businesses			Home Network			
Wireless and mobile customer premise equipment	Fixed line Customer premise equipment	Optical network units	Central office equipment	Wireless and mobile customer premise equipment	Fixed line Customer premise equipment	Optical network units	Central office equipment	Wireless and mobile customer premise equipment	Fixed line Customer premise equipment	Optical network units

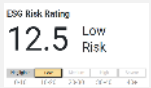
Awards & Recognition

S&P Global Ratings
Industry Mover No. 2
in communications equipment industry

2024 S&P Sustainability Yearbook
Top 5%
in communications equipment industry

MSCI
2023 ESG Ratings
A

Sustainalytics
ESG risk rating: **Low**



FTSE Russell
Global communications Equipment industry **Top20%**

CDP
Climate Ratings
B (Management Level)

Ecovadis
Silver

TCSA Sustainability Report
Gold award for two consecutive years

Taiwan Corporate Sustainability Awards
Information Security Award

Governance Evaluation
Top 6%~ 20%

Business Weekly Magazine
Carbon Competitiveness Top 100

CommonWealth Magazine
corporate carbon reduction assessment
Excellence (Top grade)

Workforce health evaluation
Top **10%** in electronics industry

Environmental Department
Green Procurement Award

Hsinchu City Government
Green Procurement Award

Sustainable Achievements

Economic Aspect

Business Continuity Management Plan

Complete risk plans and drills for supply chain disruptions and production interruptions.

Employee Business Ethics

Completion rate of employee business ethics education and trainings 97.7%
Major business ethics violations: 0

Information Security Management

Major information security incidents: 0

Obtained the ISO 27001 certificate

Customer Relations

Business confidential protection course completion rate: >97.7%
Customer satisfaction: MitraStar >9.0 Zyxel Networks >4.3

Supplier Sustainability Management

Hosted 2 supplier conferences (Taiwan and Wuxi)

CSR Commitment Form Completion Rate: MitraStar: 84% / Zyxel Communications/Zyxel Networks 100%

ESG Assessment Survey Completion Rate: MitraStar 63.5% Zyxel Communications/Zyxel Networks 100%

Environmental Aspect

Science Based Targets initiative

Submitted a SBT commitment letter in 2023, put forward the short-term SBTs in 2025, and to achieve the net-zero emission commitment in 2050.

Low-carbon Transformation Plan

Received a project grant from the Industrial Development Administration of the Ministry of Economic Affairs.

TCFD Report

Released the 2023 TCFD Report

Greenhouse Gas Reduction and Inventory

Conducted Scope 3 greenhouse gas inventory, achieving a 17.3% carbon reduction in 2023.

Biodiversity Risk Assessment

Using the WWF Biodiversity Risk Filter to evaluate global operations and suppliers.

Establish national standard for product environmental footprint

Developed standards for calculating environmental information exposure for the Ministry of Environment.

Social Aspect

Women in Technology

Women as Senior Managers:19.4%

Women in STEM positions: 25.7%

Human Resource

Human capital investment return rate: 7.98

Average training hours: 29.5 Hours

Human Rights Due Diligence

Released human rights due diligence questionnaire

Major human rights violations: 0

Human rights-related training courses completion rate: 97.7%

Zero placement fee

Talent Training, Social Care

Shun-I Chu Scholarship: NT$8.95 million was awarded to 384 students. Sponsoring 16 events.

Christmas charity activities.

Donation of network equipment for charitable purposes.

Special Feature of the Year

01 Lead the Supply Chain's Low-Carbon Transformation and Upgrade

Zyxel Group's subsidiary MitraStar Technology has received support from the Ministry of Economic Affairs' Industrial Development Bureau. This initiative combines the expertise of industry, government, and academia, working together with the supply chain on energy-saving technologies, equipment upgrades, carbon reduction, and digital carbon data management.

Five key action plans

- **Plan Net-Zero Pathways and Strategies**: Establish a carbon reduction plan for the central plant and design a carbon reduction pathway with implementation methods to guide smaller enterprises.
- **Create a Digital ESG Sustainability Management Platform:** Implement a digital energy management platform across the central plant and supply chain, covering greenhouse gas emissions, carbon footprint analysis, and energy monitoring. Integrate group and supply chain data to enhance the efficiency of carbon reduction operations.
- **Implement Carbon Reduction Measures and Develop Low-Energy-Consumption Products:** Replace high-energy-consuming equipment to improve energy efficiency. Collaborate with suppliers to design environmental friendly products with principles such as low toxicity, energy efficiency, easy to disassemble and recycle, and extended product lifespan, applying sustainable product design concepts throughout the product lifecycle.
- **111-Hour Zero Carbon Academy and Digital Auditing:** Provide 111 hours of training, including an introduction to low-carbon transformation, ISO14064-1 practical training, sustainability report introduction, and ISO14067 internal verifier training. Support the supply chain in digital auditing and certification. From December 2023 to June 2024, a total of 2,987 participants are expected.
- **Link to International Net-Zero Initiatives:** Zyxel Group has set science-based targets (SBTi) for carbon reduction and is guiding the supply chain in taking action according to the steps and preparations required to join SBTi, leading the supply chain to participate in the SBTi net-zero initiative.

Sustainable Supplier Conference

In 2023, Zyxel Group held one supplier conference at its Taiwan headquarters and one at the Wuxi MitraStar factory. The conferences shared the "Zyxel Group Low-Carbon Transformation Blueprint" and "Setting Net-Zero Targets Together with Supplier Partners." Additionally, six outstanding sustainable suppliers were recognized. The events aimed to encourage all suppliers to work towards sustainability and enhance the company's resilience in sustainable management. Approximately 220 suppliers attended both online and in-person.

▲Sustainable Supplier Conference Held at Taiwan Headquarter

▲Outstanding Sustainable Suppliers Recognized

▲Zyxel Group Shares Low-Carbon Transformation Blueprint

More information: link!

02

Business Continuity Management Plan

Zyxel Group has implemented a Business Continuity Management (BCM) plan to protect critical operations during major risks and meet customer demands for operational continuity. This plan minimizes the impact and downtime caused by disasters.

Execution Details

Zyxel Group conducts business impact analyses, development, implements, and continuously improves the BCM framework. The group's departments are divided into six teams: Capacity Allocation, Emergency Response, External Services, Production Operations, Logistics Support, and Technical Support, all working together to implement BCM strategies.

Plan Outcomes

Risk analysis has identified supply chain and production disruptions as major risk events. Zyxel Group subsidiaries have developed and tested BCM plans for these events, establishing a comprehensive crisis management and disaster response system. Regular drills and improvements are conducted annually, integrating BCM into daily operations and management processes. More information: Businiess Continuity Management

03

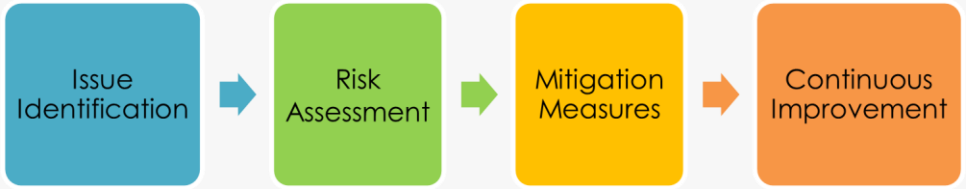
Human Rights Due Diligence (HRDD)

Zyxel Group designed a "Human Rights Due Diligence Questionnaire" based on the "Human Rights Due Diligence Process." This questionnaire identifies human rights risks within the group, allowing early planning of improvements and preventive measures to create a more friendly workplace.

Execution Details

Referencing RBA-related human rights issues, the questionnaire covers seven key human rights topics: "Reasonable Working Hours and Compensation" , "Prohibition of Forced Labor" , "Safe and Healthy Working Environment" , "Zero Tolerance for Harassment and Bullying" , "Mental and Physical Health and Balance" , "Non-Discrimination" , and "Freedom of Assembly and Association" . The survey assesses 31 human rights issues, categorizing them into low, medium, and high-risk based on their frequencies and risk levels. The survey targets Zyxel Group's subsidiaries—MitraStar Technology, Zyxel Networks, Zyxel Communications, and Wuxi MitraStar Technology—including both direct and indirect employees in Taiwan and Wuxi, as well as foreign workers.

Human Rights Due Diligence Process:



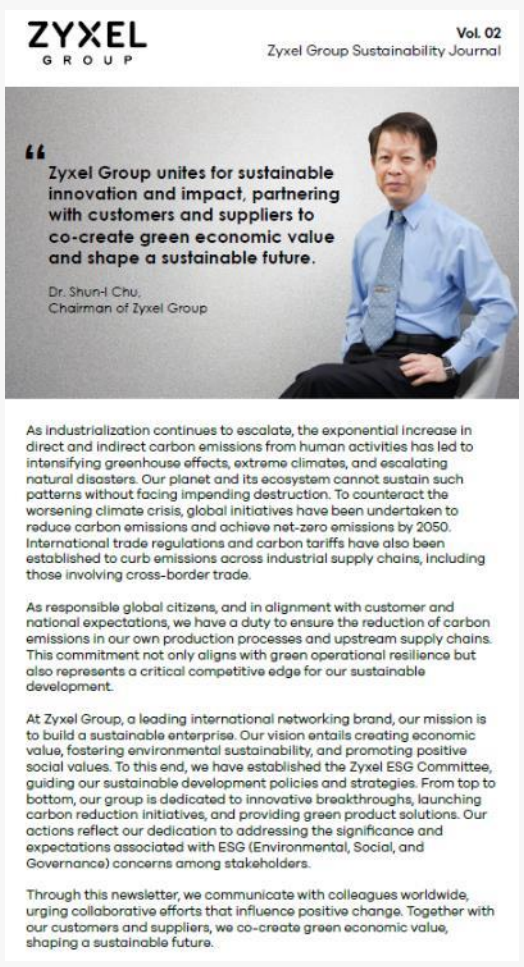
Plan Outcomes

The human rights due diligence identified "Reasonable Working Hours and Compensation" and "Safe and Healthy Working Environment" as higher-risk issues. The company will implement multiple response measures and continue to monitor and improve these areas.

More information: Human Rights: Due Diligence

ESG EDM

To convey Zyxel Group' s core values of sustainability, we issue a sustainability newsletter as a communication platform to provide stakeholders with the latest updates on our sustainability actions. This newsletter also aims to educate and inspire subscribers to acquire sustainability-related information and join us in taking action. It reflects our commitment to the environment and society, fosters the establishment and continuous improvement of internal culture, and creates a positive impact on society and the environment. Additionally, the digital format of the newsletter effectively reduces resource consumption, aligning with the principles of sustainable development. more information: ESG EDM



Sustainable Governance

A. Strategy & Blueprint

B. Sustainability Committee

C. Stakeholder Communication

A. Strategy & Blueprint

Zyxel Group's sustainable management framework is based on our visions and integrated with our sustainability policies. We supervise sustainability matters and formulate and execute strategies through the Company's management platforms, such as the Board of Directors, Advisory Committee and Sustainability Committee.

The Sustainability Committee responds to the UN' s SDGs and analyzes and identifies the material issues of the main stakeholders' concern, e.g., investors, customers, government agencies, suppliers, employees, and communities, thereby setting the Company' s sustainable development goals. Our sustainability policies are implemented on the basis of our five main sustainability focuses, namely sustainable management, corporate governance, environmental protection, sustainable products, and friendly workplace and social welfare in communities.

Visions

- Create economic values
- Develop sustainable products
- Exalt good social values

Policies

Corporate Governance and Integrity Management
- Strictly implement integrity management
- Reinforce corporate governance
- Pursue sustainable management
- Support a partners' growth

Sustainable Environment and Products
- Reduce environmental burdens
- Observe environmental protection regulations
- Offer green products Endeavor to save energy and cut waste

Friendly Workplace and Community Relations
- Create a friendly workplace
- Protect the employees' rights and interests
- Make more of an effort in social welfare activities

UN's SDGs

Pillars

- Sustainable Management
- Sustainable Value
- Sustainable environmental
- Sustainable products
- Friendly workplace
- Social welfare in communities

Stakeholders

- Investors
- Customers
- Government
- Supplier
- Employee
- Community

Sustainability Goals

- Implement sustainable management
- Creating a Value Chain
- Mitigating Environmental Impact
- Innovative Sustainable Products
- Creating Shared Value
- Fulfilling Corporate Social Responsibility

B. Sustainability Committee

Zyxel Group takes the Zyxel Group Sustainability Policy as our highest guiding principle for our sustainable development, and has established the Zyxel Group Sustainability Committee as the highest-level management for the planning, implementation, and supervision of our sustainable development strategy. The Zyxel Group Sustainability Committee formulates policies and goals for its three subsidiaries to operate sustainably. It discloses the vision and mission of sustainable development, sees to it that the subsidiaries carry out operations sustainably, and regularly reviews the implementation results.

The Zyxel Group Sustainability Committee is composed of Board of directors, senior executives, and members of relevant departments. The members include Zyxel Group and its three subsidiaries Zyxel, ZNet, and MitraStar. This steering committee acts as a strategic guidance unit. The chairman of Zyxel Group serves as the committee chairman to supervise the sustainability work and report to the board of directors about the subsidiaries' implementation of sustainable operations.

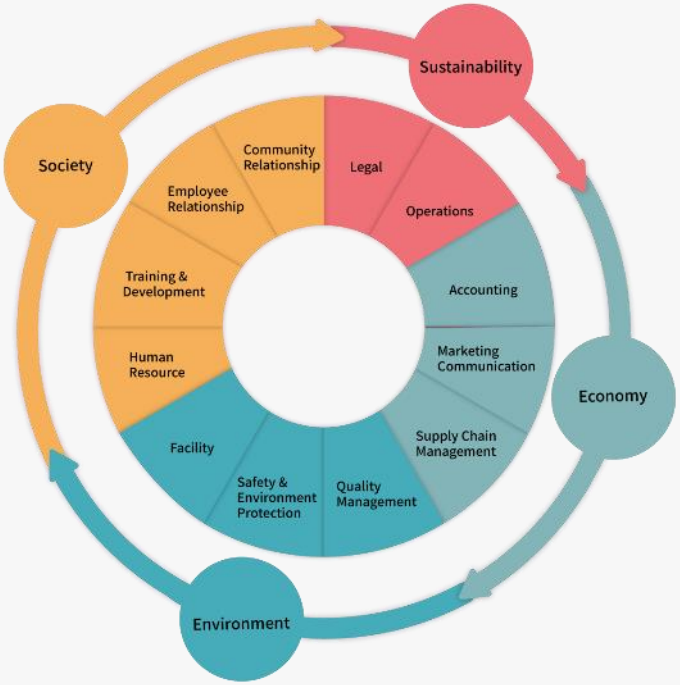
In 2022, the former Chief Operating Officer of Zyxel Communications was appointed as the dedicated Chief Sustainability Officer. The establishment of the "Sustainability Office" followed, overseeing and supervising sustainability initiatives, reporting to the board of directors, and providing guidance to subsidiary companies on their various sustainability efforts.

The "Sustainability Office" has a Corporate Communication and Planning Group which is responsible for resource integration, communication, and coordination between Zyxel Group and the three subsidiaries. It guides the implementation of the strategy of the committee from above and communicates with each executive team from top to bottom to enforce policies in a horizontally cascaded manner.

The Zyxel Group Sustainability Committee is composed of a number of sustainability working groups, headed by the top managers of relevant departments, who set annual and long-term goals, implement sustainable operations, and regularly report implementation results.

The Zyxel Group Sustainability Committee holds weekly reports where the sustainability working groups take turns to have dialogues, discuss with the Sustainability Manager, review the implementation status of related businesses, and check for continuous improvements. All of the sustainability working groups also report to the chairman of the steering committee every month to review the short, medium, and long-term sustainability goals and the blueprint for sustainable development. At the quarterly board meeting, the chairman of the steering committee and the communications team report to the directors on major decision-making issues, sustainability plans, and work progress.

The Sustainability Committee also releases ESG newsletters to promote our ESG initiatives and accomplishments to employees and customers, as well as providing ESG knowledge education. Additionally, in accordance with the functions of the committee's working groups, educational training is arranged periodically to progressively integrate sustainability principles and practices into the DNA of employees, thereby fostering a company culture that collectively achieves our sustainability objectives.



Sustainability Committee Management Structure

Board of Directors

- Supervise enterprises to practice sustainable development
- Ensuring the implementation of sustainable development policies

Steering Committee

Chairman: Chairman of Zyxel Group, Shun-I Chu

Member: Zyxel Group CEO, MitraStar President, Zyxel Communications President, Zyxel Networks President

- The Chairman of Zyxel Group serves as the chairperson.
- Oversees sustainability efforts and reports to the board of directors.

Sustainability Office

- CSO: Denise Lin
- Sustainability Project Strategy Center
- Guide the execution of various sustainability initiatives for subsidiaries
- Report to the Board of Directors on development blueprints, sustainability plans, and progress

Stakeholder Communication Team

- Resource integration
- Integrated strategy execution
- Communicate across groups

Corporate Governance Team

- Corporate Governance
- Risk Management

Information Security Team

- Information management
- Data protection
- Patent intellectual property

Supplier Management Team

- Sustainable sourcing
- Supplier sustainability management

Audit team

- Internal audit
- Supplier audit

Carbon Management Team

- climate change
- Carbon management
- Carbon fees and carbon rights

Environmental Protection Team

- Energy management
- Waste management
- Workplace safety and health

Green Product Team

- Product quality management
- Sustainable design
- Green packaging

Labor & Human Rights Team

- Human rights protection
- Human capital development
- Industrial relations

Community Contribution

- Welfare Committee
- Zyxel Foundation

Key Sustainability Committee Initiatives in 2023

- Initiated the Business Continuity Management Plan
- Submitted a commitment letter to the SBTi for carbon reduction targets
- Applied for subsidies under the Ministry of Economic Affairs' "Large Corporations Supporting Small Manufacturers in Low-Carbon and Smart Upgrading and Transformation" project
- Released the 2023 TCFD report
- Developed environmental information disclosure standards for the Environmental Protection Administration
- Conducted human rights due diligence to identify human rights risk issues
- Carried out an employee engagement survey

C. Stakeholder Communication

For the management of the issues of stakeholders' concern, Zyxel Group has a stakeholder management procedure in place. Through stakeholder identification and issue analysis, key stakeholders are identified to assess their impact on operations. Annual management objectives and procedures are set, communication channels are established, and plans for improving stakeholder relations are devised. A report on the annual outcomes of communicating significant stakeholder concerns is presented to the board of directors each year. These achievements are published on the website and in the sustainability report, enhancing corporate responsibility towards stakeholders.

Stakeholder Concerns Survey Project

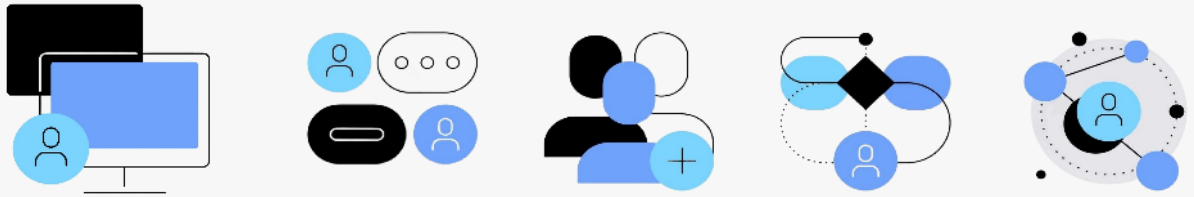
To gain a more comprehensive understanding of our stakeholders and their concerns about the company, we initiated the "Stakeholder Concerns Survey Project" from 2021 to 2022. We began by providing training to the HEQ Investment and Control Sustainability Committee on conducting stakeholder surveys. Using their feedback on company concerns as a foundation and considering questionnaires from GRI, CDP, DJSI, and others, we designed two types of surveys. One focused on the impact of sustainability issues on operations for company executives, and the other gauged stakeholder interest in sustainability issues. Additionally, an English version of the surveys. was created for use by overseas colleagues, international suppliers, and customers.

Enterprise Risk Management Process (ERM)

We integrate the significant impact results, assessed based on the impact and likelihood of sustainability issues identified by stakeholders, with the analysis conducted by the 'Sustainability Committee Risk Management Team' within the Enterprise Risk Management (ERM) framework. This integration allows for a more comprehensive impact assessment of key issues affecting the company's operations. More information: Risk Management.

Stakeholder Online Questionnaire Survey

Zyxel Group values feedback from various stakeholders. To facilitate this, we have established a "Stakeholder Online Questionnaire" on our official website. This platform allows us to regularly gather concerns and issues that stakeholders have regarding our company. Our dedicated team is responsible for managing these responses, and we collaborate with relevant departments to assess and provide responses. In 2023, a total of 160 questionnaires were collected. Through the analysis of these questionnaire responses, we evaluated the significant concerns that stakeholders have regarding HEQ Investment and Control. Notably, there were no changes in these concerns compared to the previous year.



Materiality Identification and Analysis Process

Understanding the Organizational Context

1 Identification

6 main stake holders: Investors, Employees, Customers, Suppliers, Contractors, Government/Communities

- Following GRI Standards and the AA1000 Stakeholder Engagement Standard (SES), we establish a stakeholder engagement process based on five principles: Dependency, Responsibility, Tension, Influence, and Diverse Perspectives.
- Through the Zyxel Group Sustainability Committee's ESG consensus meeting, we identify stakeholders who impact or are impacted by the company's operations in economic, environmental, and social areas.

2 Collect issue

26 Preliminary issues

- 52 members of the Zyxel Group Sustainability Committee provided feedback during the ESG consensus meeting, and considered the opinions of internal and external experts.
- Integrated disclosure topics from SDGs, GRI, SASB standards, CDP, and the DJSI questionnaire.
- Resolved to evaluate 8 governance, 6 economic, 6 environmental, and 6 social sustainability issues.

3 Interest Identification

535 questionnaires

- Issued 790 questionnaires on "Stakeholder Interest in Sustainability Issues," with an English version provided for international colleagues, overseas suppliers, and customers. A total of 535 responses were collected, resulting in a 67% response rate.
- Recipients were chosen based on "representativeness" and according to three principles: "frequency of interaction," "impact," and "level of concern," targeting the six key stakeholders identified for evaluation.

Identify Actual and Potential Impacts

4 Impact Significance

200 questionnaires

- Issued 286 questionnaires to company executives on "Impact of Sustainability Issues on Operations," with 200 responses collected, achieving a 70% response rate.
- Analyzed four operational impacts: "business growth", "customer trust", "talent retention", and "risk management", assessing both positive and negative impacts and their intensity.
- Integrated the results from the "Sustainability Risk Management Team" in Enterprise Risk Management (ERM), analyzing the impact intensity, short, medium, and long-term impacts, likelihood of occurrence, and whether they have occurred for issues related to governance, economic, environmental, social, and product areas.

Assess Impact Significance

5 Identify Positive and Negative Impacts

Matrix Diagram

- Analyzed the significance of impacts and assessed them based on Zexel's industry category and operational business relationships across governance, economic, environmental, human (including human rights), and product areas.
- Reviewed regulatory requirements, international standards, management systems, questionnaire feedback, grievance mechanisms, and media reports, and consulted with internal and external experts to identify 26 preliminary sustainability issues, assessing their positive and negative impacts as well as actual and potential impacts.
- Created matrices to map the positive and negative impacts of issues according to "impact significance" and "likelihood of occurrence.

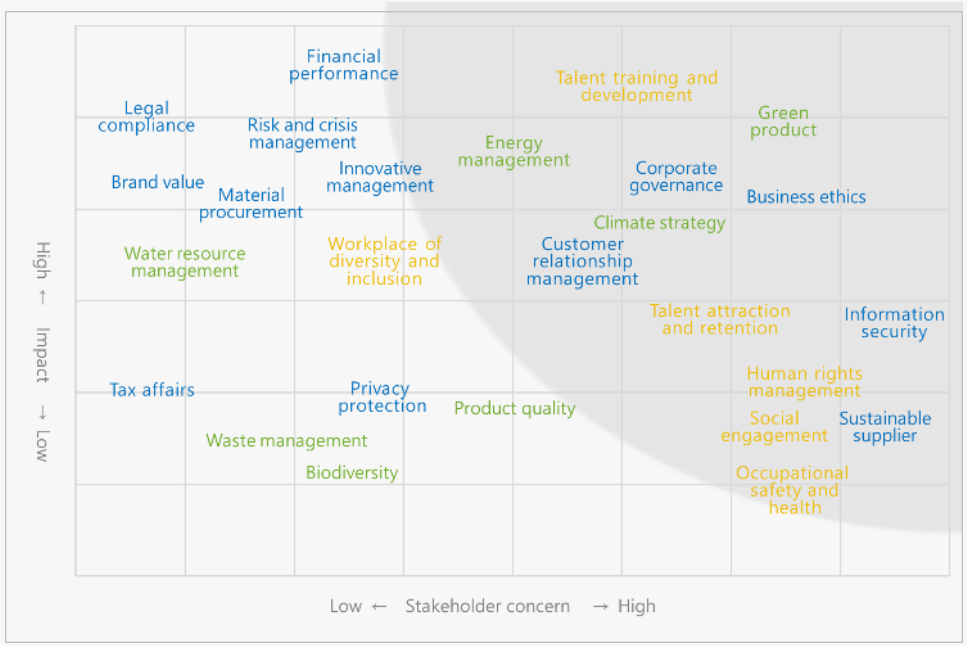
Ranking of Significant Impacts

6 Determine Major Issues

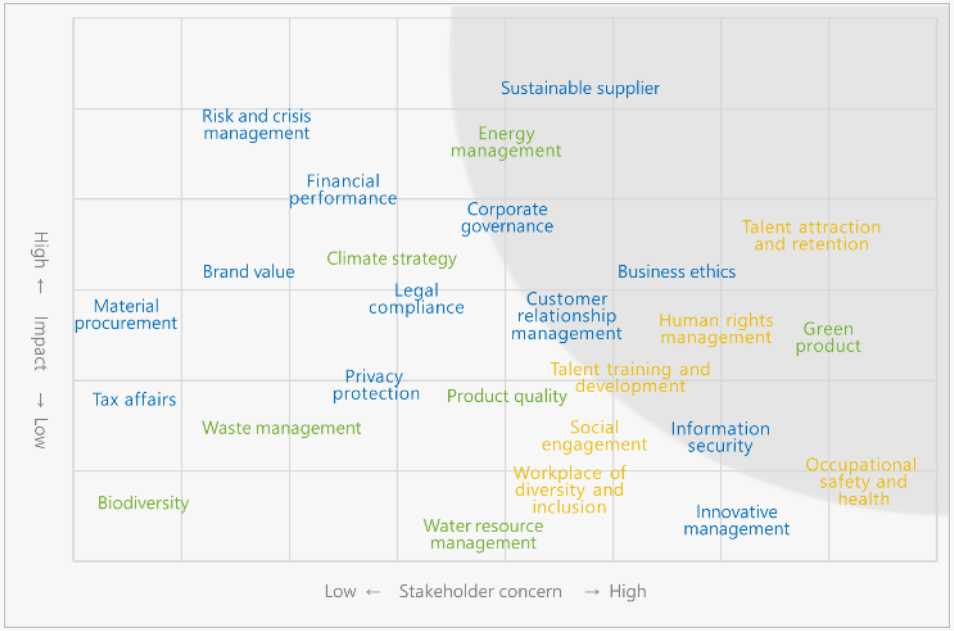
13 Major Issues

- Based on the positive and negative impact matrices, prioritize the issues, select 13 major topics through dual assessments, and consult with internal and external experts.
- Confirmed by the Sustainability Officer, reported to the Board of Directors for approval by the Sustainability Committee, and incorporated into internal performance management procedures.
- For each major topic, assess its impact on operations, develop strategies, establish management policies, set short, medium, and long-term goals, and review the progress annually to track and evaluate performance.

Positive Impact Matrix Diagram



Negative Impact Matrix Diagram



13 Major Issues

5 governance/economic issues

- Corporate governance
- Business ethics
- Information security
- Customer relationship management
- Sustainable supplier

3 environmental issues

- Climate strategy
- Energy management
- Green product

5 social issues

- Talent attraction and retention
- Talent training and development
- Human rights management
- Occupational safety and health
- Social engagement

Material Issues for Operational & Value Chain Impact

Aspect	Major Issue	Impact Identification			Impact on Operations				Impact on the Value Chain			Significant Impact		Mitigation Measures for Positive and Negative Impacts
		Actual	Potential	Period	Business Growth	Client Trust	Talent Retention	Risk Management	Suppliers	Company Operations	Customers	Positive	Negative	
Governance	Corporate governance		●	Long-term	●	●	●	●		●		Ensure Stable Company Development and Achieve Sustainable Operations	Incurring Fines and Reputation Damage, Increasing Operational Costs	Establish an effective corporate governance framework and control mechanisms to enhance governance capabilities
	Business ethics		●	Short-term				●		●		Enhance Company Reputation and Brand Image	Violation of Professional Ethics, Reducing Stakeholder Trust	Conduct ethical risk assessments and supervision
	Information Security	●		Short-term		●		●		●	●	Meet Customer Requirements for Information Security	Data System Failures and Cyberattacks, Affecting Operations and Causing Financial Losses	Identify cybersecurity management risks to prevent security incidents
	Customer relationship management	●		Long-term	●	●		●		●	●	Customer Trust, Enhance Partnerships with Clients, and Support Business Growth	Increased Customer Relationship Management Costs, Affecting Performance	Establish smooth customer communication channels. Uphold product quality and service, providing customers with optimal solutions.
	Sustainable supplier	●		Short-term	●	●		●	●	●		Establish a Sustainable Value Chain and Strengthen Supply Chain Resilience	Raw Material Price Fluctuations, Rising Costs. Supply Shortages, Delays, and Interruptions in Key Raw Materials and Consumables, Affecting Delivery Schedules.	Establish a raw material price risk management mechanism. Actively develop new material sources to avoid monopolization by a few suppliers. Establish safety stock levels
Environment	Climate strategy		●	Long-term		●		●	●	●	●	Leverage Operational Opportunities Arising from Climate Change	Adjustments to Production Processes, Energy Usage, and Emission Controls to Meet International Net-Zero Targets and Environmental Regulations, Increasing Compliance Costs and Risks	Identify climate change risks and opportunities, implement risk mitigation measures. Set carbon reduction goals and strategies
	Energy management		●	Long-term		●		●		●		Accelerate Renewable Energy Deployment and Reduce Operational Costs	Insufficient Renewable Energy, Increasing the Difficulty of Achieving Carbon Reduction Goals	Increase the use of renewable energy
	Green product	●		Short-term	●	●		●		●	●	Expand Market for Sustainable Products	Increased Investment in Green Product R&D, Raising Research and Development Costs	Build product design capabilities that reduce environmental impact
Society	Talent attraction & retention	●		Short-term			●	●		●		Foster a Diverse and Inclusive Corporate Culture to Create Positive Impact and Enhance HR Competitiveness	Talent Attrition	Monitor market salary trends to ensure competitive compensation packages
	Talent cultivation & development	●		Short-term			●	●		●		Enhance Employee Skill Development to Improve Corporate Competitiveness and Address Market Challenges	Increased Costs for Talent Development and Management	Offer diverse talent training programs to attract and retain talent
	Human rights management	●		Short-term			●	●	●	●		Promote Smooth Operations through Bidirectional Communication in Labor Relations	Human Rights Violations Resulting in Fines. Non-compliance with Customer ESG Audit Requirements, Affecting Business Development. Impact on Corporate Image	Promote the concept of human rights protection
	Occupational Safety & Health	●		Short-term			●	●	●	●		Create a Healthy and Safe Work Environment to Enhance Employee Loyalty and Assist in Recruitment	Regulatory Violations Leading to Fines, Increasing Operational Costs, and Affecting Corporate Image. Resulting in Low Employee Retention Rates	Provide a healthy and safe working environment
	Social Participation	●		Long-term			●			●		Strengthen Community Relations and Brand Image. Engage in Community Activities to Increase Employee Cohesion	Costs for Community Sponsorship and Participation Activities	Build good community relations and actively engage in community affairs

Major Issues Boundaries

	Major Issue	GRI Standards	SASB	SDGs	Company internal boundaries					Company external boundaries			Chapter
					Zyxel Group	Zyxel Communications	Zyxel Networks	MitraStar	Overseas subsidiaries	Customer	Supplier	Governance /Community	
Governance	Corporate governance	201-1 207-1 207-2 405-1			●	●	●	●	●				Financial Performance Diversity and inclusion Recruitment
Governance	Business ethics	205-1~3 206-1			●	●	●	●	●				Business Ethics
Governance	Information Security	418-1			●	●	●	●					Information Security Management
Governance	Customer relationship management	418-1				●	●	●		●			Customer Relation
Governance	Sustainable supplier	204-1 308-2 414-2	Supply Chain Management Sources of Raw Materials			●	●	●			●		Supplier Sustainability
Environment	Climate strategy	201-2 305-1~305-4, 305-6~305-7			●	●	●	●					Climate Change
Environment	Energy management	302-1, 3~4			●	●	●	●					Energy Management
Environment	Green product	302-5 416-2				●	●	●		●	●		Sustainable Product
Society	Talent attraction & retention	201-1 201-3 401-1 401-2 401-3 405-1	Labor Practices Employee Diversity and Inclusion		●	●	●	●	●				Diversity and inclusion Recruitment
Society	Talent cultivation & development	404-1 404-2 404-3			●	●	●	●	●				Human Capital Development
Society	Human rights management	402-1 406-1 407-1 408-1 409-1			●	●	●	●	●				Human Rights Management
Society	Occupational Safety & Health	401-2 403-1~10	Working Conditions		●	●	●	●					Workplace Health & Safety
Society	Social Participation	203-1 203-2			●	●	●	●				●	Community Contribution

Sustainability Strategy Alignment with Major Issues

Pillars	Strategy	Major Issue	Stakeholder	Operational Impact	Implementation Policy	Performance Indicators	Goals 2024 short-term	Goals 2027 mid-term	Goals 2030 long-term	SDGs	Chapter
Sustainable Management	Implement sustainable management	Corporate governance	Investor Government	Achieve the company's sustainable management goals	Establish an effective corporate governance framework and control mechanisms to enhance governance functions	Corporate Governance evaluation score and ranking	Maintain within the top 6% to 20%		Top 5%		Corporate Governance
		Business ethics	Investor Government Customer Supplier	To create a sustainable business environment, it is essential to avoid any dishonest behavior that could harm customer trust and cause corporate losses.	Establish business ethics policies and guidelines to cultivate a corporate culture based on the principle of "integrity" and conduct ethics-related risk assessments and oversight.	Completion rate of Business Ethics training	>98%		100%		Corporate Governance C. Business Ethi
						Number of major Business Ethics violations	0 cases				
		Corporate governance	Customer	Ensure the confidentiality of information assets to comply with regulations and gain customer trust.	Identify information security management risks to prevent security incidents and enhance employees' information security awareness and knowledge.	Completion rate of Information Security training	>98%		100%		Corporate Governance E. Information Security Management
						Number of major information security incidents	0 cases				
						Annual ISO 27001 certification	Obtained annually				
Sustainable Value	Creating a Value Chain	Customer Relationship Management	Customer	Gain customer satisfaction and trust to achieve greater profitability.	Establish smooth and efficient customer communication and implement customer information protection mechanisms.	Customer Satisfaction (Maximum score: MitraStar 10, Zyxel Networks 5)	MitraStar>9 Zyxel Networks>4.3		MitraStar>9.5 Zyxel Networks>4.5		Value Chain A.CustomerRelationship
						Coverage of Trade Secret Protection Training	>95%	>97%	>99%		
		Sustainable supplier	Supplier	Sustainable management of suppliers will strengthen partnerships within the supply chain and realize the company's sustainability values.	Implement a sustainable supply chain management model and establish sustainable partnerships with supply chain partners.	Key Suppliers: • Completion rate of CSR Commitment Signing • Completion rate of ESG Assessment Surveys • Completion rate of ESG Training and Awareness Programs	MitraStar80% Zyxel Communications/Zyxel Networks100%		MitraStar90% Zyxel Communications /Zyxel Networks100%		Value Chain B. Supplier Management
Sustainable environmental	Mitigating Environmental Impact	Climate strategy	Government Community	Understanding climate change risks and opportunities can oversee operational strategy and financial planning to reduce the financial impacts of climate risks.	• Conduct Business Continuity Management (BCM) plan climate disaster drills to strengthen climate resilience. • Set carbon reduction targets and promote greenhouse gas reductions.	Number of production interruption days due to climate disasters	0 days				Sustainable Environment A. climate chang
						Set targets according to SBTi (Science Based Targets initiative)	According to SBTi Absolute Reduction Method		achieve a 50% reduction in carbon emissions		
		Energy Management	Government Community	Support sustainable operations by implementing environmental protection and energy-saving goals, reducing greenhouse gas emissions, and lowering energy costs.	Improve energy use efficiency	Percentage reduction in electricity intensity compared to the baseline year 2021:	Reduction of 20%		Reduction of 21%		Sustainable Environment B. Energy Management
					Increase use of renewable energy	• Complete solar energy installations • Increase the proportion of renewable energy usage	Initiate installation at the Hsinchu plant		Complete installation at the Hsinchu plant		

Pillars	Strategy	Major Issue	Stakeholder	Operational Impact	Implementation Policy	Performance Indicators	Goals			SDGs	Chapter
							2024 short-term	2027 mid-term	2030 long-term		
Sustainable products	Innovative Sustainable Products	Green product	Customer Supplier	Enhance the sustainable value of products by implementing R&D and design for Sustainable Products to build product design capabilities that reduce environmental impact	• Establish design guidelines and checklists for Sustainable Products • Conduct product carbon footprint assessments and management • Implement Sustainable Product design and packaging	• Develop product carbon footprint operational procedure documents • Achieve product carbon footprint management targets • Proportion of Sustainable Product design integration	• Adopt product carbon footprint platform • Certification of the first carbon-neutral product	• Complete environmental footprint impact report for products • 100% integration of green design	• Recycled plastics • Energy-saving hardware and software • Plastic-free packaging • 100% recycled paper packaging	12	Sustainable Product
Friendly Workplace	Creating Shared Value	Talent attraction & retention	Employees	Attracting and retaining top talent can enhance operational performance.	Monitor market salary trends to ensure competitive total compensation.	Indirect employee turnover rate	<15%	<14%	<12%	8	Friendly Workplace A.Diversity and inclusion Recruitment
		Talent cultivation & development	Employees	Diverse training programs will attract and retain talent	Provide diverse talent training programs	Annual training program completion rate	>92%	>93%	>95%	4	Friendly Workplace B.Human Capital Development
					Ensure professional skills training opportunities for staff	Satisfaction with professional skills training courses (Maximum score: 5 points)	>4 分	>4.1 分	>4.3 分		
		Human Right Management	Government Supplier Employees	Maintain human rights to establish a sustainable work environment	Focus on women’ s career development	percentage of female managers	>30.7%	>30.8%	>31%	5	Friendly Workplace C.Human RightManagement
					Human rights awareness promotion	Completion rate of human rights training courses	>98.5%	>99%	100%		
		Workplace Health & Safety	Government Supplier Employees	Maintain a safety-first work environment to ensure continuous operations and steady growth.	Promote a safety culture	Coverage rate of occupational safety education courses	>98.5%	>99%	100%	8	Friendly Workplace D.Workplace Health & Safety
					Implement preventive management	Number of major occupational accidents	0	0	0		
Community Contribution	Fulfilling Corporate Social Responsibility	Community Contribution	Community	Public welfare activities help build strong relationships with the local community and enhance corporate image	s through scholarships, industry-academic collaboration, self-organized events, and sponsorships	Long-term sustainability	Support talent cultivation-related projects through annual donations			4	Community Contribution A.Cultivation of Talent
					Organize or sponsor community and environmental care activities annually	Number of participants in activities	2000+ participants per year		5000+ participants per year	13	Community Contribution B.Care of the Community C.Environmental Protection

Actions & Communication Channels for Stakeholder Topics of Concern

Stakeholder	meanings	Issues	Channels	Frequency	Actions	2023 Results	Chapter
Investor	Provide transparent disclosure of operational status to investors, enhance investment value, and increase investor confidence	Corporate governance Business ethics	Board of Directors	Quarterly	• Provide investors with appropriate returns on investment • Provide timely and accurate financial information • Release major announcements through the public information observatory	• Organize shareholder meetings and earnings calls to communicate with shareholders • Collaborate with the Financial Supervisory Commission to complete corporate governance evaluation tasks	Governance Structure Business Ethics
			Zyxel Group Investor Conference	Every year			
			Zyxel Group company annual report/sustainability report	Every year			
			Zyxel Group company website: investor relations webpage	Quarterly			
			Market Observation Open System	Aperiodic			
			Spokesman	Aperiodic			
Customer	Maintain product quality and service excellence, provide optimal solutions for customers, and foster mutual growth between the company and its customers	Business Ethics Information Security Customer Relationship Management Sustainable Product	Regular Business Meetings	Weekly	• Online courses on legal regulations for the protection of business secrets • Customer Satisfaction Survey • Customer Service Online System • Provide high-quality products • Committed to the research and development of environmentally friendly products and technologies • Cooperate with customers' specifications for environmentally friendly products	• Coverage Rate of Business Confidentiality Protection Law Course: 97.7% • Established the Product Security Incident Response Team (PSIRT) under the Group's Product Security Management Department • Continuously optimize the customer service online system • 2023 customer satisfaction rating: MitraStar9.64(out of 10)、Zyxel Networks4.84(out of 5) • 14 products use PCR recycled plastic for their casings • Provide Business Continuity Management, certifications, sustainability reports, and other documents	Information Security Management Customer Relationship Supplier Management Sustainable Product
			ESG Planning Meetings	Quarterly			
			Online Customer Service System	Aperiodic			
			Customer Satisfaction Survey	Every year			
			Customer Questionnaire Responses	According to customer requirements			
			Customer Audits	According to customer requirements			
Employees	Employees are vital assets for the company's growth. Building strong labor-management relationships is essential for continuous innovation and improved operational performance	Talent attraction and retention Cultivation of Talent Human Right Management Safety and Health	President’ s town meeting	Quarterly	• Communication Through Diverse Employee Communication Channels • Online course • Diversified courses for physical, mental and career development • Subsidies for diverse club activities • Diverse health promotion activities • A working environment that meets labor regulations and standards • Factory accident and disaster prevention	• 55 president’ s town meeting, 52 labor-management meetings • 487 questionnaires for employee opinion survey • 100% completion rate of management function training • Professional skills course completion rate 100% / course satisfaction 4.65 • Completion rate of human rights-related training courses for new recruits 100% • Sexual harassment prevention courses cover 97.7% • Activity Satisfaction 4 or above out of 5,≧80% • Occupational Safety Education Course Completion Rate: 99.6%	Diversity and inclusion Recruitment Human Capital Development Human Right Management Workplace Health & Safety Community Contribution
			Labor-management meeting	Periodic			
			Internal staff website	Aperiodic			
			Welfare Committee website	Aperiodic			
			Company announcement	Aperiodic			
			Suggestion mail box	Aperiodic			
			Employee satisfaction survey	Every year			

Stakeholder	meanings	Issues	Channels	Frequency	Actions	2023 Results	Chapter
Supplier Contractor	Suppliers are important partners for the company, working together to create a sustainable value chain	Business Ethics Sustainable Supplier Sustainable Product Workplace Health & Safety Human Right Management	Supplier survey	Every year	• Implementation of Systematic Counter-signing Documentation • Mandating Suppliers to Adhere to Code of Conduct • Supplier signs social responsibility statement and commitment letter • Supplier signs the integrity commitment letter • Supplier Social Responsibility Assessment Survey • Conduct supplier on-site audits • Supplier Conflict Minerals Investigation • Net-zero courses for suppliers • "Green product management system" to assist suppliers in complying with all green regulations	• Completion of Systematized Counter-signing Documentation • Supplier Code of Conduct Adherence Advocacy Completion Rate/Signing Achievement Rate: 100% • 519 CSR statement and commitment letter • Suppliers signed the integrity commitment letters: MitraStar>80% Zyxel Communications/Zyxel Networks100% • Supplier On-Site Audit Completion Rate: MitraStar: 13、Zyxel Communications/Zyxel Networks:100% • Supplier ESG course complete rate:100% • Supplier Zero Carbon Academy Number of participants: 262; Total class hours: 1,310 hours • Held Supplier Conference	Business Ethics Supplier Management Workplace Health & Safety
			Supplier on-site audit	Aperiodic			
			Supplier training materials	Every year			
			Supplier conference	Every year			
			Green Management System	Aperiodic			
Government	Coordinate with legal and policy advocacy, comply with government and regulatory standards, and engage in proactive communication to gain government support	Corporate Governance Business Ethics Climate Strategy Energy Management Human Right Management Workplace Health & Safety	Association of Science Park Industries	Aperiodic	• Online courses on legal regulations for the protection of business secrets • Customer Satisfaction Survey • Customer Service Online System • Provide high-quality products • Committed to the research and development of environmentally friendly products and technologies • Cooperate with customers' specifications for environmentally friendly products • Conflict Minerals Investigation	• Join Hsinchu Science Park Industrial Safety and Environmental Protection Month Series Activities • No major violations of the law • Corporate Governance Evaluation: top 6%~ 20%	Governance Structure Business Ethics Human Right Management Workplace Health & Safety
			Government department communication meetings	Aperiodic			
			Government seminars and public hearings	Aperiodic			
			Government Evaluation	Every Year			
Community	Establish strong communication relationships, actively participate in community affairs, and maintain ongoing interactions with industry peers and associations. Through continuous communication and collaboration, contribute positively to society	Climate Strategy Energy Management Community Participant	Internal company clubs	Irregularly	• Participate in community contribution activities • Zyxel Foundation Scholarship • Industry-academia collaboration programs	• Christmas charity event for rural elementary schools, with 172 employees participating. • In 2023, 384 students benefited from scholarships totaling NT$8.95 million. • Sponsored/held 8 talent development events. • Sponsored/held 8 community care activities. • Organized 1 environmental protection event. • Adopted the "Natural Valley Environmental Trust Base" rehabilitation project. • Industry-academia collaboration programs with National Cheng Kung University and National Central University. • No community complaints received from surrounding areas	Community Contribution
			Progress Education Foundation	Annually			
			Zyxel Foundation	Annually			
			Company website	Ongoing			
			Press releases	Irregularly			
			Spokesperson	Irregularly			
			Complaint channels	Available anytime			

Corporate Governance

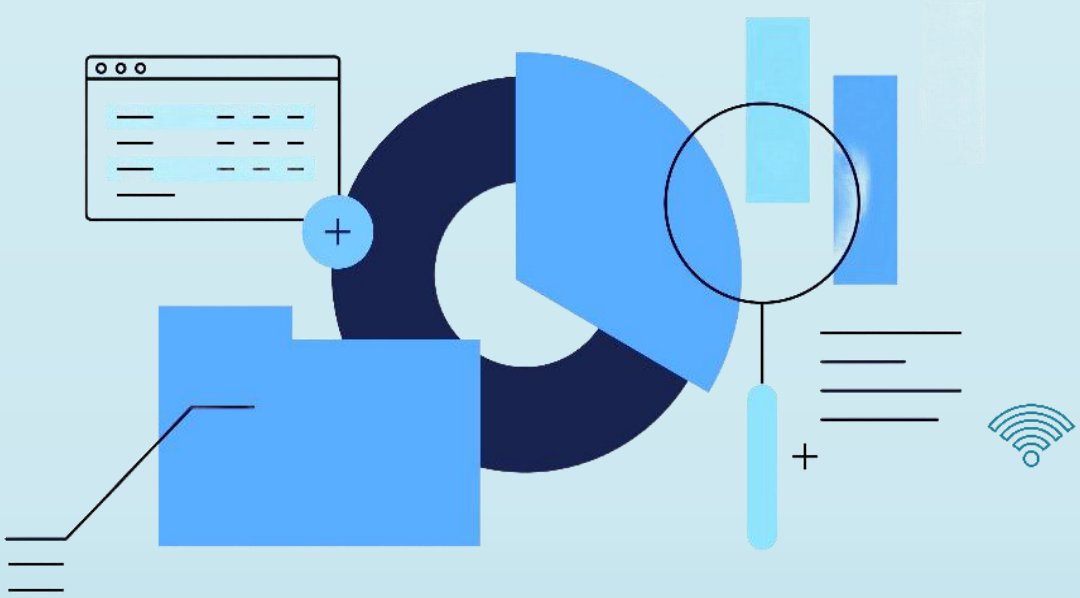
A. Governance Structure

B. Financial Performance

C. Business Ethics

D. Risk Management

E. Information Security



Corporate Governance

Corporate Governance Policy

"Integrity" is one of the core values of Zyxel Group and its subsidiaries. In terms of corporate governance, we emphasize the principle of integrity, and believe that good corporate governance allows us to have a firm foundation for growth and to offer all stakeholders with the best interest. As a responsible corporate citizen, it is our obligation to serve the community and the people relying on us.

In terms of financial operations, Zyxel Group has an auditing unit to ensure adequate reporting and internal controls. In addition to all measures towards safeguarding shareholders' interests, we disclose transparent and relevant information to stakeholders and investors in a timely manner. Zyxel Group reveals its financial status information such as annual reports and financial reports on the company Web site. Concerned parties are always assigned an official spokesperson to respond to queries and issues. For more Information about Zyxel Group's corporate governance and financial information, please visit the "Investor Relations" on Zyxel Group Global Website.

Sustainable Strategy: Implement sustainable management

Major Issue: Corporate governance, Business ethics, Information security

Stakeholders: Investors, Customer supplier , Government

SDGs:

Performance Highlights

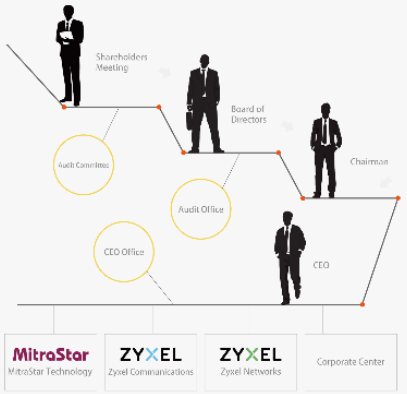
Corporate Governance Evaluation Top 6%~ 20%	TCSA Award Information Security Award	Sustainalytics Ranking ESG risk ranking Low risk	
Employee Business Ethics Training Completion Rate 97.7%	0 major business ethics violence	ISO 27001 Certification	0 major security incident

Corporate Governance Targets and Achievements

Strategy	Issue	Operational Impact	Actions	Performance Indicators	2023 Target	2023 Achievements		Goals			SDGs
								2024 short-term	2027 mid-term	2030 long-term	
Implement sustainable management	Corporate Governance	Achieve the company's sustainability goals	• Establishing an effective corporate governance framework and control mechanisms to enhance governance functions.	Corporate Governance evaluation	annual evaluations and continue to implement improvement measures	Top 6%~20%	v	Top 6%~20%		Top 5%	
	Business Ethics	To create a sustainable business environment, it is essential to avoid any dishonest practices that could undermine customer trust and lead to corporate losses	• Establish a business ethics policy and standards • Foster a corporate culture based on "integrity" and conduct ethical training • Conduct ethical risk assessments and supervision through internal control self-assessments and audits	Training completion rate for education programs	>98%	97.7%	x	>98%	>98%	100%	
				Number of major business ethics violations	0	0	v	Major business ethics violation: 0			
	Information Security	Ensure the confidentiality of information assets to comply with regulations and gain customer trust.	• Identify cybersecurity management risks to prevent security incidents • Enhance employees' awareness and knowledge of information security	Completion rate for information security training courses	>99%	100%	v	>98%	>98%	100%	
				Number of major information security incidents	0	0	v	major information incident: 0			
				Annual acquisition of ISO 27001 certification	Annual acquisition	Annual Acquisition	v	Annual acquisition			

A. Governance Structure

The Board of Directors of Zyxel Group, as the highest governance body, has established an Audit Committee and a Compensation Committee to enhance oversight and management functions. A Chief Governance Officer is appointed to handle Corporate Governance matters. The company has also adopted the "Corporate Governance Best Practice Principles," "Business Ethics and Code of Conduct," and "Sustainability Best Practice Principles" to strengthen Corporate Governance operations.



1. Enhance the function of the board of directors

Zyxel Group has set up 9 directors, including 3 independent directors, and adopts the candidate nomination system. The shareholders' meeting shall elect a person with capacity for a term of 3 years and may be re-elected. The number of directors shall include independent directors, and the number of independent directors shall not be less than 3. In order to improve the supervision responsibility and strengthen the management mechanism, the Board of Directors of the Company has established the Remuneration Committee and the Audit Committee. In 2023, the board of directors has met 5 times and held an ordinary shareholders' meeting on July 15, 2023

Independence of the board of directors

The three independent directors account for 33% of all board members. The independent directors have to sign the independence statement every year during their terms of offices, to confirm that they comply with the requirements of the "Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies". Among the Company's directors, only two seats are spouses or relatives within the second degree of kinship. This complies with the Securities Exchange Act.

Board Diversity

Zyxel Group's "Board Election Procedures" establish a "Board Diversity Policy" with specific management goals. The implementation policy includes diversity factors such as gender, age, nationality, race, and culture, as well as professional knowledge and skills, including background, expertise, and industry experience. No more than one-third of the board members are also company executives, with three board members being employees of Zyxel Group, one of whom is an executive director. The board also includes three independent directors. In terms of tenure, four directors have served for less than 3 years, three for 4-10 years, and two for over 10 years, with an average tenure of 6 years.

The board emphasizes gender equality, with one female director among the nine board members, representing 11% of the board. In terms of age, there is one director aged 41-50, four directors aged 61-70, and four directors aged 71-80. In terms of professional knowledge and skills, Zyxel Group's Board members are specialized in engineering, mechanical engineering, management science and finance and have the industrial experience needed by Zyxel Group's business. For the time being, Zyxel Group's Board is composed based on the policy and targets set forth by Zyxel Group. More information: Zyxel Group webite, Zyxel Group annual report 2023

The specific management targets of the diversity policy and achievement:

Target	Achievement	
At least one seat of female director	One female director, representing 11% of the total board members.	v
At least one director has a background in finance and accounting	Two directors have a background in finance and accounting.	v
At least one director has a background in sustainability	One director serves on the Sustainability Development Committee, and another has a background in sustainability.	v
Less than one-third of the board members also serve as company executives	Less than one-third of the board members also serve as company executives	v

Name	Title	Sustainability Governance Responsibilities	Gender	Education	Professional Knowledge and Experience							
					Operational Judgment	Accounting and Finance	Business Management	Industry Knowledge	International Market Perspective	Leadership	Decision-Making	Sustainable Development
Shun-I Chu	Chairman	Chair of Sustainability Guidance Committee, Chair of Zyxel Foundation	Male	Electronics Engineering	•	•	•	•	•	•	•	
Gordon Yang	Director	Member of Sustainability Guidance Committee	Male	MBA	•	•	•	•	•	•	•	
Yuh-Long Chen	Director	-	Male	Electronics	•	•	•	•	•	•	•	
Ping-Chin Lee	Director	-	Male	Electronics Engineering	•	•	•	•	•	•	•	
Wayne Huang	Director	Member of Sustainability Guidance Committee	Male	Electronics Engineering	•	•	•	•	•	•	•	
Ping-Jie Chu	Director	Member of Sustainability Guidance Committee Member of Zyxel Communications	Female	Finance	•	•	•	•	•	•	•	•
Chin-Tang Liu	Independent director	Audit Committee Chair, Compensation Committee Chair	Male	Accounting	•	•	•		•	•	•	
Chin-Liang Wang	Independent director	Audit Committee, Compensation Committee	Male	Electronics	•		•	•	•	•	•	
Yi-Bing Lin	Independent director	Audit Committee, Compensation Committee	Male	Electronics	•		•	•	•	•	•	•

Note: Independent Director Yi-Bing Lin assumed office in June 2024. Refer to the Board of Directors webpage in the Investors section of the Zyxel Group website

Board members self-improvement

Courses related to maintaining the professional knowledge of directors are also conducted irregularly. Zyxel Group will also provide relevant training information for reference from time to time, and regularly evaluate the independence of certified accountants. At the same time, courses related to corporate social responsibility are provided to help them understand the trend of corporate governance and sustainable development. More information Zyxel Group annual report 2023.

Conflict of Interest Management

Zyxel Group has established conflict of interest regulations in its Board of Directors' Rules of Procedure and the Audit Committee Charter. Directors who have a conflict of interest with a meeting agenda item, either personally or as representatives of a corporation, are required to disclose the significant details of the conflict during the meeting. If the conflict could harm the company's interests, the director must refrain from participating in the discussion and voting on that issue, and must also abstain from acting as a proxy for other directors in voting. If a director's spouse, a relative within the second degree of kinship, or a company controlled or affiliated with the director has a conflict of interest with a meeting agenda item, the director is considered to have a personal conflict of interest regarding that item. The names of relevant directors, the key details of the conflict, and the recusal actions are documented in the meeting minutes.

Zyxel Group has independent directors who, from an objective and impartial standpoint, provide recommendations based on their expertise and experience. When the board discusses any proposal, it should fully consider the opinions of the independent directors, and the reasons or opinions for their agreement or dissent should be included in the meeting minutes. This approach ensures the principle of conflict of interest avoidance and effectively protects the company's interests. note: more information: Zyxel Group annual report 2023

Board Performance Evaluation Connecting with Sustainability

We have established the "Board Performance Evaluation Guidelines" to promote self-motivation among board members and enhance the effectiveness of board operations. Each year, we conduct performance evaluations of the board, individual directors, and functional committees at least once. Every three years, an external professional independent organization or a team of expert scholars executes an assessment. The board is responsible for driving the practice of sustainable development within the company. It continuously reviews implementation progress and strives for improvement to ensure the realization of sustainable development policies. We present a sustainable development mission or vision, develop policies, systems, or relevant management guidelines, integrate sustainable development into our operational activities and strategic direction, and approve specific implementation plans for sustainable development. We also ensure that the disclosure of sustainable development-related information is timely and accurate.

The board of directors should oversee the company's implementation of sustainable development, regularly review its effectiveness, and pursue continuous improvement to ensure the enforcement of sustainability policies. This includes establishing a sustainability mission or vision, formulating relevant policies and management guidelines, integrating sustainability into the company' s operations and strategic direction, approving specific initiatives for sustainable development, and ensuring the timely and accurate disclosure of sustainability-related information.

Objectives for Strengthening the Functions of the Board of Directors in 2023

- The Company's Chairman shall not serve as the CEO concurrently.
- Convene the meeting with independent directors, independent auditors and internal audit officers separately at least once per year.
- Zyxel Group' s directors consist of professionals from diversified backgrounds, including civil engineering, electrical engineering, management and finance, and also include one female.
- Each year, each reappointed director must participate in training courses related to corporate governance and sustainable development for a minimum of six hours.
- The Company perform the Board of Directors self-performance assessment periodically each year, and appoint an external independent organization to execute the external evaluation at least once per three years, the Company has appointed KPMG Advisory Services Co. to execute the Board of Directors performance assessment in 2021.

Five Aspects of Board Performance Evaluation
• Level of participation in company operations • Improvement on quality of the Board decisions • Board composition and structure • Appointment of directors and directors' continuing education. • Internal control

Board of Directors' Sustainability-Related Agenda Items in 2023

Category	Agenda Item
ESG Report	ESG Implementation Status in 2022
ESG Report	ESG Annual Plan for 2023
Sustainable Management	Stakeholder Concerns Survey Project Progress Report
Corporate Governance	Business Ethics Implementation Status
Corporate Governance	Board and Functional Committee Performance Evaluation (Internal)
Corporate Governance	Intellectual Property Management Plan and Implementation Status
Risk Management	TCFD Report
Risk Management	BCM
Information Security	Information Risk Management
Climate Change	Greenhouse Gas Inventory Progress
Climate Change	TCFD Project

Functional Committee Operation

Audit Committee

- Purpose: To improve corporate governance and solidify the Board' s supervision functions. The Audit Committee, acting professionally and independently, assist the board in decision making.
- Membership: The Audit Committee shall be composed of the total number of independent directors , who shall be no less than three persons, including one convener, and at least one member who shall have accounting or financial expertise. The Audit members shall hold the term of office for three years and can be reelected for a second term of office.
- Meeting frequency: As required, the Audit Committee shall convene the meeting at least once per quarter, and shall communicate with the internal auditing unit and independent auditors thoroughly.
- Responsibilities: Includes a review of Zyxel Group's internal control system, financial statements, significant acquisition or disposal of assets, derivatives trading, loaning of funds to others, making of endorsements or guarantees for others, appointment, dismissal or remuneration of independent. Number of meetings in 2023 / Average attendance rate: 4 meetings / 100% attendance.

More information: Zyxel Group annual report 2023

Compensation Committee

- Purpose: To improve corporate governance, solidify the compensation system for directors and managerial officers throughout Zyxel Group, make the enterprise compensation system more transparent and impartial, and protect shareholders' interest and right, Zyxel Group established the Remuneration Committee.
- Membership: The Remuneration Committee members shall be nominated by the Chairman and appointed upon resolution of the Board, consisting of three persons, including at least one independent director who shall serve as the convener and chairman of meetings.
- Meeting frequency: The Remuneration Committee shall convene a meeting at least twice per year and may convene meetings at any time whenever necessary.
- Responsibilities: The Remuneration Committee submit proposals to the Board of Directors for discussion: Stipulate and review regularly the company action policies, systems, standards and structures, and performance of directors and managerial officers. Regularly review and adjust directors' and managerial officers' compensation.

  Number of meetings in 2023 / Average attendance rate: 2 meetings / 100% attendance.

More information Zyxel Group annual report 2023

Executive Compensation

Zyxel Group has established a "Compensation Committee" as an independent body, holding at least two meetings annually to formulate compensation policies for senior management. These policies are based on market standards and management considerations, proposing compensation for the Chairman, CEO, and senior executives. After approval by the Compensation Committee, these proposals are submitted to the board of directors for final approval.
The CEO's compensation is determined not only by individual performance but also based on the company's operational financial performance, linking variable compensation to financial metrics such as consolidated revenue, gross profit, operating income, and the annual growth rate of operating profit margin.

Long-term incentives

To achieve long-term incentives that drive operational growth and sustainability, the compensation policy follows the company' s "General Manager Performance Bonus Guidelines." This evaluates overall company performance, contributions, team cohesion, future constructiveness, and social responsibility. In 2019 and 2020, stock options were issued, and in 2019, a Sustainability Committee was established to set long-term performance goals. International sustainability indices, such as DJSI and MSCI annual ratings, are incorporated into the performance indicators for senior executives, further aligning their variable compensation with these metrics.
More information: Zyxel Group annual report 2023

CEO Compensation Indicators

	Category	Performance Indicators
Variable Compensation	Financial Returns	Annual growth rates of consolidated revenue, gross profit, operating income, and operating profit margin
	Relative Financial Indicators	Risk Management: Identification and mitigation of high-risk projects. Sustainability Indicators: Various sustainability development metrics and rankings from sustainability indices such as DJSI, FTSE, and MSCI.

CEO Stockholding Situation

Management	Stockholding Value as a Multiple of Fixed Salary
CEO	9.9
Key Executives	3.05

Note: This data pertains to senior executives in Taiwan

Note: Stockholding value is calculated based on the closing stock price on December 29, 2023
Note: CEO: (Year-end closing stock price × Number of shares held) / Base salary, Key Executives: [(Year-end closing stock price × Number of shares held) / Base salary] summed across all key executives / Number of senior executives.

CEO to Employee Compensation Ratios

CEO Compensation to Median Employee Salary Ratio	CEO Compensation to Average Employee Salary Ratio
12.62	10.71

Note: The ratios represent the relationship between the total annual compensation of the CEO and the average or median salaries of employees, calculated by dividing the CEO's compensation by the average or median employee salary.

2. Shareholder Rights

Protection to Rights

Designated personnel handle shareholder suggestions or disputes and engage Mega Financial Transfer Agency to assist with these matters. Stock personnel monitor the situation of major shareholders and disclose this information on the designated information disclosure website of the competent authority on a monthly basis, effectively managing the list of significant shareholders and ultimate controllers. Meanwhile, a risk control mechanism is established with related companies to formulate regulations regarding loans to others and endorsements and guarantees, preventing potential financial malfeasance and its cascading impact on related companies.

Shareholder Communication

An Investor conferences is held every quarter, and the executives at the management level directly explain the business overview, strategic planning and future development to the investment corporation and the media, and report the target plan and results of sustainable development.

Open Information

Open information on corporate operations and an inquiry/answer mechanism are provided to investors on the company Web site. Zyxel Group has designated a staff to collect and reveal corporate information and a spokesperson to provide the information on the company Web site for investors to inspect.
Zyxel Group website: http://www.zyxelgroup.com

3. Internal Control

Organization

Zyxel Group establishes an internal audit unit under the board of directors. In accordance with the company's scale, business conditions, management needs and other relevant laws and regulations, Zyxel Group has deployed several qualified and appropriate full-time internal auditors and deputies.

Duties of Internal Auditor

The internal audit plan is a key work item of Zyxel Group's enterprise risk management. It audits the operation of each unit and subsidiary and proposes improvement measures to ensure the performance of enterprise operations.

- The internal audit unit considers the laws and regulations, establish internal audit procedures, and audit the integrity and compliance of Zyxel Group 's internal control to ensure the effective operation of the system.
- Zyxel Group carries out internal audits to assist the board of directors and mangers in inspecting and reviewing defects in the internal control systems as well as measuring operational effectiveness and efficiency, and makes timely recommendations for improvements to ensure the sustained operating effectiveness of the systems and to provide a basis for review and correction.
- The internal departments and subsidiaries of Zyxel Group conduct self-assessments once a year in accordance with regulations, have its internal audit unit reviews the self-inspection reports prepared by all departments and subsidiaries, and submit the self-assessment reports, together with the reports on the correction of defects and irregularities of internal control systems discovered by its internal audit unit, to serve as the primary basis for the board of directors and the audit committee to evaluate the overall efficacy of all internal control systems and to produce Internal Control System Statements.

B. Financial Performance

1. Financial Performance Statement

Direct Economic Value Generated: Income

According to the 2023 consolidated income statements, the Company's operating income totaled NT$ 30.38 billion; the gross profit amounted to NT$6.679 billion; the gross margin was 21.99%; the operating expense came to NT$5.39 billion; an after-tax profit of NT$1.356 billion was made; and the EPS was NT$3.38

Operating Results (Unit: NT$ thousand)

Item	2020	2021	2022	2023
Net operating income	22,250,630	25,681,970	30,515,803	30,379,982
Gross profit	5,780,099	6,060,518	6,987,954	6,679,139
Net operating profit (loss)	1,292,694	1,425,434	1,847,262	1,289,242
Before-tax profit (loss)	1,175,888	1,438,064	1,992,303	1,556,690
Consolidated net profit (loss)	831,001	1,095,459	1,626,931	1,355,592

Profitability Analysis

Item		2020	2021	2022	2023
Return on assets %		4.84	5.46	6.95	5.83
Return on equity %		10.69	12.50	16.92	12.83
Proportion to paid-in capital %	Operating profit	28.88	31.42	46.16	31.48
	Net profit before tax	26.27	31.70	49.79	38.02
Profit margin %		3.73	4.27	5.33	4.66
EPS/NT$		1.91	2.49	3.87	3.38

Economic Value Distributed

Employee Remuneration and Welfare	total
Type Total Payroll expense	3,649,928
Labor and health insurance expense	361,950
Pension expense	191,743
Other employee benefit expenses	140,325

Payments to the Government: The total consolidated income tax paid in 2023 was NT$ 457,041thousand

Product Breakdown for 2023

	Production Volume (thousand units)	Sales Revenue (NT$ thousand)	Sales Ratio (%)
Broadband Equipment	17,998	19,473,189	77.39%
Enterprise Networking Equipment	263	302,721	13.13%
Other	2,263	1,576,257	9.48%
Total	20,524	21,352,167	-

2. Tax Policy and Risk management

Tax Policy and Risk management

Zyxel Group adopts a sustainable development tax management policy, being a multinational telecommunications company, it actively monitors tax regulations in various countries and periodically reviews its tax policies to ensure compliance with local laws and regulations.

The CFO of Zyxel Group serves as the top decision-maker for the group's tax policies. The accounting department is responsible for income tax reporting, and income tax declarations are processed only after appropriate approval. The accounting departments of subsidiary companies regularly report on tax management and results of each operational location to the management team, enabling the group's management to have a comprehensive understanding of the company's tax policies and execution status. To address tax risks arising from globally dispersed operational locations and the compliance complexities of various regulations, we continuously update our observation and assessment of relevant tax regulations. In addition to internal training, we also engage external professional tax advisors, when necessary, to assist in providing recommendations for significant transactions to mitigate potential tax risks.

Tax Management Policy

- Committed to comply with the spirit and contents of the tax laws and regulations in the countries where the company operates.
- Committed to not transfer created value to low-tax jurisdictions.
- Committed to not use tax structures that lack commercial substance.
- Committed to apply the Arm' s Length Principle in transfer pricing.
- Committed to not use secrecy jurisdictions or so-called "tax havens" for tax avoidance.
- The process for approving tax policies is overseen by the Board of Directors.

Tax information (Unit: NT$ thousand)

Item	2020	2021	2022	2023
Revenue	22,250,630	25,681,970	30,515,803	30,379,982
Profit before tax	1,175,888	1,438,064	1,992,303	1,556,690
Current income tax payable	156,038	263,925	417,471	394,726
Effective tax rate	13.3%	18.4%	21.0%	25.4%
Income tax paid	68,873	85,843	308,851	457,041
Cash effective tax rate	5.9%	6.0%	15.5%	29.4%

Note: more information: Zyxel Group consolidated financial report 2023

Economic Contributions by Region in 2023

Item	Asia	Europe	Other	Total
Operating Revenue	56%	31%	13%	100%
Profit before tax	116%	6%	-22%	100%
Current income tax payable	92%	5%	3%	100%
Income tax paid	74%	19%	7%	100%

Note: Other Regions: United States, Brazil, and other countries

The effective tax rate and cash effective tax rate for 2023 were 25.4% and 29.4%, respectively, both higher than the average effective tax rate of 15.39% and average cash tax rate of 15.09% for the "Technology Hardware & Equipment" industry as reported by the SAM CSA Companion.

3. Policy Influence

Zyxel Group actively participates in various industry associations and non-profit organizations, focusing on areas such as industry development, technological innovation, and corporate sustainability. Through these associations and activities, the company gains the latest information related to the industry and technology, while maintaining strong relationships with companies and organizations in relevant fields. Zyxel Group also ensures that its policies align with government public policies and the positions adopted by its industry associations.

The company maintains open communication with its stakeholders and upholds a politically neutral stance, refraining from engaging in political election activities or making political donations. Zyxel Group has not contributed to any political campaigns, public policy groups, or legislative organizations. In 2023, the company paid a total of NT$ 845,647 in membership fees to industry associations and organizations.

Public Affairs Engagement Expenditure

Category	2020	2021	2022	2023
Industry Associations or Non-Profit Organizations Involvement	606,490	991,959	1,088,115	845,647
Interest Group Lobbying	0	0	0	0
Political Campaign Organizations or Candidate Donations	0	0	0	0
Other expenditures, such as election or referendum spending	0	0	0	0
Total	606,490	991,959	1,088,115	845,647

Membership in Associations and Organizations in 2023

Industrial Development

- The Allied Association for Science Park Industries
- Taiwan Association of Information and
- Communication Standards
- Taipei Computer Association

Technological Innovation

- Telecommunications Industry Association
- THE BROADBAND FORUM
- Wi-Fi Alliance
- GLOBAL CERTIFICATION FORUM (GCF)
- HDMI Licensing
- VCCI Council

Corporate Sustainability

- Taiwan Institute for Sustainable Energy
- CIO Taiwan
- Hsinchu City Human Resources Management Association

C. Business Ethics

Business Ethics Policy

Zyxel Group, based on the principles of integrity, transparency, and accountability, has established policies rooted in honesty and has implemented robust Corporate Governance and control mechanisms to create a sustainable business environment. The Group has developed global standards applicable to all employees, business partners, and suppliers, ensuring that the same standards are followed in work and business operations. This also guarantees fair and equitable treatment of customers, suppliers, and competitors.

Employees: For employees, the internal focus is on establishing policies and procedures that comply with the relevant laws and regulations, providing training, publicity activities and declarations, regular risk assessments, and internal control and auditing. While the external focus is on using notification channels and whistleblower protection mechanisms to protect third-party participants.

Suppliers: We also extend Zyxel Group's integrity management concept to review and assist suppliers in ethical management so they can understand the core value of Zyxel Group's integrity management and jointly establish sustainable business cooperation partnerships.

Targets & Achievements

Major Issues	Stakeholders	Channels	Actions	Performance Indicators	2023 target	2023 achievement		Remedies	Goals			SDGs
									2024 short-term	2025 mid-term	2030 long-term	
Business Ethics	• Investor • Government • Customer • Supplier	• Annual report • Government Seminars and Public Hearings • Customer audit • Supplier survey	• Coordinate with legal advocacy and related activities • Online course on legal regulations for trade secret protection • Require suppliers to sign a code of integrity and ethics commitment	Completion rate of ethics training programs	>98%	97.7%	X	Require the course to be mandatory for completion.	>98%	>98%	100%	
				Number of major ethics violations	0	0	v	-	Number of major ethics violations: 0			

Management Procedure

The Company's management procedure for integrity management involves policies and regulations, risk assessment, education and dissemination, and whistleblowing and protection. We observe business conduct requirements and the related laws and regulations of countries where we operate, map out policies and procedures, develop an assessment mechanism for preventing the risk of unethical conduct based on the RBA's management systems and standards, and provide relevant dissemination and training courses to convey the Company's ethical business values. A specific whistleblowing system is established accordingly and the whistleblowing email address and hotline are offered. The Company also designates personnel to take in complaints and adopts whistleblower protection measures for preventive response.

Policies and Regulations

Comply with business conduct requirements and the laws and regulations of countries where the Company operates for integrity management

"Integrity Management Principle & Operating Procedure and the Code of Conduct" :
- Legal compliance
- Anti-corruption and anti-bribery
- Prevention of conflicts of interest
- Fair competition
- Protection of intellectual property rights
- Information security

Risk Assessment

Develop an assessment mechanism for the risk of unethical conduct based on the RBA's management systems and standards

Employees:
- Moral Hazard Identification and Assessment Form
- Letter of Commitment to Business Ethics

Suppliers:
- Code of Conduct for Suppliers•
- Suppliers' Letter of Commitment to Integrity

Education and Dissemination

Convey the Company's ethical business values

- The Company's ethics-related policies are available on the website
- Ethics education and training every year
- Trading Prevention Course every year

Whistleblowing and Protection

Establish a specific whistleblowing system, provide the whistleblowing email address and hotline, designate personnel to take in

- Stakeholder reporting and whistleblowing procedures

Management Organization

Zyxel Group Sustainability Committee - Ethics Team: The team is a management organization for business ethics and integrity management. It is responsible for coordinating the development, monitoring and implementation of the Company's integrity management policies and regulations, regularly reviewing the promotion of and compliance with the policies and regulations every year, and making reports to the Board of Directors.

The Group's subsidiaries draw up their own operating procedures and codes of conduct in accordance with Zyxel Group' s policies, conduct internal implementation planning, organize dissemination and training courses, assess risks, and provide whistleblowing channels.

Internal Auditing Office's Internal Control, Self-evaluation, and Auditing: The office assesses moral hazards, monitors and audits the assessment process, maintains the whistleblowing channels, and frames review and corrective plans.

The Ethics Policy and Code is geared towards:

Corporate Compliance

- Every employee should comply with local laws, rules, and regulations while conducting business.
- Our business partners must follow the regulations.

Anti-bribery and Corruption

- All employees including top executives shall not engage, directly or indirectly, in any bribery or other activities which may be construed as corrupt business practices.
- In all relations with governmental agencies, customers, and suppliers, we shall not, directly or indirectly, engage in bribery, kick-backs, payoffs, or other activities which may be construed as corrupt business practices.

Prevention of Conflicts of Interest

- The involvement of personal interests in the Company' s overall interests is prevented to avoid conflicts of interest which may lead to the failure of the Company's personnel to handle business matters in an objective and effective manner

Fair Competition

- The Company conducts transactions with customers in conformity with fair business, marketing and advertising standards and adopts reasonable measures to ensure the safety and quality of the goods or services provided.
- The employees shall not bring in business from customers by offering improper benefits and shall be dedicated to improving the products and services that meet the requirements of the customers.

Protection of Intellectual Property Rights

- To respect the intellectual property rights of others, all our employees and senior management shall ensure the confidentiality of the confidential information of the Company and our customers.

Information Security

- Information on the Company and our customers and suppliers shall be keep confidential unless the Company is authorized or required by the laws to disclose the information.
- An effective mechanism shall be used to prevent improper use of the confidential information.

1. Policies and Specifications

Zyxel Group's ethical policies and norms are based on the basic premise of complying with business conduct standards and the relevant laws and regulations where it operates, and implementing honest business operations. The content covers: anti-bribery and corruption, prevention of conflicts of interest, fair competition, intellectual property protection, and information security.

The Board of Directors of Zyxel Group has passed the "Guidelines for Integrity Management and Operational Procedures and Conduct", which is formulated in accordance with the Code of Integrity Management of Listed OTC Companies and the relevant laws and regulations where the company operates, in order to implement the integrity management policy and prevent dishonest behavior.

The Staff Code of Conduct stipulates the basic code of conduct and ethical standards that all employees must abide by when performing their duties every day and expounds and reiterates the company's existing concepts, values, and spirit of relevant laws and regulations. The Employee Appointment Measures clearly stipulate employees shall not accept bribes, commissions, etc., so as to prevent employees from sacrificing the rights and interests of the company for personal interests.

Business ethics and Integrity related norms:

- Guidelines for Integrity Management and Operational Procedures and Conduct
- Procedure for Ethical Management and Guidelines for Conduct
- Internal Procedures for Handling Material Information
- Sustainability Development Best Practice Principles
- Code of Business Conduct and Ethics
- Stakeholder Appeal and Prosecution Guidance
- Ethical Corporate Management Best Practice Principles
- Fair competition Management Procedures

2. Risk Assessment

Zyxel Group has established an assessment mechanism for the risk of dishonest behavior according to the RBA management system and specification. In addition to employees, we also assess the integrity risk of external suppliers.

Employees:

Zyxel Group uses the "ethics risk identification and evaluation form" to identify risks. We require departments we identify as high-risk to fill in the business ethics checklist and sign the business ethics commitment letter. The risk team will conduct an audit meeting for evaluation.

Suppliers:

- Required to comply with the "Supplier Code of Conduct".
- Fill out the "Supplier Social Responsibility Assessment Questionnaire". We conduct on-site audits of suppliers using the "Supplier On-site CSR Assessment Checklist" as part of our due diligence on behavior integrity. We also require suppliers to fill in the "Suppliers' Corporate Social Responsibility Statement and Commitment Letter" and "Integrity Commitment", promising to abide by the relevant anti-corruption business ethics regulations.

3. Education and Promotion

To guide Zyxel Group' s stakeholders to better understand our business ethics standards, Zyxel Group has released our ethical related policies on the company website. We also communicate our concept of business ethics through education, promotion, mandatory online training courses, and various other communication channel and methods.

Ethics Training Course: The annual online course covers five major areas: regulatory compliance, avoiding conflicts of interest, information protection, intellectual property protection, and fair trading. It communicates the company's business ethics principles. This course is mandatory for all employees, including new hires who must complete it upon joining.

Insider Trading Prevention Online Course: To enhance awareness of insider trading, the company offers an online course on insider trading prevention. Employees are required to complete the training and pass an exam with a score of 80 or above to be considered qualified. In 2023, 1,499 participants completed the training. The course content includes the causes of insider trading, the identification process, and the legal responsibilities for

Business Ethics Courses

2023	Courses	Trainees	participants	Coverage%
Business Ethics	Regulatory Compliance, Avoiding Conflicts of Interest, Information Protection, Intellectual Property Protection, Fair Trading,	All employee	9,738	99.8%
Insider Trading Prevention	Awareness of Insider Trading		1,467	95.3%

4. Whistleblower Mechanisms and Protection

Zyxel Group has established internal and external whistleblower mechanisms to combat corruption. The cases handled by the personnel in charge will be transferred to the relevant internal authorities.

The company website has a link to a mailbox for reporting corruption and/or misuse of company resources. The anti-corruption review team will set up a case for each report and create a file. All reports will be kept strictly confidential. Zyxel Group will take all necessary steps to protect whistleblowers and those who are involved in the investigation from retaliation or unfair treatment.

- Integrity Management Code and Operational Procedures and Behavior Guidelines: Formulate specific whistle-blowing systems, including whistle-blowing mailboxes, dedicated lines, designation of whistleblowers, and measures to protect whistleblowers.

- Stakeholders' Appeal and Prosecution Method: Standardize all internal and external reports, which are handled by the appeal review team, establish a case for each complaint, and record or save it in writing, electronic files or system sign-off. Major violations found after investigation shall be reported to the independent directors or supervisors by the audit office, and appropriate rewards shall be given to the whistleblower upon verification. The company shall handle the whistleblower case in a confidential manner, and handle it in a prompt, fair and objective position, and make every effort to protect the absolute confidentiality of the identity of the complainant or whistleblower.

Grievance Mailbox

Internal Stakeholders	External Stakeholders
Human Resources Department	Audit Office
Whistleblower email: Care@zyxelgroup.com	Whistleblower email: audit@zyxelgroup.com

2023 business ethics report cases:

Material regulatory violation case	0
Incidents reported through the whistleblower system	0

D. Risk Management

Zyxel Group includes the risk management in its business strategies and corporate culture, in order to manage the exposure of various potential risks and hazards to operations and earnings. Through the top-down hierarchical organization, we establish systematic risk response policies and procedures in order to effectively identify, analyze and evaluate risk management mechanisms, control various risks, and establish corresponding mitigation policies to effectively control the enterprise' s risk, and mitigate the effects posed by the risks to related stakeholders accordingly.

The "Risk Management Policies & Procedures" are adopted by the board of directors as the highest guiding principle for risk management. Meanwhile, we have set up a risk management policy group subordinated to the "Zyxel Group Sustainability Committee", which establishes the corresponding policies and procedures in accordance with ISO31000 Risk Management Guidelines, and is responsible for implementing the risk management policies authorized by the Board of Directors.

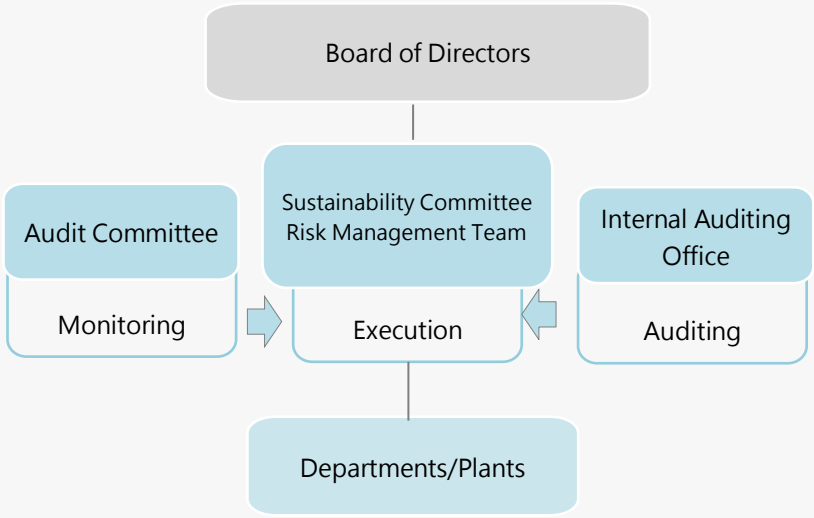
Risk Management Policy

As the top guiding principle for risk management, the policy defines all types of risks based on the Company's overall management policy to establish a risk management mechanism enabling early identification, precise measurement, effective monitoring, and strict control. In this way, we can prevent possible losses within acceptable risk levels, respond to internal and external environmental changes, and make continuous adjustments and improvements in order to boost the shareholders' interests and the Company's value.

Risk Management Goal

Awareness of risk management is required for Zyxel Group' s business management and must be ingrained into the management strategies and organizational culture. Through systematic and institutionalized management and effective risk identification, analysis, and assessment mechanisms, we can control risks, formulate corresponding mitigation measures, and keep track of corporate risks in an effective manner so as to mitigate the impacts of the risks on relevant stakeholders.

1. Risk Management Team



Responsibilities of the Risk Management Organization

Board of Directors	The Board of Directors serves as the top management and decision-making unit in the risk management organization and reviews the risk management strategies as a whole based on the overall business strategies and operating environment.
Audit Committee	The "Audit Committee" subordinate to the Board of Directors is responsible for reviewing the internal control system, ensuring compliance with related laws and regulations, and controlling existing or potential risks to the Company.
Internal Auditing Office	The independent internal audit unit is responsible for internal auditing and control, regularly reviewing subsidiaries' financial and operational aspects, and ensuring the adequacy of internal control system design and implementation. It supervises internal control, completes the annual audit plan, reports to the Board of Directors, and follows up on subsequent improvements.
Risk Management Team	It formulates relevant response policies and procedures according to the ISO 31000 Principles of Risk Management and executes risk management policies approved by the Board of Directors. A risk management meeting shall be held at least once a year to report the implementation of risk management to the Board of Directors.
Departments / Plants	Each department, including Strategy, Finance, Legal, Information Technology, Human Resources, Environmental Safety, Research and Development, Manufacturing, and Sales, formulates policies to align with key strategic directions. Functional departments and subsidiaries establish effective two-way and horizontal communication mechanisms

2. Risk Management Process

The process begins by identifying operational and strategic objectives to establish the focus areas for risk management. Risk trend reports are reviewed to understand the opportunities and risks associated with industry and economic trends. This is combined with the company' s historical risk records to identify and analyze potential risks that could impact operational objectives. Through a tiered risk assessment process, plans and measures for risk management are determined. Throughout the process, documentation, communication, consultation, monitoring, and reviews are conducted.

A comprehensive risk survey is conducted every three years, while each functional unit performs an annual risk review. This ensures the effectiveness of risk identification, management, and control measures, aiming to prevent operational and financial losses and to develop timely countermeasures. A comprehensive risk identification survey was conducted in 2022, and a review of risk management effectiveness was completed in 2023.

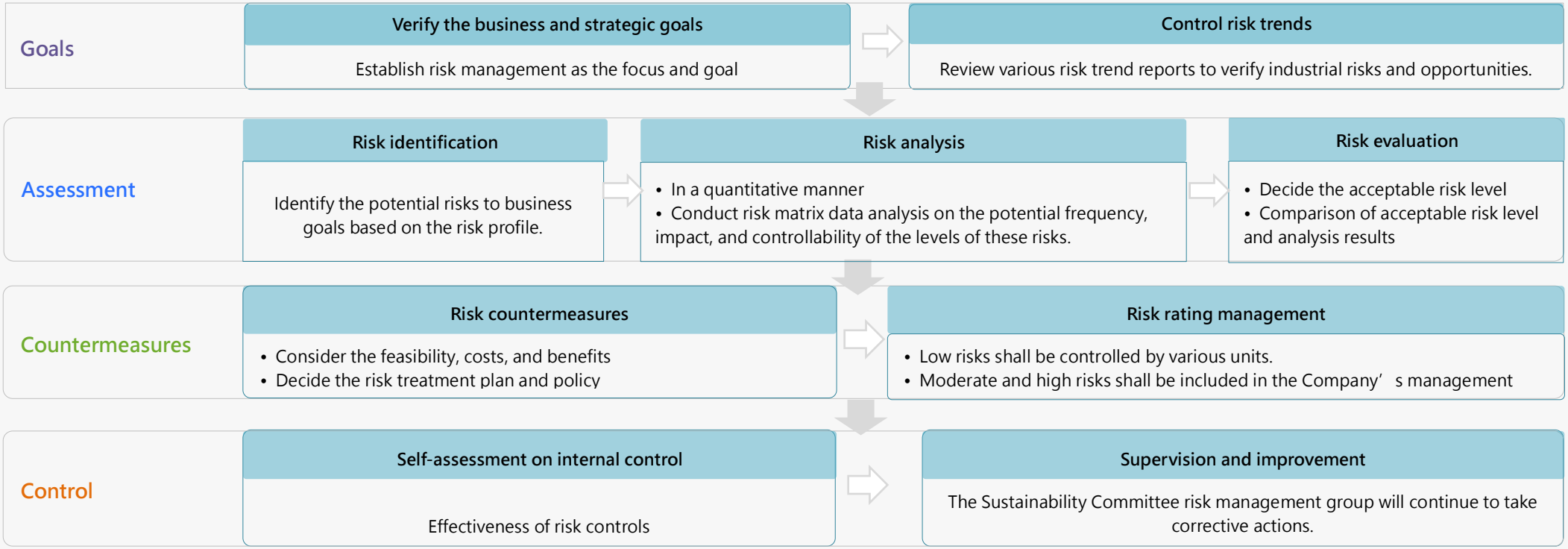
Risk Assessment and Strategies

Zyxel Group and its subsidiaries conduct detailed risk identification through specialized divisions within each functional unit. This process involves stress testing and sensitivity analysis to determine the impact severity of potential risks. Cross-analysis is then performed to assess the likelihood of these risks occurring, resulting in the calculation of risk values. Major risks are identified based on factors such as previous occurrences, acceptable levels, and short-, medium-, and long-term impacts.

For identified risks, strategies are developed to mitigate, transfer, or avoid them. For significant risks, a Business Continuity Plan (BCP) is devised, and scenario drills are conducted. In the event of emergencies or major incidents, Zyxel Group activates a crisis management mechanism. Subsidiary General Managers serve as commanders, assembling relevant units, forming functional teams, and devising response measures. Communication is promptly issued to ensure transparency, allowing for the continuous and effective management of corporate risks and the uninterrupted operation of the business, thereby achieving sustainable development goals.

The company conducts an annual internal control self-assessment, evaluating the effectiveness of risk controls against various risk scenarios within relevant units. This assessment also considers the impact of external environmental changes and shifts in business models, ensuring ongoing supervision, improvement, and risk management.

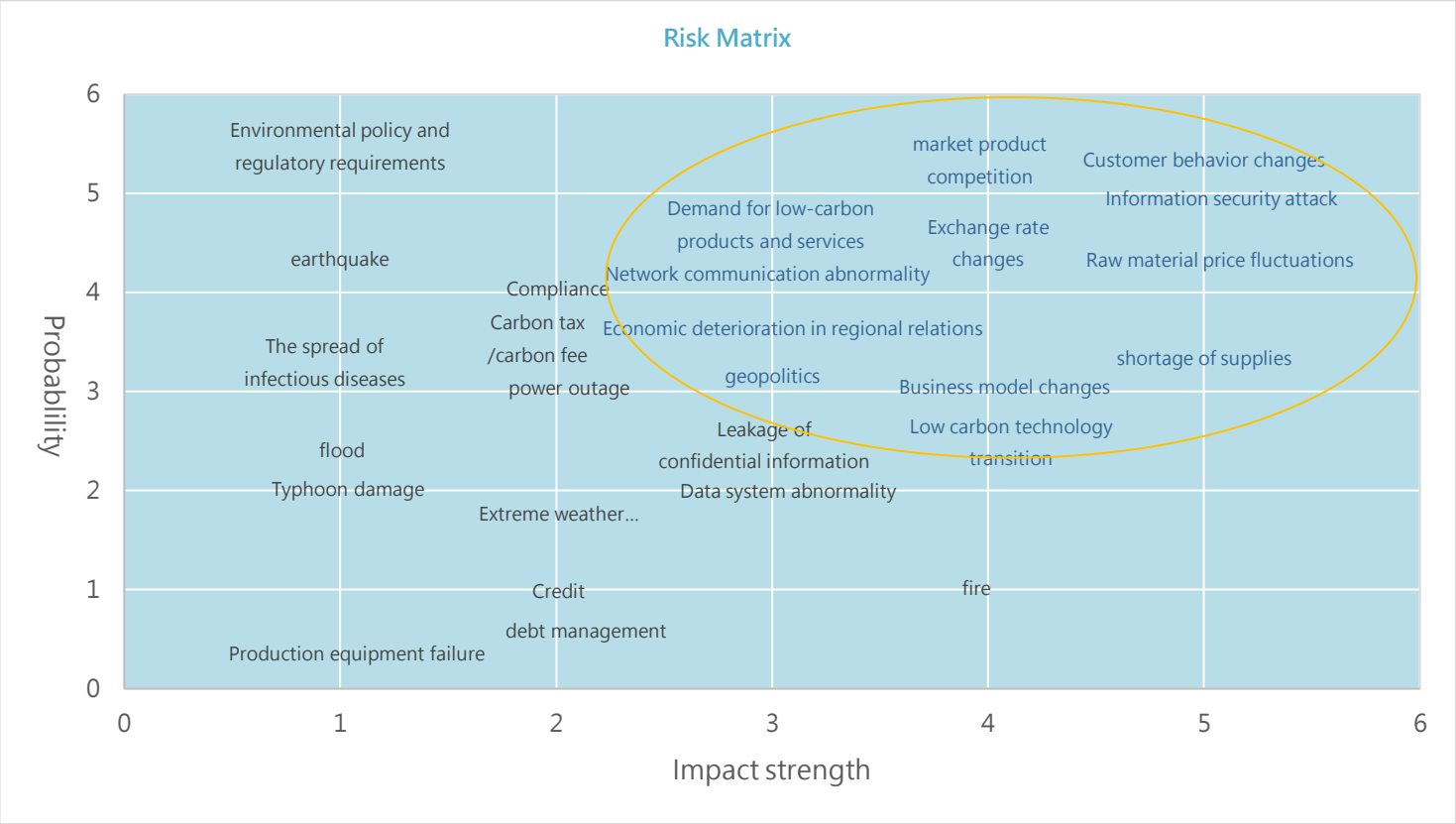
Risk Identification Matrix



Risk Assessment and Countermeasures

Zyxel Group proactively addresses the challenges posed by evolving risks. Based on factors such as geopolitics, economy, technology, environment, and society, the company has identified 55 types of risks, including decision-making, economic, financial, cybersecurity, market, supply chain, climate change, and human resources risks. After assessing their acceptability, 27 risk items were shortlisted. These risks were evaluated based on their impact intensity and likelihood of occurrence. Sixteen significant risks, with a risk value greater than 9, were identified as having the potential to affect the company's operations, and Risk Management measures were implemented accordingly.

Zyxel Group has long been concerned with major risks such as financial risks caused by currency fluctuations, supply chain shortages, and information security risks arising from increased digitization. The Group also refers to the Global Risks Report published by the World Economic Forum (WEF) and continuously identifies emerging risks that are expected to have long-term impacts on business operations. This proactive approach allows Zyxel to closely monitor changing risk trends and develop appropriate response strategies. According to the 2024 Global risk report, Zyxel Group has identified three emerging risks expected to arise in the next 3 to 5 years. These include customer concerns about geopolitical risks, rising operational costs due to inflation, and increased customer demands for carbon reduction and the use of renewable energy. This has made the company's need for renewable energy and carbon credits more urgent. Zyxel Group has analyzed the potential impacts of these risks and is actively taking mitigation measures to address them.



Impact (L)	Score
Very high	5
High	4
Medium	3
Low	2
Very Low	1

Probability (P)	Score
Almost certain (67% > 99% probability of occurring)	5
Likely (51% > 66% probability of occurring)	4
Possible (33% - 50% probability of occurring)	3
Unlikely (5% < 32% probability of occurring)	2
Almost impossible (< 5% probability of occurring)	1

Risk (R) = Impact (L) x Probability (P)	
Very high	17-25
High	9-16
Low	1~8

Major Risk Identification and Mitigation Measures

Aspect	Risk Category	Description	Potential Impact	Measures Taken	Correspondence
Emerging Risks (3-5 Years)					
Decision Risks	Geopolitical Conflict	Ongoing tensions between the US and China, worsening cross-strait relations, and the Russia-Ukraine war continue to challenge the global economy.	• In response to geopolitical risks, customers are requesting the company to relocate production sites, leading to increased costs associated with setting up new production locations. • Geopolitical conflicts affect operations and supply chain management.	• In response to geopolitical risks, the company has established new production site. • Developed strategies to address markets impacted by geopolitical risks.	Corporate Governance: D. Risk Management : BCM
Economic Risks	Economic Fluctuations	Global economic forecasts are trending downward.	Geopolitical conflicts may disrupt operations and supply chains.	• Market intelligence and surveys are conducted to anticipate and respond to market conditions. • Production capacity is optimized, and relationships with customers and suppliers are strengthened in response to the US-China trade war	
Climate change Risks	Carbon Reduction and Renewable Energy	Countries continue to set net-zero emission targets and revise environmental laws. Customers demand carbon reduction and adherence to international initiatives. Green energy price fluctuations also cause uncertainty in carbon credit purchases.	• Compliance with international net-zero goals and environmental laws may require adjustments in production processes, energy use, and emission controls, increasing compliance costs and risks. • More resources are needed to invest in green product development, increasing R&D costs. • Meeting customers' demands for carbon reduction and renewable energy usage may require higher expenditures. • The shortage of renewable energy in Taiwan increases the difficulty of achieving carbon reduction goals.	• Identify climate change risks and opportunities, implement risk mitigation measures, and assess operational and financial impacts. • Set carbon reduction goals and strategies, initiate carbon management, and implement solar power installations.	Sustainable environment: A. Climate change
Major Risks					
Financial Risks	Currency and Interest Rate Fluctuations	Currency and interest rate fluctuations affect global economic development.	The company's high export ratio exposes it to foreign exchange risks due to currency fluctuations.	Monitor market information and exchange rate trends to implement timely hedging operations.	2023 annual report
Cyber-security Risks	Cyber Attacks	Covers a range of threats from human error to malicious attacks. Major risks include data breaches, cyber attacks, social engineering, internal threats, physical security, and natural disasters or accidents.	System anomalies and cyber-attacks may disrupt operations, leading to financial losses.	• Establish a cross-departmental "Information Security Management Committee" chaired by the CEO and appointed a Chief Information Security Officer to coordinate information security policies and resource allocation. • Employees must complete annual mandatory cybersecurity courses and undergo irregular e-mail social engineering drills to enhance cybersecurity awareness and vigilance. • Implement SBOM (Software Bill of Materials), engage in CMMC 2.0 certification, and evaluate the adoption of the NIST CSF maturity assessment framework to strengthen defenses across six dimensions: governance, identification, protection, detection, response, and recovery.	Corporate Governance: E. Information Security Management
	Confidential Data Leaks		Confidential data leaks, ransomware, deepfake scams.	Implement data classification, define roles and responsibilities, and utilize Data Loss Prevention (DLP) solutions to prevent unsafe or improper sharing, transmission, or use of sensitive data.	Corporate Governance: E. Information Security Management

Aspect	Risk Category	Description	Potential Impact	Measures Taken	Correspondence
Market Risks	Customer Behavior Changes	Changes in customer preferences may lead to different considerations when choosing products or services.	The inability to respond to market demands in a timely manner may impact company revenue.	• Monitor market trends, understand customer needs, and proactively develop new products and core technologies. • Invest in related technology R&D, increasing capacity and investment in innovation.	
	Market Product Competition	Changes in market competition, leading to the redistribution of customers and markets	• Easy access to low-cost product technology affects market prices. • Increased demand for technology integration in the market.	• Prioritize staying attuned to market trends to meet customer needs and improve satisfaction. • Establish a "Project Risk Management Policy" to implement Risk Management plans during new product planning, ensuring timely risk management in product development.	
	Demand for Low-Carbon Products and Services	• Increased global or regional sustainability awareness has led to different considerations for customers when choosing products or services. • Demand for products with low consumption rates and those made from recycled materials is rising.	• High-energy or high-emission products and services face obsolescence due to misalignment with market demand. • Designing green products incurs additional costs, leading to higher overall product prices.	• Stay abreast of green product market trends, understand customer needs, and proactively develop new products and core technologies. • Develop green product technologies to reduce power consumption or standby energy use.	2023 annual repot
Supply Chain Risks	Supply Shortages	Supply shortages, delays, or interruptions in the supply of critical raw materials and consumables.	Affects delivery timelines.	• Establish sustainable supply chain partnerships. • Diversify risk management based on supplier production sites. • Actively develop new material sources to avoid reliance on a few suppliers. • Establish safety stock levels.	Partnerships: B. Supplier Management
	fluctuations in raw material prices	Fluctuations in raw material prices due to changes in market and international economic conditions.	cost increase	• Establish a Raw Material Price Risk Management mechanism. • Implement group-based procurement to enhance raw material supply chain management, adapting to macroeconomic changes. • Conduct market intelligence gathering or surveys to understand market conditions and respond proactively.	Value Chain: B. Supplier Management
Climate Change Risks	Low-Carbon Technology Transformation	The company has consistently designed products with energy-saving and carbon-reduction features, improving production processes.	Climate change may necessitate innovative processes, service delivery changes, or financial expenditures under current conditions.	• Use recyclable materials in products. • Automate production processes. • Prioritize energy-saving targets for high energy-consuming, low-efficiency equipment.	Sustainable Products
Human Resources Risks	Talent Acquisition Challenges	Intense competition in the labor market affects recruitment.	Inability to recruit talent promptly may impact business development and lead to a loss of competitive advantage.	• Implement effective human resource management mechanisms and performance evaluation processes. • Strengthen talent recruitment and training channels.	Friendly Workplace A.Diversity and inclusion Recruitment B. Human Capital Development
	Key Talent Loss	Industry changes and economic conditions cause talent mobility.			

3. Business Continuity Management (BCM)

To ensure that Zyxel Group maintains operational resilience in the face of various threats that may cause disruptions, and to ensure that business, production, and management activities continue uninterrupted, thereby safeguarding the interests of the company and its stakeholders, Zyxel Group implements operational continuity management and planning to minimize the impact of disasters.

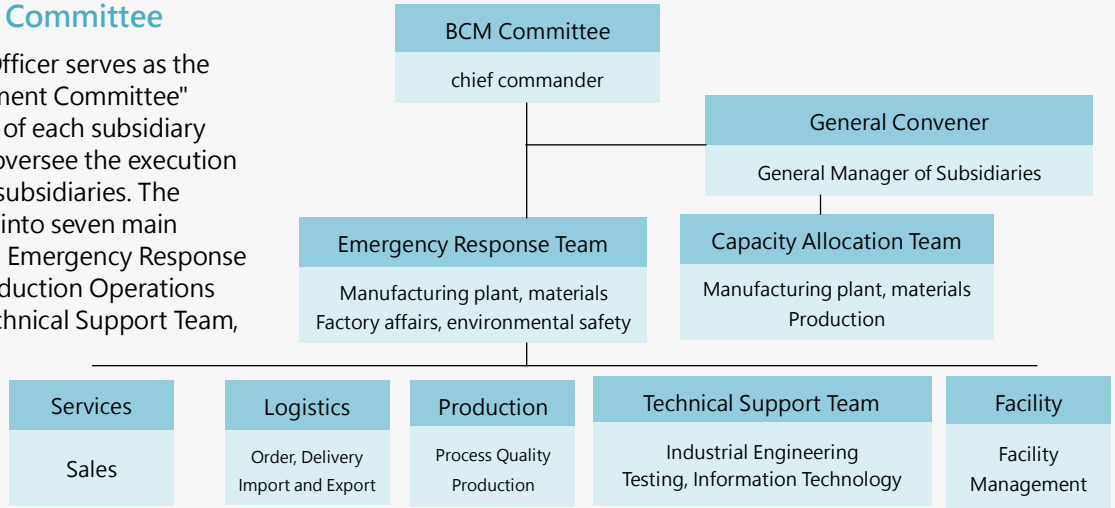
Zyxel Group has established the "Operational Continuity Management Guidelines" and formed an "Operational Continuity Management Team." Each subsidiary has set up an execution team that develops risk-based Business Continuity Plans (BCPs) according to the company's operational risk analysis. The company conducts drills for specific risk scenarios each year and makes improvements and follow-ups, embedding operational continuity into its daily operations and management processes.

BCM Policies

- Ensure operational continuity
- Reduce the impact of operational disruptions
- Protect information, assets, and personnel safety
- Minimize property loss
- Comply with regulations
- Enhance operational resilience
- Safeguard stakeholder interests

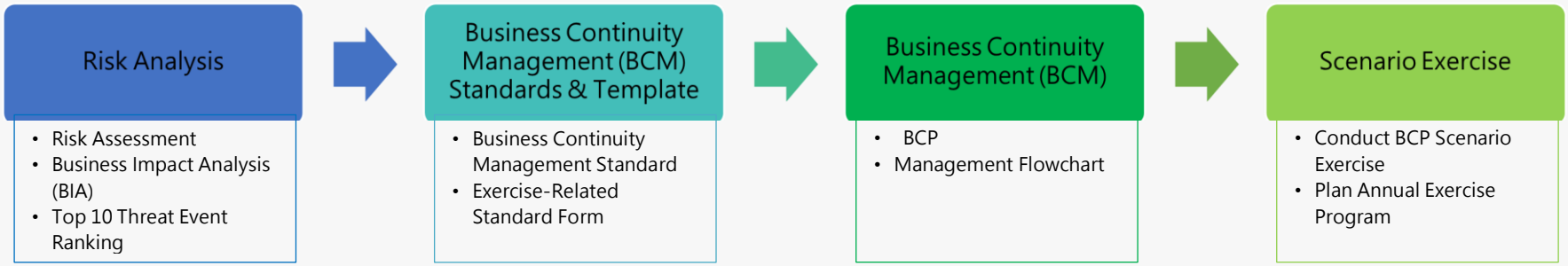
BCM Organization – BCM Committee

The Group's Chief Sustainability Officer serves as the "Operational Continuity Management Committee" Head, with the General Managers of each subsidiary acting as the Chairpersons. They oversee the execution and operation of their respective subsidiaries. The relevant departments are divided into seven main groups: Capacity Allocation Team, Emergency Response Team, External Services Team, Production Operations Team, Logistics Support Team, Technical Support Team, and Facility Recovery Team.



BCM Process

In accordance with ISO 22301 for Business Continuity Management Systems, we have established a Business Continuity Management (BCM) system. This involves conducting operational risk impact analyses, establishing standards and forms based on the implementation framework, and developing Business Continuity Plans (BCPs) for operational disruptions. We have also established procedures for incident response, crisis communication, business continuity, and recovery. Additionally, we simulate business disruption scenarios each year based on operational conditions, conduct drills, review results, and make improvements and follow-ups.

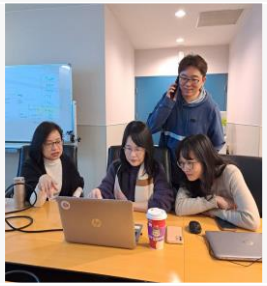


Business Continuity Plan (BCP)

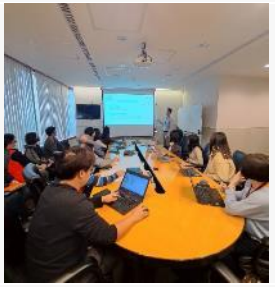
In 2023, experts were invited to review the company's current operational continuity management measures, engaging in discussions and revising existing processes through training sessions. The risk analysis revealed that supply chain disruptions and production interruptions are the two major risk events impacting operations in recent years. Zyxel Group's subsidiaries have developed Business Continuity Plans for both supply chain disruptions and production interruptions. Drills were conducted for scenarios involving supply chain disruptions, as well as wars and fires that may cause production interruptions. The company has established an operational continuity management system, developed a comprehensive crisis management and disaster response mechanism, and planned to conduct regular drills and improvements annually, integrating operational continuity into daily operations and management processes.

BCM plan training

War Tabletop Exercise Record Form

Scenario	Facing the threat of war and economic blockade, Taiwan has initiated offsite contingency plans by establishing backup site.
Recovery Objectives	6 months
Process	1. Due to the inability to restore production capacity within 6 months, the Business Continuity Planning (BCP) is activated by the BCM Committee 2. Material Transfer Plan 3. develop recovery plan 4. Notify customers of the transfer of orders to the backup site and provide the estimated updated delivery dates
	
Improvement Results	Sales performance assessment and production scheduling are divided by customer, accelerating the generation of reports.

Fire Tabletop Exercise Record Form

Scenario	Due to an electrical fire, the packaging department's production activities at Hsinchu site were interrupted.
Recovery Objectives	3 months
Process	1. The safety department reports to the relevant units, extinguishes the fire, conducts damage assessment, and informs the capacity adjustment team. 2. The capacity adjustment team evaluates the situation and determines that the production interruption will last more than two weeks, reporting to the convenor. 3. Due to the extent of the damage, which cannot be repaired within two weeks, the Business Continuity Management Committee decides to activate the BCP. 4. Plant operations, IT, and production lines conduct an inventory, report the damage, recovery methods, and estimated recovery time. 5. A temporary production line and production process system are established. 6. The sales department informs the customer and updates the delivery date.
	
Improvement Results	Enhance the speed of emergency communication between reporting personnel and relevant units.

Information Security Backup and Disaster Recovery Drills

Zyxel Group conducts annual disaster recovery simulation drills for critical application systems as part of its information security management. The company defines the maximum tolerable data loss time (RPO) and maximum tolerable downtime for information services during a disaster, ensuring the company's capability to respond effectively in critical situations. More information E. Information Security

E. Information Security Management

Zyxel Group is committed to optimizing cybersecurity, driving digital transformation, and creating a trustworthy and secure online world through technological innovation and close collaboration with key partners. As a major network communications company with information security software and hardware equipment and technical capabilities, we have an extensive and diverse information security solution portfolio and have obtained ISO 27001 information security certification in the face of increasingly severe information security threats. We continue to strengthen the integration of network and information security, ensure product information security, and at the same time enhance employee information security awareness, evaluate supplier information security, and protect the intellectual property security of customers and partners.

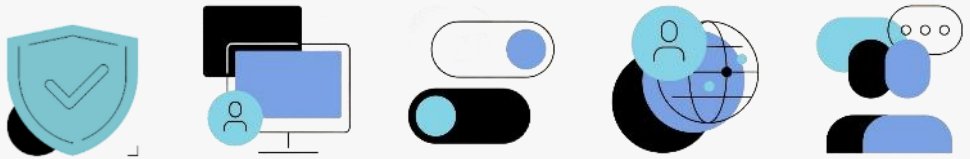
Policy

Zyxel Group' s security policy sets information security management regulations, guidelines, standards, rules, and codes of conduct to achieve our information security goals, ensuring the effectiveness of Zyxel Group' s information security practices. We formulated information security management policies and codes of conduct including "Network Security Management Measures", "Software Asset Management Measures", "Personal Computer Equipment Services and Management Measures", and others in accordance with the ISO 27001 international standard.

Company employees, subsidiaries of online operations, and manufacturers providing information services get notified of the relevant security management information in writing or electronically.

Targets & Achievements

Goal	Major Issues	Operational Impact	Actions	Performance Indicators	2023 Target	2023 Achievement		Goals			SDGs
								2024 short-term	2027 mid-term	2030 long-term	
Implement sustainable management	Information security	Ensure the confidentiality of information assets to comply with regulations and gain customer trust	Identify cybersecurity risks to prevent security incidents Enhance employees' information security awareness and knowledge	Completion rate of information security training courses	>99%	100%	v	>98%	>98%	100%	
				number of major security incidents	0	0	v	0			
				annual ISO 27001 certification	Obtained every year	Obtained	v	Obtained every year			



Information Security Organization

Dedicated Information Security Organization: Zyxel Group has a dedicated Chief Information Security Officer (CISO) responsible for coordinating information security strategy planning. In 2014, the company established an information security organizational framework based on ISO 27001 and formed a specialized Information Security Team under the leadership of the CISO. This team is responsible for formulating information security strategies and objectives, monitoring security incidents and activities, executing various information security tasks and projects, and conducting information security awareness and training programs.

Direct Subordination to the Chairman' s Office: In response to the escalating threats in information security, the "Zyxel Group PSIRT Committee" (Product Security Incident Response Team, PSIRT) operates under the "Information and Product Security Management Division." This division comprises the Information Security and Product Security Management Departments, both of which are directly under the oversight of the Chairman's Office. They are responsible for continuous monitoring of potential external threats and providing immediate responses to security issues.

Monitoring by the Board of Directors: The implementation of information security is reviewed regularly on an annual basis. Management review meetings are also held in an effort to unceasingly promote and improve he information security management system. With the aim of ensuring the continuous and effective operation of the internal information security management mechanism, a report on information security work plans and their implementation is made to the Board of Directors at least once a year.

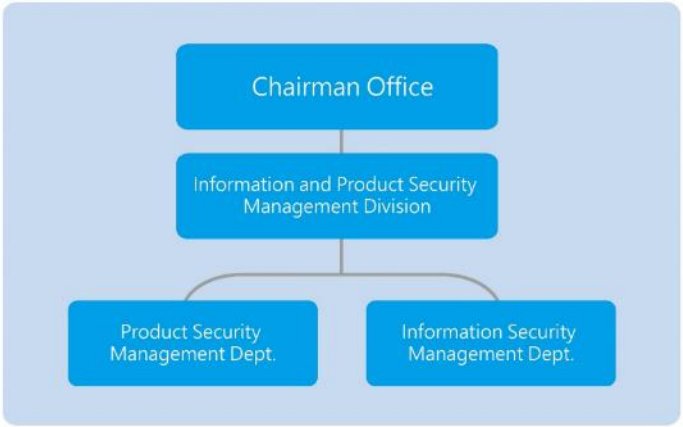
Information Security Workforce and Investment

Zyxel Group has departments responsible for information and product security, which were formed in 2017, as well as 20 independent information security personnel, of which 40% are senior employees and 60% are newbies. Among the personnel, 8 have acquired professional information security certificates (ISO27001 Lead Auditor, CTIA (Certified Threat Intelligence Analyst) Certificate, CEH (Certified Ethical Hacker) Certificate, TCSE (Trend Certified Security Expert), CCNA (Cisco Certified Network Associate)). On top of that, continuous efforts have been devoted to ensuring our products acquire the information security certification of BSI Bund. Through technology utilization and the identification of information security risks and deficiencies, we can enable effective intensification, develop comprehensive information security protection capability, and build a rigorous and effective information security protection network.

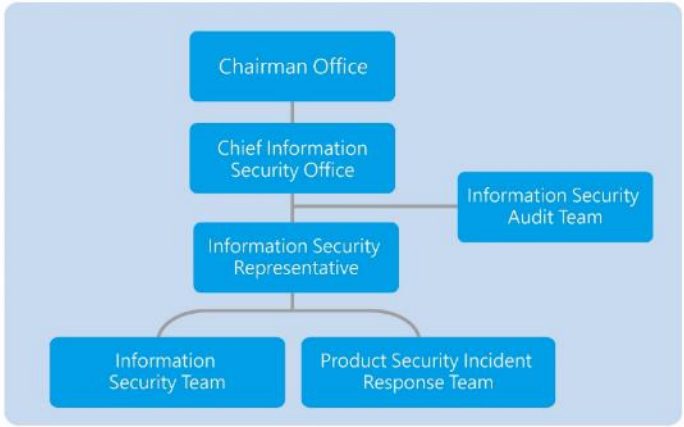
To enhance the company' s capability in detecting and responding to cyberattacks, we participated in the "2023 Corporate Cybersecurity Exercise" hosted by TWCERT/CC. The exercise simulated internal penetration by hackers using social engineering techniques. The company successfully detected the hacker's activities and implemented countermeasures to block the attack, ensuring continuous and uninterrupted operation of its information systems.

The company also supported its products in obtaining cybersecurity certification from the German Federal Office for Information Security (BSI_Bund). By leveraging advanced technology, the company identified information security risks and vulnerabilities, effectively enhancing its cybersecurity defense capabilities.

Information Security Organization

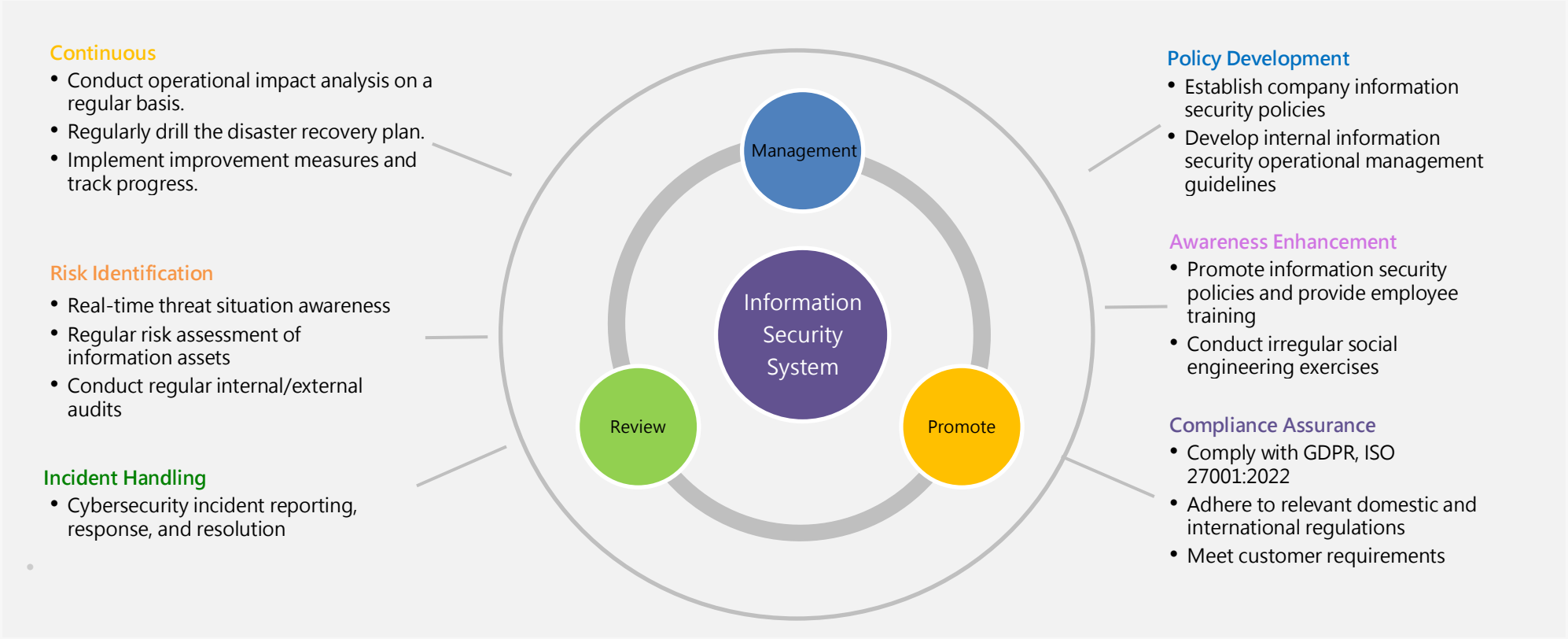


Information Security Committee



Information Security Management Framework

In order to strengthen information security management, Zyxel Group has set up a safe and reliable digital operation platform to ensure the sustainable operation of data, systems, equipment, and networks. We have implemented security control mechanisms for data processing, transmission, and storage while taking information security and work efficiency into account. We have set up a complete information security management framework, with governance, promotion, and inspection as the three management directions. As part of our information security policy, we raise awareness about information security and undergo and pass ISO 27001 information security certification audits regularly to ensure our compliance measures and track improvements.



Scope of Information Security Management

The company' s information security management encompasses four major control measures to prevent data misuse, leakage, alteration, and destruction due to human error, deliberate acts, or natural disasters. These measures address various risks and hazards that could impact the organization:

- Organizational Control Measures
- Personnel Control Measures
- Physical Control Measures
- Technical Control Measures

Information Security Management System

Zyxel Group has established an information security management system (ISMS) compliant with the international standard ISO/IEC 27001:2013 (including the national information security system standard CNS 27001:2014). The information security management system has acquired the information security management certificate and passed regular audits for six consecutive years since its first introduction and certification in 2015. Continuous information security management, the acquisition of the certificate through re-evaluation on a triennial basis, and the execution of regular audits in between ensure the unceasing improvement and optimization of our information security management and technology.

Information Protection System and Mechanism

Zyxel Group Information Security Team has formed a security operations center (SOC) and built a safety intelligence database through data collection and big data platforms. Multi-dimensional association analyses are conducted in combination with user and entity behavior analytics and machine learning to detect information security incidents or anomalous connections. A real-time early warning mechanism is also in place to have a timely grasp of internal and external information security threats, deal with relevant incidents immediately, and minimize damage to information security.

ISO 27001

To ensure the confidentiality, integrity, and availability of all information, Zyxel Group passed the BSI verification agency review in 2015 and obtained the ISO 27001:2013 international standard certification. Zyxel Group continues to implement the PDCA (Plan-Do-Check-Act) Management spirit, continuous improvement of information security management and technology, to ensure the security of customer data.

We follow the ISO 27001:2013 version of the standard requirements to establish various management documents, conduct annual inventory and updates of information assets, and perform risk assessment, operational impact analysis, disaster recovery drills, account permission checks, vulnerability scans, penetration testing, and social networking engineering drills for various information security tasks. We perform internal and external audits regularly every year, and hold management review meetings to continuously implement various information security policies.

bsi.

Certificate of Registration

INFORMATION SECURITY MANAGEMENT SYSTEM – ISO/IEC 27001:2022

..making excellence a habit."

Information Security Maturity Indicators

To grasp the strategic adjustments and enhancement trends of the company's overall information security defense system each year, Zyxel Group introduced the NIST Cybersecurity Framework (CSF) maturity assessment mechanism in collaboration with third-party professional consultants starting in 2023.

This assessment evaluates the overall information security maturity based on five key indicators: Identify, Protect, Detect, Respond, and Recover. The process involves continuously collecting data on the company's current information security management and control status and the state of its security frameworks and policies for each horizontal evaluation item within the NIST CSF.
This enables the management to identify areas in information security management operations that can be further improved and adjusted, allowing for a swift response to information security policies and establishing an efficient organizational communication interface.

Information Security Risk Management

To assure the sustainable business operations and prevent our important information systems from leading to the risk of unsustainable services due to major disasters or incidents, the Company regularly conducts information security risk assessment to adjust our sustainable management policies, reviews laws and regulations, and evaluates and revises the internal information security regulations in order to ensure their legal compliance and effectiveness.

Our employees also participate in information security awareness campaigns, education and training as well as social engineering exercises to raise their information security awareness and make sure that the concept of information security is ingrained into their routine at work. Information asset risk assessment, internal/external audits, and backup system switchover drills for keeping our information systems essential to the business running are implemented periodically to analyze operational impacts, carry out disaster recovery drills, perform improvement measures, and keep track of and evaluate the improvement on a regular basis.

• Information Security Alert Notification and Incident Management

In accordance with the information security incident management guidelines, the information security organization works to ensure the operational and systematic processes of reporting, categorizing, grading, processing, tracking, and analyzing statistics for the company's information security incidents.

When information security incidents occur, swift notification and responsive actions are taken to restore normal operations of various business functions as quickly as possible. Adopting advanced persistent threat (APT) monitoring and security operations center (SOC) operational mechanisms, in collaboration with external cybersecurity experts, the Information Security Operations and Response Team rapidly assesses information security alert notifications and incident intelligence, thereby enhancing and expediting the detection and response mechanisms.

• Backup and Disaster Recovery Drills

Zyxel Group conducts regular disaster recovery drills every year to ensure the company's ability to respond effectively during critical moments. The recovery mechanisms we employ in the event of a disaster swiftly restore business operations to a normal or an acceptable level, enabling essential application systems to continue functioning and ensuring uninterrupted business operations.

Backup administrators perform data recovery tests at least once a year. In 2023, 15 backup storage devices were selected for recovery testing across 6 key application systems, resulting in the successful recovery of the backed-up data.

The results of the 2023 disaster recovery drill revealed that the maximum tolerable data loss time in the event of a disaster (Recovery Point Objective, RPO) is 5 hours. Additionally, the maximum acceptable information service recovery time following a disaster (Recovery Time Objective, RTO) is 20 hours.

The results of drills in the past three years have all achieved the company's set objectives. Detailed statistical data is provided in the following table.

	Goal	2021	2022	2023
A critical annual practice involves conducting disaster recovery simulations for key application systems to ensure uninterrupted business operations.	RPO <= 10 hrs.	8 hrs.	9 hrs.	7 hrs.
	RTO <= 24 hrs.	24 hrs.	21 hrs.	19 hrs.

Note1：RPO: Recovery Point Objective
Note2：RTO: Recovery Time Objective

• Social Engineering Drill

2 social engineering drills are implemented for information security education and awareness-raising to intensify our employees' awareness of information security and avoid email scams.

• Information Security Education and Dissemination

To improve the employees' cognitive ability for information security, enhance their information security awareness, facilitate all personnel's understanding of the importance of information security, provide them with knowledge of all potential security risks and response approaches, and thereby maintain overall information security, an internal information security website, "Information Security Website", is built to offer real-time information security news to the employees.

• Information Security Education and Training

Online required information security courses covering information security policies and usage guidelines are completed. All our employees are required to complete information security courses for personnel at different levels, allowing them to become aware of the importance of information security and any potential security risk, improving their information security awareness, and ensuring their compliance with related information security regulations.

2023 Information Security Courses: "Introduction to Cybersecurity," "Windows Security Protection," and "Email Social Engineering and Protection." A total of 5,227 participants attended these courses, with 4,705.5 training hours logged and a 100% completion rate.

Information Security Management Achievements in 2023

Defense in Depth for Information Security

Network Security	• North south and east west firewalls and network control have been reinforced to prevent virus attacks from spreading. • Continuously adopt advanced technology for computer scans and system/software updates. • Continued monitoring of 10 sets of network risk factors, maintaining an "A" security rating. • Ongoing monitoring of domain security maturity, maintaining a maturity level of 3. • Operated the security monitoring center, continuously enhancing threat detection capabilities, ensuring swift and effective incident response, and minimizing damage and recovery time.
Device Security	• Network visibility has been improved to identify and control network connected devices. • Multi layered endpoint information security protection programs have been used to strengthen the detection and response to unknown attacks. • Regular vulnerability assessment was performed for devices in internal user network segments on a weekly basis.
Application Security	• We established safety framework design principles and carried out source code security testing and product safety verification to integrate product design with information security. • Regular vulnerability assessment was performed for systems and devices in the internal host network segment every week. Cyberspace security services were used to assist in external automated risk exposure evaluation to reinforce software asset and safety control.
Data Security	• The classification of confidential documents, authority control, and data backup and protection have been further ensured. • The Company introduced document and data encryption as well as effective track records.

- Received the 2023 TCSA Information Security Leadership Award.
- From 2021 to 2023, no major cybersecurity incidents occurred, nor were there any cases of confidential information leakage affecting customer or employee personal data, resulting in fines.

Enhanced Information Security Awareness

Education and Training	• 5,772 employees participated in information security education, training and tests, with a training completion rate of 9 9.62 %. All participants passed the tests. • An email based social engineering drill was conducted on a half yearly basis. High risk employees identified in the drill received reeducation and retraining for information security to boost their information security awareness and vigilance.
Awareness Promotion	• Published guidelines and regulations for using ChatGPT, encouraging learning and understanding of AI-assisted design features and applications. • An internal information security website was built to provide information security policies and share new information, thereby increasing information security risk awareness.

Regular Risk-related Drills

Operational Impact Analysis	Backup system switchover drills for keeping our information systems essential to the business running were completed.

Improved Disaster Response Capability - COVID-19

Disaster Recovery Plan	In response to the impact of COVID-19, we used highly secure equipment, adopted a multi-factor authentication mechanism, and regularly reviewed the authorization status to further secure the information system services and network connections, enabling the employees to work from home.

2. Product Information Security

In an effort to monitor potential external threats continuously and cope with security issues immediately, Zyxel Group has formed the "Product Security Incident Response Team" (PSIRT). The team maps out and executes product safety control measures, identifies procedures and guidelines required to be improved together with our product safety representatives, and makes flexible and continuous revisions. It has established safety framework design principles and carried out source code security testing and product safety verification to solve root problems and integrate product design with information security.

In June 2021, joined as a NIST CNA number administrator and became a member of the MITRE Common Vulnerabilities and Exposures (CVE) Numbering Authority (CNA). We evaluate the risk and impact of reported vulnerabilities to ensure the accuracy and consistency of CVE information. In February 2023, we were assessed by NIST CNA and achieved Contributor level

Not only can we independently manage and analyze product vulnerabilities, but by gaining international membership, we leverage external constraints to accelerate the internalization of product security. This helps expedite the practice of Security by Design, ensuring that the development process adheres to security design principles. This approach protects Zyxel Communications' information assets from various internal and external risks, ensuring the confidentiality, integrity, and availability of the company's information security management system.

3. Intellectual Property Protection

With the evolution of network technology and the growth of market demand, Zyxel Group actively develops various network technology and other products. In order to maintain Zyxel Group's competitive advantage in innovative technology capabilities and protect the interests of all stakeholders, we prioritize the protection and control of intellectual property and confidential information.

Intellectual Property System

Zyxel Group has developed intellectual property management strategies and established a mechanism to improve the advantages and value created from intellectual property. Zyxel Group' s "Procedural Management Guidelines for Intellectual Property" were formulated to set up the management objectives, application policies, and management maintenance of intellectual property rights. Zyxel Group has also adopted the Taiwan Intellectual Property System (TIPS) to strengthen Zyxel Group's intellectual property management system and enhance Zyxel Group's competitiveness.

Patent Protection

Zyxel Group attaches great importance to the development of various types of patents, and enhances Zyxel Group's competitiveness in intellectual property through the strategies of education, a rewards system, and a talent training management system.

- Reward: Zyxel Group formulated the "Employee Creative Invention Proposal Reward Guidelines" and related patent invention bonuses to encourage R&D colleagues to actively engage in innovative R&D, provide creative proposals, apply for patents, and continue to accumulate patent rights, copyrights, trademark rights, trade secrets, and professional technique intellectual assets.
- Training: The "Valuable Patent" course is held, with business and product managers and R&D colleagues as the main teaching target, to introduce the definition of valuable patents and Zyxel Group's patent proposal application process and improve the quality of patents.

Protection of Intellectual Property for Suppliers

We also request our suppliers to protect intellectual property and specify in the procurement contract with them that the subject matter delivered by the suppliers shall not infringe the patent right, trademark rights, copyright, or the rights of others.

Dissemination and Training Courses

To accumulate our R&D capacities, new employees are required to take courses on intellectual property rights. These courses cover an introduction to patent systems and the prevention of rights violations and focus on intellectual property management training. The Company promotes the responsibility and obligation to protect intellectual property with the employees and adopts non-disclosure agreements for the protection of the intellectual property.

All our employees must also complete our CSR courses involving the protection of intellectual property rights every year. They are required to maintain the confidentiality of the confidential information of the Company and customers, are obligated to protect the information, and shall not communicate or obtain such information for internal and external individuals, companies or organizations unauthorized to access it.

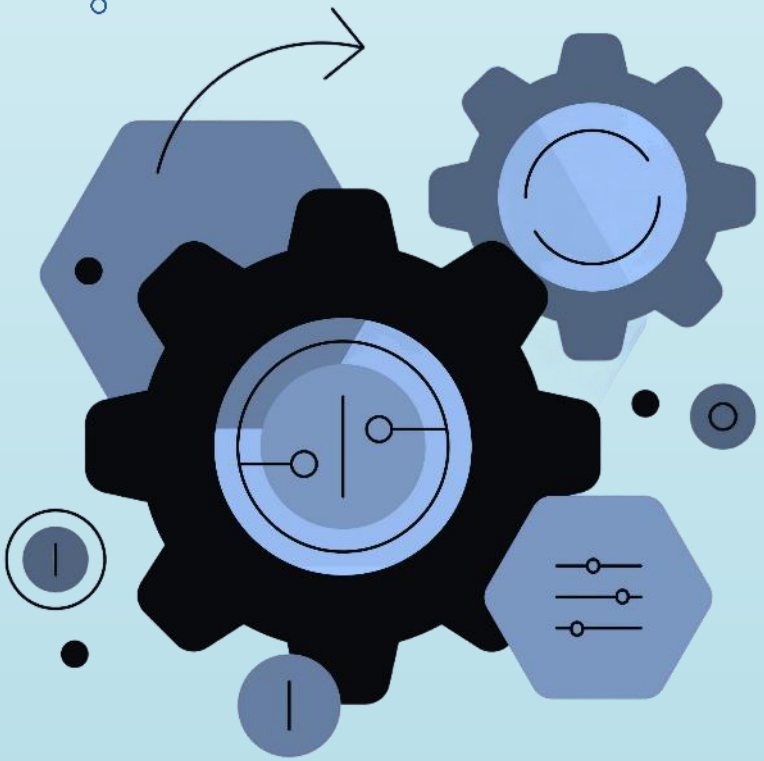
Completion rate for courses on business secret protection regulations in 2023: 97.7%

No patent infringement cases in 2023

Value Chain

A. Customer Relation

B. Supplier Sustainability



A. Customer Relation

Customer Service Policy

Zyxel Group is devoted to listening to the voice of customers, creating values with service quality, and satisfying the customers' needs. The customers' complaints are always prioritized. We take the customers' critiques and suggestions on the chin with a proactive and ethical attitude and strive to improve our product and service quality.

Customer Service Commitment

We offer innovative design, manufacturing and services and deliver competitive and high-quality products and services in time to ensure customer satisfaction.

Goals and Achievements

Major Issues	Operational Impact	Actions	Performance Indicators	2023 Goal	2023 Achievements		Goals			SDGs
							2024short-term	2027mid-term	2030long-term	
Customer Relationship Management	Customer satisfaction and trust can be built for higher profits	Maintain smooth and effective communication with customers	Customer satisfaction: (MitraStar perfect 10/10、Zyxel Networks 5/5)	MitraStar>9.0 Zyxel Networks>4.3	MitraStar 9.64 Zyxel Networks 4.84	v	MitraStar>9.0 Zyxel Networks>4.3	MitraStar>9.0 Zyxel Networks>4.3	MitraStar>9.5 Zyxel Networks>4.5	
		Implement the customer information protection mechanism	Business Confidentiality Training Coverage Rate	>95%	97.7%	v	>95%	>97%	>99%	

1. Protection of Confidential Information

With the aim of protecting the interests of all stakeholders, Zyxel Group highly values the protection and control of confidential business information. Hence, the Company has developed the "Management Guidelines for the Classification of Confidential Documents" to specify appropriate methods to keep confidential documents secure and related protection measures and thereby facilitate the management of the Company's business secrets and internal confidential documents.

When entering into a contract with a third party, we request it to observe the information confidentiality rules and explicitly state that both parties shall be responsible for keeping the confidential information of the opposing party known or held thereby for performing the contract confidential and shall not divulge the confidential information of the opposing party to others, provide them with the information, or assist them in obtaining it, in any form. Both parties shall perform necessary measures to prevent the confidential information from being stolen or divulged, including reasonable measures for ensuring that employees having access to the confidential information of the opposing party do not disclose it.

2. Customer Communication Platform

Zyxel Group' s subsidiaries have built their own customer relationship management systems to offer timely, effective, high-quality and interactive information exchange and problem-solving services to customers. The distribution partners of Zyxel Communications across the world serve as the best platform for us to communicate with global customers. We not only organize activities with the distribution partners to share product planning and after-sales services, but also provide online training courses and training completion certificates to allow the distribution partners to offer customers timely local services with higher quality.

eITS Customer Service System:

Zyxel Group' s professional customer service team uses an eITS system to provide product consulting services, problem-solving solutions, software updating information and product documents, product education and training courses, and education and training platforms for large brand customers to help boost their technical service capabilities for new products. Our eITS system enables the tracking and management of the progress of all customer support tasks.

Customer Complaint Platform:

Our customer service system also provides a customer complaint platform to handle customer complaints. In 2022, no material customer complaints were received via the platform.

Customer Service Knowledge Platform:

To equip our customer service personnel with more comprehensive professional skills, a customer service knowledge platform has been built to gather technical product information, problem-solving records and other information for the personnel' s reference and for the inquiry of our front-line employees or partners. ◦

Social Media Platform:

Enables users to interact and share knowledge and experiences. Offers features including a knowledge base, frequently asked questions (FAQs), and discussion forums. It provides users with an individual learning and communication platform while also offering us a swift means to receive feedback and enhance our products.

3. Customer Satisfaction Survey

We focus on the R&D and OEM of network communication technology and products and spare no effort to have a grasp of the needs and expectations of large brand customers. Our Customer Service Department is responsible for looking into, gathering data on, and analyzing customers' satisfaction with its after-sales services according to the ISO9001 procedures every year, notifying relevant departments of customer feedback for improvement and review, and informing the customers of the improvement.

Customer satisfaction surveys are conducted mainly by sending questionnaires to customers by email. The department has interviews with the contact persons of the customers, if necessary, after the initial analysis to ensure the correct interpretation of customer feedback.

Our subsidiary, Zyxel Networks provides high-quality products and services to small and medium-sized enterprises, along with real-time technical support. In 2023 Zyxel Networks achieved a 98.9% customer online system issue response rate and delivered satisfactory solutions to customers within the specified timeframe.

MitraStar Customer Satisfaction Score (Perfect score: 10)

Year	2020	2021	2022	2023	2023 goal
Score	9.23	9.77	9.49	9.64	9.33
Survey response rate	85.7%	70.0%	76.7%	89.3%	74%

Zyxel Networks Customer Satisfaction Score (Perfect score: 5)

Year	2020	2021	2022	2023	2023 goal
Score	-	4.64	4.28	4.84	4.46

B. Supplier Sustainability

1. Supply Chain Overview
2. Supplier Management System
3. Supplier Sustainability Management Approach
4. Sustainable Procurement
5. Supply Chain Sustainability Capacity Building

Highlights of Achievements

519 Supplier submitted Supplier CSR commitment	Supplier sign the code of conduct Completion rate: 100%	Audited 20 Supplier	20 Supplier audit improvements Completion rate:100%	Taiwan Ministry of Environment Green Procurement Award Hsinchu City Government Green Procurement Excellence Award
2 Supplier Conferences	Supplier ESG courses Completion rate: 100%	Supplier Zero Carbon Academy participants 2,987 Courses hours 4,218	ESG training course for purchasing staff Completion rate: 100%	Ethical Hazard Assessment for Purchasing Staff. Completion rate: 100%

Zyxel Group's supply chain management goes beyond competitive quality; it aims to develop stable partnerships with suppliers to continuously enhance overall supply chain resilience and concretely practice sustainable procurement. The goal is to treat suppliers not only as business partners but also as collaborators in promoting sustainable development. In addition to fostering sustainability among its own supplier management personnel, Zyxel Communications has established an ESG Supplier Management Team for suppliers. This team utilizes a sustainable supply chain management process and has implemented an electronic management system to set standards, assess risks, and conduct audits. Furthermore, the team provides guidance and facilitates exchanges through various sustainability capability development programs, promoting strategies such as carbon reduction, energy saving, green procurement, and human rights management to suppliers, thereby creating sustainable value together.

Supplier Sustainability Policy

- Value supply chain sustainability values, improve the sustainable supply chain capabilities of our suppliers
- cooperate with our suppliers in sustainable development and the creation of a responsible supply chain industry.

Supply Chain Management Strategy

- Integrate the Group' s resources to achieve competitive costs through strategic collaboration
- Take supplier relationships and harmonious partnerships seriously
- Realize a supply chain sustainability management model
- Committed to adhering to regulatory commitments, and implementing international initiatives and standards.
- QCDS
- Collaboratively building a green supply chain with suppliers

Goals and Achievements

Major Issues	Operational Impact	Actions	Performance Indicators	2023 Goal	2023 Achievements		Goals			SDGs
							2024 short-term	2025 mid-term	2030 long-term	
Sustainable Supplier	Sustainable supplier management can deepen the partnership with the supply chain and put into practice the Company' s sustainability values	• Realize a supply chain sustainability management model • Build sustainable supply chain partnerships	Percentage of suppliers signing a letter of commitment	MitraStar80% Zyxel Communications/Zyxel Networks100%	MitraStar84.1% Zyxel Communications/Zyxel Networks100%	v	MitraStar80% Zyxel Communications/Zyxel Networks100%		MitraStar90% Zyxel Communications/Zyxel Networks100%	
			Key suppliers' acquisition of ESG-related questionnaire	MitraStar70% Zyxel Communications/Zyxel Networks100%	MitraStar63.5% Zyxel Communications/Zyxel Networks 100%	x	MitraStar80% Zyxel Communications/Zyxel Networks100%		MitraStar90% Zyxel Communications/Zyxel Networks100%	
			Key Supplier ESG awareness course completion rate	MitraStar80% Zyxel Communications/Zyxel Networks100%	MitraStar100% Zyxel Communications/Zyxel Networks100%	v	MitraStar80% Zyxel Communications/Zyxel Networks100%		MitraStar90% Zyxel Communications/Zyxel Networks100%	

1. Supply Chain Overview

Zyxel Group is a network communication equipment manufacturer. The Company and the subsidiaries thereof, MitraStar Technology, Zyxel Communications and Zyxel Networks, are based in Taiwan, have branches in America, China, Southeast Asia, and Europe, and serve 150 regional markets around the world. The Company has production bases in Taiwan and China. We continue the promotion of procurement localization to allow the suppliers to offer services in a more effective way, shorten the delivery time to reduce environmental footprints, and help the suppliers create more job opportunities while cementing our long-term partnerships with them. The types of procurements from the suppliers depend on the nature of the business of our subsidiaries. MitraStar Technology focuses on the R&D and OEM of products; Zyxel Communications offers brand products to telecommunications operators; Zyxel Networks is engaged in channel sales.

Main Types of Procurements from Suppliers

MitraStar: The primary raw materials and components procured include integrated circuits, circuit boards, display panels, electromechanical components, mechanical parts, and packaging materials. Production consumables consist of process materials like solder paste and solder wire. In 2023, for MitraStar' s various locations, the top 80% of procurement transactions for raw materials, components, and production consumables involved 496 suppliers, primarily located in Taiwan, China, Hong Kong, Malaysia, South Korea, Singapore, and the United States, with 78 identified as key suppliers.

Zyxel Communications：The main procurement categories for finished product suppliers include client-side devices, central office equipment, wired and wireless access network equipment, and mobile broadband solutions. In 2023, there were a total of 12 finished product suppliers, with the top 3 suppliers accounting for 96% of the total procurement value. These suppliers are primarily located in Taiwan, China, and Thailand, with 3 identified as key suppliers.

Zyxel Networks: Collaborating with final assembly manufacturers (ODMs), Zyxel Networks co-develops communication products and procures finished goods from suppliers. Through Zyxel's sales channels, it offers customers valuable products, services, and solutions. There are 14 finished product suppliers in total, with the top 4 suppliers covering 90% of the procurement value. These suppliers are located in Taiwan and China, with their main production bases in China. They also provide flexible options for customers to manufacture cybersecurity products in Taiwan. Four of these suppliers are considered key suppliers.

Local procurement

Each plant prioritizes sourcing materials from local suppliers, which not only shortens material lead times and reduces the environmental footprint of the raw materials required for manufacturing but also indirectly increases employment opportunities and promotes socio-economic development. This approach enables suppliers to provide services more efficiently and strengthens long-term partnerships with them.

Main Types of Procurements from Suppliers

MitraStar：Key suppliers under the category of PVL in annual selection.

2023: 78 suppliers

Zyxel Communications/Zyxel Networks：Key suppliers with annual transaction amount >80%.

2023: Zyxel Communications: 3/ Zyxel Networks: 4

2. Supplier Management System

Supplier Management System

To effectively drive sustainable supply chain management, Zyxel Group establishes the "Global Supply Chain Management Headquarters" and forms the " Zyxel Group Sustainability Committee - Supplier Management Group." This committee integrates the supply chain systems of its subsidiaries and is responsible for coordinating, planning, and implementing project activities.

Supplier Electronic Management System

Through the Green System and Outsourcing on Web System, the system consolidates supplier ESG management-related activities, educational training courses, and information on advocating supplier code of conduct and other related data.

Supplier Management Personnel Training

Supplier Management Personnel Ethical Risk Assessment

Every year, the "Zyxel Group Sustainability Committee - Risk Management Team" conducts a moral hazard assessment for employees according to the "Labor Risk and Moral Hazard Factor Identification and Assessment Form", identifies high-risk issues using the hazard level assessment method, and issues a "high-risk item assessment result report".

Procurement personnel considered to have high potential moral hazards under the item "improper benefits" according to the identification result and high-risk issues identified are listed in the report. A "business ethics checklist" is provided for the personnel to check any moral hazard that may be generated from trading with the suppliers. Control measures and rectifications made for the risk issues, as well as reviews verified subsequently, are recorded in the report. All procurement personnel are also required to sign the "Letter of Commitment to Anti-corruption and Anti-bribery" to ensure a fair, impartial and reasonable competitive environment. ◦ In 2022, all the personnel signed the "Letter of Commitment to Anti-corruption and Anti-bribery".

Supplier Management Personnel Training

In terms of the development of the employees' supplier management capabilities, the Company actively offers education and courses on sustainability concepts and knowledge as well as supplier management capabilities, particularly to the on-site supplier audit team to enhance the formulation of on-site audit plans, audit techniques and approaches, and process management and assist the suppliers in improving their knowledge-based and experiential training. We also include the suppliers' management staff's implementation of sustainable procurement goals and strategies as a performance evaluation item, demonstrating our attention and determination to implement supply chain sustainability management.

- CSR Education and Training: All management staff of the suppliers complete CSR training courses that all our employees are required to take on the online education and training platform every year
- Sustainable Procurement Training: Courses are launched for the management staff of the suppliers. The courses are classified into two categories, "ESG Education and Training Materials for the Group/Suppliers - Basic" and "ESG Education and Training Materials for the Group/Suppliers - Advanced". Relevant concepts are promoted through online education and courses in the hope of incorporating the concept of sustainable procurement into supplier selection and management.
- Training for the Supplier Audit Team: For the training of the "Supplier Audit Team" for supplier audit capabilities, training programs have been implemented. Training meetings are convened for the Supplier Audit Team before on-site supplier audits to not only discuss SOPs for the on-site audits and appoint members who will be in charge, but also to conduct audit R&R drills and training.

Supplier Whistleblowing Channels

We have a supplier whistleblowing channel in place and its email address is available on the Company's website. The recipients are the chief auditor and top management. All whistleblowing emails are anonymous. This channel can help the Company manage moral hazards generated during supplier management.

Reporting channel for violations of integrity management: audit@zyxelgroup.com

3. Supplier Sustainability Management Approach

As part of the Zyxel Group procurement and supply chain development policy and commitment, we established a four-stage sustainability supply chain management process with requirements management, risk assessment, audit confirmation, and continuous improvement. We evaluate the performance of the supply chain with regards to the three aspects of economy, society, and environment. This helps ensure that suppliers meet standards and improve their sustainable performance.

Requirement Management	Risk Assessment	Audit Confirmation	Continuous Improvement
Comply with the RBA code of conduct, follow the supplier code of conduct, and sign the commitment document	Conduct supplier ESG self-assessment survey and ESG risk assessment	On-site audit, submit "improvement plan" for non-conforming items, lack of improvement	Provide appropriate assistance, coaching and educational training course counseling to improve effectiveness checks
• Responsible Sourcing Management Procedures • Supplier Code of Conduct • Purchase Agreement • Supplier CSR Statement and Commitment • Supplier Integrity Commitment • "No Use of Environmentally	Provide "Supplier Social Responsibility Assessment Questionnaire"	• On-site audit • Provide supplier the "on-site audit improvement report" • Assign improvement plans • Supplier Audit Appraisal Form	• Develop improvement plans with suppliers • CSR Education and Training for Suppliers

Step 1: Requirement Management

To create a supply chain compliant with the RBA standards and evaluate the suppliers' capabilities to fulfill social responsibility, we set up the "Responsible Procurement Management Procedure" and the "Supplier CSR Audit Guidelines. The Procedure and the Guidelines are used as a basis for supplier sustainability management principles to urge the suppliers to meet the sustainability requirements. In addition, the suppliers are required to sign the "Ongoing/Product Procurement Agreement" to ensure the compliance of the products offered with environmental protection laws and regulations and product safety regulations. They must also make a declaration of the non-use of conflict minerals to achieve the goals of pollution prevention, environmental impact mitigation, and personal safety.
We follow the ILO's standards, the RBA Code of Conduct, and the self-requirements for best practices of benchmarks in the electronics industry are adopted as reference for the establishment of the "Code of Conduct for Suppliers" regulating labor, health and safety, environment, business ethics, and management systems. Code of conduct for suppliers

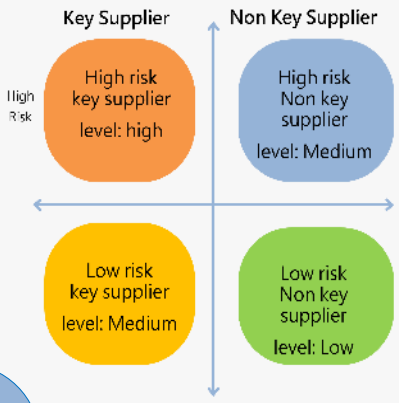
Suppliers' Signing of the Letter of Commitment to Social Responsibility / Commitment to Integrity

	Number of signed suppliers in 2023	Number of Supplier	2023signed supplier target	Achievement rate
MitraStar	474/478	496	80%	84.1% /84.9%
Zyxel Communications	12/12	12	100%	100%/100%
Zyxel Networks	14/14	14	100%	100%/100%

Step 2: Risk Assessment

To gain a deeper understanding of supply chain development and identify potential risks, a three-stage supplier risk assessment mechanism is implemented. Based on business relationships with suppliers, this mechanism evaluates potential risks in governance, environmental, and social aspects according to the supplier's industry category and operating region. Suppliers are periodically required to provide corporate social responsibility evaluation data. Using the "Supplier ESG Evaluation Questionnaire," risk management measures are employed for monitoring. Subsequently, "on-site audits" are conducted to produce formal audit reports to identify supply chain sustainability risks. These findings are incorporated into supplier selection and evaluation criteria. Audits and guidance are conducted for suppliers that may pose higher risks to ensure effective control and mitigation of these risks.

Supplier risk Matrix

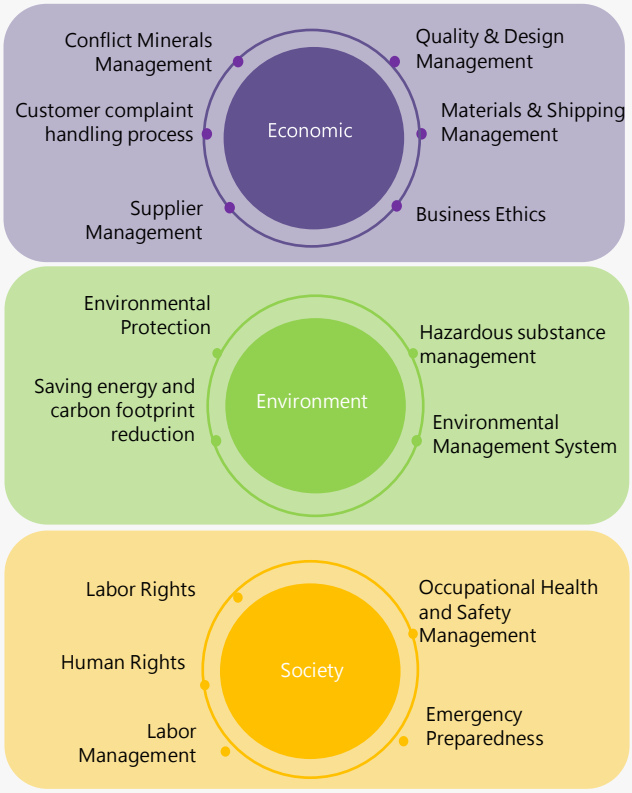


Suppliers for specific industries, regions, countries, and product categories	High risk key supplier	Low risk key supplier	High risk Non key supplier	Low risk Non key supplier
sign Supplier Code of Conduct	✓	✓	✓	✓
Supplier CSR Assessment Questionnaire Identification	✓	✓	✓	✓
On-site audit	✓	✓	✓	
	✓			

Supplier risk assessment mechanism

Assessment project	business closeness Industry category country region Product attributes	Supplier ESG assessment questionnaire Supplier risk matrix	On-site audit risk improvement plan
Evaluate Way	• Conduct an initial screening based on the procurement transaction amount. • Identify specific risks according to different industry categories. • Include geopolitical and natural disaster risk assessments based on the supplier's operating location. • Identify key risks based on the attributes of critical products, such as housing, PSU, and PCB.	• Suppliers perform self-assessments using the "Supplier Social Responsibility Evaluation Questionnaire." This questionnaire is based on RBA standards and covers aspects like labor, health and safety, environmental standards, business ethics, and management systems to assess sustainability management. • Based on the questionnaire results, suppliers are managed and categorized using the "Supplier Risk Matrix.	For key high-risk suppliers with higher management urgency identified in the "Supplier Risk Matrix," on-site audits are conducted.
Response	• Require suppliers from specific industries, regions, and products to provide material sourcing contingency measures and risk management plans. • Have suppliers sign the Supplier Code of Conduct.	The "Supplier Risk Matrix" is divided into four levels: Extremely High Risk, High Risk, Medium Risk, and Low Risk.	Request suppliers to submit improvement plans and progress reports, and further understand the extent of improvements made.

Supplier risk factor identification



Step 3: On-site Audits

Supplier ESG Audit Team

Consisting of the Supplier Quality Management, Human Resource, Environmental Safety and Health, and Procurement Departments, the "Supplier ESG Audit Team" is responsible for the evaluation, assessment and management of the suppliers' social responsibility capabilities. The audit team shall receive training on the RBA standards and the Company's system manual, as well as training courses for internal auditors.

Conduct a written audit of the "Supplier ESG Evaluation Questionnaire"

Conduct a written audit of the "Supplier ESG Evaluation Questionnaire" for all suppliers. The questionnaire, based on RBA standards, covers labor, health and safety, environmental standards, business ethics, and management systems. This audit aims to understand suppliers' awareness of sustainability management and identify supplier risks.

On-site Audits

The Company performs on-site audits for our key suppliers for their compliance with the RBA Code of Conduct and laws and regulations in terms of labor, ethics, health, safety, and environment according to the RBA Validated Assessment Program (VAP) so as to identify and validate supply chain sustainability risks through the issued audit report. We also use "supplier social responsibility audit reports" as an indicator for supplier selection and evaluation.

Results

Based on the severity of non-compliance issues identified in suppliers, different deadlines for improvement are provided. If suppliers fail to meet the requirements within the given timeframe, the business relationship will be terminated. In 2023, 20 on-site audits of key suppliers were conducted, and no supplier relationships were terminated due to audit results or failure to meet improvement requirements.

2023 Audits with the "Supplier Social Responsibility Evaluation Questionnaire"

	Number of Suppliers Evaluated	Goals	Completion Rate
MitraStar	315	496	63.5%
Zyxel Communications	5	5	100%
Zyxel Networks	4	4	100%

2023 Key supplier audit

	Number of On-site Audits	Goals number of auditors	Completion Rate	Deficiency Items	Deficiency Improvement Rate
MitraStar	13	13	100%	40	100%
Zyxel Communications	3	3	100%	47	100%
Zyxel Networks	4	4	100%	60	100%

Case Sharing

Driving sustainability excellence: our commitment to responsible supply chain management

Suppliers are crucial to our sustainable operations. Effective supply chain management mitigates operational risks and supports our sustainability objectives. As a global leader in the telecom industry, we ensure the sustainability of our supply chain through regular coaching and auditing initiatives.

For suppliers identified with high ESG risks, our Supply Chain Management Team implements an immediate Emergency Response Procedure. We develop risk-monitoring plans, engage in discussions through frequent meetings to drive improvements, and conduct practical drills to ensure the effective implementation of sustainable practices. This proactive approach underscores our commitment to maintaining a responsible and sustainable supply chain, aligned with global sustainability goals.

Step 4: Continuous Improvement

Zyxel Group's supply sustainability plan aims to improve the sustainable supply chain capabilities of our suppliers. Learning materials for the "Supplier CSR Education and Training" are designed according to the "Responsible Business Alliance (RBA) Code of Conduct" that we adhere to. In this way, we can disseminate labor rights, ethical, health, environmental, and management system standards and assist the suppliers in ongoing improvements. In addition, a supplier whistleblowing channel is in place with the chief auditor and top management as the recipients to avoid malpractice.

Specific suppliers are required to provide contingency measures and risk management plans for material sourcing from their respective origins.

For high-risk countries, industries, material supply origins, and products, require key suppliers to provide detailed reports, disclose information on public websites, or communicate via email outlining their risk management practices and contingency measures. This helps in assessing and identifying risks associated with the suppliers to effectively reduce those risks.

Deficiencies and Improvement Actions of Zyxel Group's Suppliers

MitraStar: Conducted on-site ESG audits for 13 key suppliers, identifying a total of 40 deficiencies.
Zyxel Communications: Conducted on-site ESG audits for 3 key suppliers, identifying a total of 47 deficiencies ;
Zyxel Networks: Conducted on-site ESG audit for 1 key supplier and video call audits for 4 key suppliers, identifying a total of 60 deficiencies

Category	RBA Item	Key Issues Identified	Corrective Actions	Completion Rate
Labor and Human Rights	Non-Discrimination, Anti-Harassment, Humane Treatment	Recruitment flyers involved discrimination based on gender, race, and marital status.	Required suppliers to review recruitment processes and promotional materials, and establish anti-discrimination policies.	100%
Health and Safety	Occupational Health and Safety, Emergency Preparedness	Evacuation plans did not match the actual site layout; improper placement of emergency exit lights; blocked evacuation routes.	Provided guidance to suppliers, requiring planning and improvements based on actual fire safety standards.	100%
Health and Safety	Industrial Hygiene	Organic solvents were stored and used without secondary containers; corresponding SDS were not available.	Requested suppliers to review chemical usage and management regulations, and regularly schedule safety management courses.	100%
Health and Safety	Occupational Health and Safety	No maternity care policy; no lactation room; and hazardous work sites lacked warning signs for pregnant workers.	Established maternity care policy, created lactation rooms and work adjustment plans, and posted warnings in hazardous areas.	100%
Health and Safety	Machine Safeguarding	Insufficient hazard risk assessments; incomplete signage in controlled work zones; inadequate placement of protective equipment.	Established regular risk assessment and hazard identification mechanisms, implementing engineering and administrative controls.	100%

4. Sustainable Procurement

When selecting suppliers for cooperation, Zyxel Group strictly requires that the suppliers' materials ranging from components to accessory materials during product manufacturing, must comply with international environmental protection laws and regulations and set evaluation items for new suppliers based on the environmental issues identified by the RBA. In terms of conflict mineral management, our green product policies for the suppliers prohibit the use of conflict minerals and require the suppliers to make a commitment to not use the conflict minerals. Through the regulations and requirements, we are able to realize a supply chain sustainability management model.
Our brand subsidiaries, Zyxel Communications and Zyxel Networks, also identify conflict minerals as critical materials for the control of critical material risks according to the management procedure.

2023 Ministry of Environment Green Procurement Award

2023 Hsinchu City Government Green Procurement Excellence Award

Sustainable Procurement Management

• The Green Product Management - New Supplier Evaluation Operation process developed to select manufacturing suppliers that meet international hazardous substance management requirements to ensure all products comply with relevant regulations.
• The Supplier Green Product Purchasing Contract and Supplier Corporate Social Responsibility Statement formulated to standardize suppliers' compliance with environmental protection directives including "the Restriction of the use of certain hazardous substances in electrical and electronic equipment", the "Waste Electrical and Electronic Equipment Directive", the "Directive of Packaging and Packaging Waste", "Registration, Evaluation, Authorization and Restriction of Chemicals", the "Batteries and Accumulators and Waste Batteries and Accumulators Directive", the "Directive of Eco-design Requirements of Energy-using Products (ErP)", "US Conflict Minerals", the "Stockholm Convention on Persistent Organic Pollutants (POPs)", and "TSCA, the Toxic Substances Control Act", and address environmental issues of corporate social responsibility and other requirements.
• Suppliers are required to submit product-related component testing and verification reports during the product design stage, and the product development progress and implementation results are monitored through the review report.
• Green Management Platform: Aiming to implement "green management operational processes" among suppliers, the company established its green management requirements to be communicated and enacted through an online platform (B to B mode). This platform facilitates the collection of relevant data, including surveys and test reports, to enable investigation into whether the components provided information by suppliers contains hazardous substances.

Conflict Minerals

Zyxel Group has established a conflict minerals procurement policy and management process. The prohibition of conflict minerals metals has been incorporated into the suppliers' green product policy. The company commits to not using conflict minerals or metals and refrains from accepting minerals from non-compliant smelters in the Congo and its surrounding countries and regions. Raw materials such as tantalum (Ta), tin (Sn), gold (Au), tungsten (W), cobalt (Co), mica, palladium (Pd), etc., sourced from the Congo and its neighboring countries and regions under the control of armed groups, will not be utilized in the manufacturing of products. The company has also issued a "Conflict Minerals Prohibition Statement" to communicate this commitment.

Our "Conflict Minerals Internal Flow Chart" is designed to ensure the suppliers' conflict minerals management process. MitraStar has adopted the RBA's "Conflict Minerals Reporting Template" (CMRT) to conduct a reasonable level of mineral source country investigation (Reasonable Country of Origin Inquiry, RCOI) which data provided by the Responsible Minerals Initiative for suppliers to identify the sources of 3TG in their products and confirm whether it comes from conflict areas.

Conflict Minerals / Metal Management Policy

The subsidiaries of Zyxel Group promise not to accept metals sourced from non-compliant smelters in conflict areas and have published the "Prohibition of Conflict Minerals / Metal Statement" on the company's official website. We also ask suppliers to abide by the Prohibition of Conflict Minerals/ Metal procurement policy and communicate this requirement to their upstream suppliers for compliance.

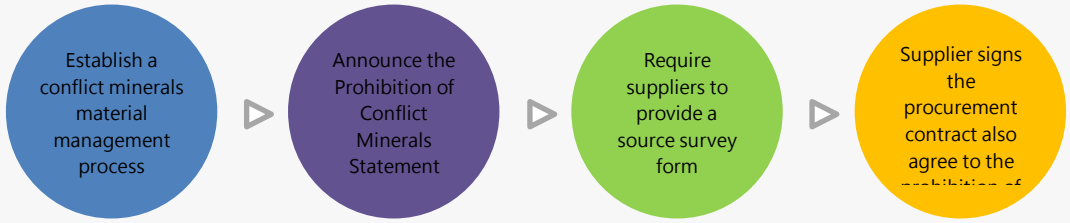
Zyxel Group's "Conflict Minerals Policy" covers procurement procedures. When the supplier signs the procurement contract, it also agrees to the prohibition of conflict minerals. Suppliers are required to abide by our procurement policy's prohibition of conflict minerals and comply with the "Conflict Minerals Reporting Template" and work together with us to do their best for corporate social responsibility.

Product and Supplier Survey Coverage Rate

In 2022, Zyxel Communications product survey coverage rate was 99.93%, Zyxel Networks product survey coverage rate was 99.6%. From 2015~2022, MitraStar Technology surveyed 154-part suppliers for the possible use of metal minerals for the product parts at customers' request.

Note 1: Zyxel Communications/Zyxel Networks are brand owners. The coverage rate of conflict minerals management product investigations is
calculated based on materials suppliers and does not include other brand owners within the group.
Note 2: As MitraStar is an ODM, the conflict mineral surveys for its suppliers are conducted mainly at customers' request. It was relatively difficult to calculate the percentage of suppliers surveyed due to larger changes in the supplier pool. Hence, the number of suppliers surveyed was disclosed instead.

Conflict Minerals Management Process



5. Supply Chain Sustainability Capacity Building

We actively collaborate with suppliers to advance the concept of a Sustainable Environment. In addition to providing ESG-related training to suppliers, we assist them in continuous improvement efforts. This includes collaboration on climate change initiatives and requiring suppliers to implement the ISO 14064-1 greenhouse gas inventory plan as a foundation for future carbon reduction in products and to set future low-carbon management goals. We also offer incentive programs to encourage suppliers.

Supplier ESG Training

Based on RBA Code of Conduct, QNAP designs an online "Supplier Corporate Social Responsibility Training" to promote standards in labor rights, ethics, health, environment, and management systems. The training consists of two stages: understanding the importance of ESG and QNAP's ESG policies, and the process for supplier CSR audits. Suppliers are trained annually, with a 100% completion rate for key suppliers in 2023. 2023 Key Supplier ESG Training Completion Rate 100%

Honor Supplier Award Program – Supplier Sustainability Award

Each year, suppliers are assessed based on their sustainability achievements. Suppliers showing significant progress or performance improvements are recognized with awards at the end of the year, based on successful on-site evaluations. In 2023, six outstanding supplier awards were presented at supplier conferences held in Wuxi, China, and Taiwan.

Key Supplier Greenhouse Gas and Product Carbon Footprint Audits

Key suppliers are subject to audits for ISO 14064 greenhouse gas inventories and ISO 14067 product carbon footprint assessments. Plans are in place to incorporate ESG criteria into the supplier selection process (PVL). Key suppliers are required to obtain relevant ESG certifications and awards to promote sustainability initiatives.

Key Supplier ISO 14067 Product Carbon Footprint Implementation

Year	Completion rate goals
2024	50%
2027	75%
2030	100%

Key Supplier ISO 14064 Greenhouse Gas Inventory Implementation

	2023 Target	2023 Achievement rate
Conduct greenhouse gas inventory	Required to be conducted by the end of 2024	MitraStar: 24% Zyxel Communications/Zyxel Networks: 100%
Complete Greenhouse Gas Inventory Verification	Completion rate: Zyxel Communications 95% Zyxel Networks 50%	MitraStar: 24% Zyxel Communications/Zyxel Networks: 100%

Highlights

Project for Low-Carbon and Smart Upgrade Transformation of the Manufacturing Industry by Leading Suppliers

In 2023, Zyxel Group received a subsidy from the Ministry of Economic Affairs' Industrial Development Bureau for the " Large Companies Leading Smaller Enterprises to a Low Carbon and Smart Supply Chain Transformation" project. They have partnered with suppliers to launch a carbon reduction transformation initiative, working together to accelerate progress towards the 2050 net-zero goal.

Supplier Zero Carbon Academy :

Through training and guidance programs, the initiative aims to help the supply chain build foundational knowledge in carbon disclosure and digital capabilities, facilitating joint carbon reduction actions with Zyxel Group. Additionally, the courses are open to Zyxel Group employees, enhancing professional knowledge for relevant employees and fostering energy-saving and carbon-reduction awareness across the entire workforce.

The training period runs from 2023 to 2024, totaling 111 hours of coursework. The course includes Low-Carbon Transformation Pathways, Greenhouse Gas Inventory, Carbon Neutrality Standards, Sustainability Reporting, Carbon Trading, etc. By August 2024, a total of 2,987 participants have engaged in the program, accumulating 4,218 hours of training.

Zero Carbon Academy	
Corporate ESG Low-Carbon Transition Path Overview	Introduction to ISO14068 Carbon Neutrality Standard
Introduction to Scope 3 Greenhouse Gas Inventory	ISO14067 Internal Auditor Training 1, 2
Key Communication Points - Introduction to ESG Sustainability Report	Product NetZeroPro Low-Carbon Digital Transformation Platform Introduction
Disclosure Requirements - GRI Standards & SASB Sustainability Accounting Standards Introduction	ISO14067 Supplier Training 1, 2, 3
ISO14064-1 Internal Auditor Training	Carbon Trading Basics and Practical Trading
Organizational NetZeroPro Low-Carbon Digital Transformation Platform Introduction	EU CBAM Corporate Response Strategy
ISO14064-1 Supplier Practical Training 1, 2, 3	Introduction to Internal Carbon Pricing (ICP)
Introduction to ISO50001 Energy Management	Practical Path to Net Zero Transition 1, 2
Factory Energy Saving Case Studies & Energy-Saving Technology Sharing	

Disclosure → Transformation → Communication

Development of Low-Energy Consumption Product Materials

Zyxel Group integrates sustainability into its core product design by focusing on environmentally friendly designs using low-toxicity, energy-efficient materials that are easy to disassemble, recycle, and refurbish, extending product life for optimal ecological benefits. Collaborations with the supply chain include:

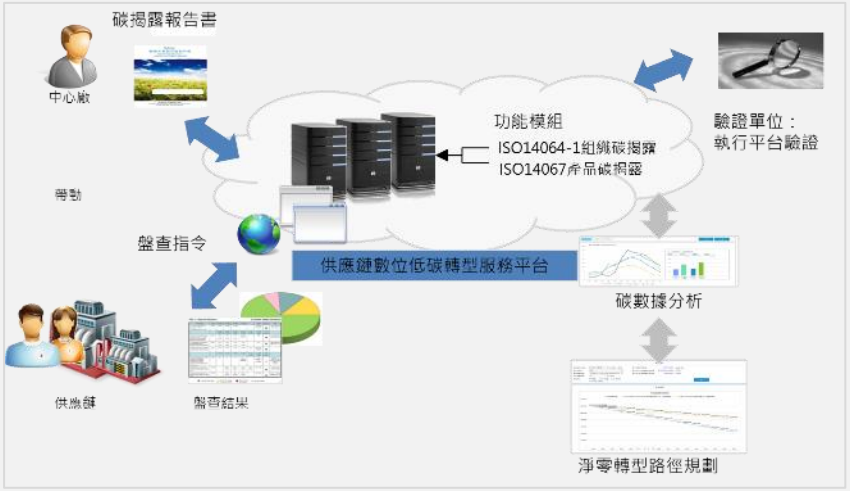
- Developing, verifying, and introducing PCR plastic materials with raw material suppliers
- Designing eco-friendly packaging and applying sustainable ink
- Optimizing structural and aesthetic designs to reduce secondary processing
- Minimizing mold openings to reduce waste and pollution
- Streamlining product casing designs and standardizing pallet specifications
- Implementing energy-saving software and hardware designs to lower energy consumption
- Ensuring products are easy to disassemble and recycle.

Guidance for Key Suppliers to Implement ISO 14064

11 key suppliers are chosen for need of assistance in assessing their carbon emissions. These suppliers include those in packaging materials, passive components, equipment supply chains, and power supplies. A consultant will be engaged to conduct on-site visits, guide them in carbon reduction, and utilize digital low-carbon transformation service platforms. The support also includes aiding them in obtaining external verification of their organizational greenhouse gas emissions.

Digital Low-Carbon Transformation Service Platform

This system includes:- Organizational Carbon Disclosure and Management Module: Helps to manage and disclose organizational carbon emissions.
- Product Carbon Footprint Calculation Module**: Assists in calculating the carbon footprint of products.
The platform transforms the carbon assessment process into a digital system, improving data quality and verification efficiency. It also supports carbon reduction pathway planning to achieve low-carbon management goals across the supply chain.



Supplier Conferences

In 2023, Zyxel Group held supplier conferences at its facilities in Taiwan and Wuxi, China. These events aimed to explain the supplier empowerment mechanisms to ensure effective implementation of guidance and plans. Additionally, six top-performing ESG suppliers were recognized. The conferences also featured supplier presentations on energy-saving and carbon reduction experiences, fostering mutual experience sharing and motivation within the supply chain.

Sustainable Environment

A. Climate Change

B. Energy Conservation

C. Water Management

D. Waste Management

E. Air Pollution Prevention

F. Biodiversity

Sustainable Environment

Sustainable Environment Commitment

Climate change has become one of the most pressing global environmental issues. With the rise of low-carbon and circular economy trends, Zyxel Group recognizes that only by pursuing environmental sustainability can we secure opportunities for sustainable operation in the global trend and competitive market. Zyxel Group is committed to addressing the impacts of climate change, prioritizing environmental sustainability as a major issue in our sustainable operations. We aim to meet stakeholders' concerns and expectations regarding environmental issues.

sustainable Strategy: Mitigating environmental impacts

Major Issues: Climate Strategy、Energy Management

Stakeholders: Customer Supplier Government Community

SDGs

Performance Highlights

SBTi Commitment Letter 2030 Near term Goal 2050 net zero target	Received subsidy from the Ministry of Economic Affairs' low-carbon and smart upgrading and transformation plan	CDP climate change evaluation B management level	Business Weekly Top 100 Carbon Competitiveness Companies	Released TCFD Report on the Financial Impact of Climate Change
Greenhouse gas reduction compared to the 2021 base year 17.3%	Electricity intensity decreased compared with the 2021 base year 17%	Water withdrawal intensity is reduced compared to the 2021 base year 22.43%	Waste recycling rate 80%	Number of days of production interruption due to climate disasters 0

Sustainable Environment Policy

Zyxel Group has identified a sustainable environment as a major issue for its sustainable operations. The company commits to adhering to international treaties and domestic and foreign environmental regulations, integrating its environmental, health, and safety policies with its green product policies. It sets management goals, strategies, and performance indicators for environmental issues such as climate change, energy management, water resource management, waste management, biodiversity, environmental protection, and occupational health and safety. The company actively communicates awareness to stakeholders, including employees, investors, customers, suppliers/contractors, and partners, and takes environmentally friendly actions.

Management Organization:

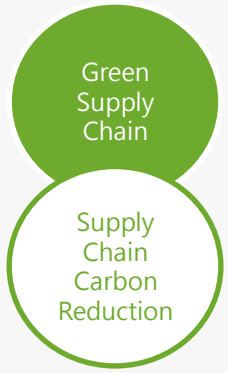
The Carbon Management Team, Environmental Safety Team, and Green Product Team of Zyxel's Sustainability Committee implement environmentally related actions. The Board of Directors of Zyxel Group approves the sustainable environment policy, providing guidance and oversight to the relevant environmental teams.

Sustainable Environment Strategy

In alignment with our green environment and sustainable product policies, our environmental strategy focuses on three value chain dimensions: "Green Supply Chain," "Green Operations," and "Green Products." Under these categories, we have developed three key carbon reduction strategies: "Supply Chain Carbon Reduction," "Climate Mitigation and Adaptation," and "Low-Carbon Green Products." These strategies help identify climate change risks and opportunities, promote mitigation and adaptation plans, and set targets for greenhouse gas reduction, energy conservation, water conservation, and waste reduction. We also aim to raise employee awareness and encourage environmentally friendly actions.

By implementing a green product management system, we minimize the environmental impact throughout the product life cycle and disclose product carbon footprints to meet customer demand for carbon emission information. Additionally, suppliers are required to conduct carbon inventory assessments, forming the basis for future product carbon reduction initiatives and supplier low-carbon management targets. Through collaboration with employees, customers, and suppliers across the value chain, we launch comprehensive sustainability actions. With a management system aimed at continuous improvement, we actively respond to international initiatives and align with global sustainability efforts.

Three Environmental Strategy Pillars

Upstream Supply Chains	Company's Operations	Downstream Customers
		
Strategy		
• Setting of low-carbon management goals for suppliers • Require suppliers to conduct carbon inventory • Suppliers to establish carbon reduction plans	• Net-zero carbon emissions • Energy management • Energy transformation • Life transformation • Support for international initiatives	• Introduction of a green product management system to reduce the environmental impacts throughout the life cycle of the products • Disclosure of product carbon footprints in response to customers' demand for information on the carbon emissions of the products

Note: Actions for the three environmental strategy pillars: For Green Supply Chain, refer to Chapter Value Chain: Supplier Management , 、for Green Products, refer to Chapter Sustainable Product, for Green Operations, please refer to this chapter Sustainable Environment

Sustainable Strategy Response Measures and Goals

Pillars	Strategy	Corresponding Practice	2024 Short-term Goal	Medium-to-long-term Goal 2030
Green Operations	Net-zero carbon emissions	• Set carbon reduction goals • Greenhouse Gas Reduction	SBTi absolute reduction target	2025 submit SBTi short-term& long-term goals Purchase Carbon Credits 50% Carbon Reduction by 2030 Deliver the commitment to net zero in 2050
	Energy Management	• Improve energy usage efficiency • Intelligent energy management • Replace energy-consuming equipment	• Replace energy-consuming equipment • Establish an energy visualization management system	• Reduce electricity intensity by 27% compared to the 2021 baseline • Achieve a renewable energy share of over 7%
	Energy transformation	Promote Renewable Energy	Install solar photovoltaic systems	Install solar photovoltaic systems Purchase green electricity Evaluate RE100 participation
	Life transformation	Carbon Management Education and Promotion	Implement internal carbon pricing Organize energy-saving and carbon reduction events	2030 Purchase electric company cars
	Support for international initiatives	Support international initiatives and commitments and participate in the initiatives	• CDP Carbon Disclosure • Commit to the Science Based Targets initiative (SBTi) • Support TCFD for the financial impact of climate change • TNFD Report	Assess joining EV100
Green Supply Chain	Supply chain carbon reduction	• Conduct supplier energy consumption diagnosis • Require suppliers to conduct carbon inventory • Suppliers to establish carbon reduction plans	•Complete energy consumption diagnosis for major energy-consuming suppliers •Key Supplier Carbon Inventory Completion Rate: MitraStar75% Zyxel Communications100% Zyxel Networks75%	• 100% Key Supplier Carbon Inventory Completion Rate •50% key Supplier carbon reduction by 2030
Green product	Low-carbon products	•Reduce the environmental impact throughout the product lifecycle • Disclose product carbon footprints	•Establish design guidelines to ensure eco-friendly packaging, product energy efficiency, easy disassembly and recyclability, and the use of sustainable materials and parts/components •Use non-plastic bags, energy-efficient software and hardware that can be disassembled easily, PCR plastics, and 100% recyclable paper packaging materials for green products to be shipped • Create a standardized product carbon footprint format •Achieve ISO 14067 product carbon footprint verification	Apply the green product design to all products to be shipped

Note: The scope of the environmental strategy objectives is set to include Zyxel Group and its subsidiary MitraStar's Hsinchu plant, as well as its subsidiary Zyxel's Hsinchu plant.

Targets & Goals

Topic	Operational Impact	Actions	Performance Indicators	2023 Targets	2023 Results		Goals			SDGs
							2024 short-term	2027 mid-term	2030 long-term	
Enhancing Climate Resilience	Identify climate change risks and opportunities to monitor operational strategies and financial planning, thereby reducing the financial impact of climate risks.	Conduct annual climate disaster drills as part of the Business Continuity Management Plan	Number of days of production interruption due to climate disasters	0 days of production interruption	0 days of production interruption	v	0 days of production interruption	0 days of production interruption	0 days of production interruption	
Greenhouse Gas Reduction		Adopt SBTi Science-Based targets	Set targets based on SBTi	Set targets based on SBTi	Reduce carbon emissions by 17.3% from the 2021 baseline year	v	Based on SBTi Absolute Contraction Approach	Based on SBTi Absolute Contraction Approach	Reduce carbon emissions by 50%	
Energy Management	Implement energy-saving initiatives, reduce greenhouse gas emissions, and lower energy costs.	Improve energy efficiency	Percentage reduction in electricity intensity compared to the 2021 baseline year	10% reduction	17% reduction	v	20% reduction	21% reduction	27% reduction	
		Increase the use of renewable energy	Complete solar energy installations	-	-	-	Initiate Hsinchu plant installation	Complete Hsinchu plant installation	Hsinchu plant renewable energy >7%	
Resource Management		•Actively implement water-saving measures •Conduct water-saving education and awareness campaigns	Percentage of reduction in water intensity compared to the 2021 baseline year	10% reduction	22.43% reduction	v	23% reduction	24% reduction	26% reduction	
Waste Management		•Promote waste sorting and reduction •Strengthen waste recycling and reuse	Percentage of reduction in waste intensity compared to the 2021 baseline year	10% reduction	14.67% reduction	v	15% reduction	16% reduction	18% reduction	
			Waste recycling rate		>70%	v	>70%	>80%	>82%	
Compliance with environmental regulations	Compliance with regulations	0 cases of violation of environmental protection laws and regulations	cases of violation of environmental protection laws and regulations	0	0		0	0	0	
Environmental Management Systems		Ensure environmental compliance through external management system verification.	External management system certification	100% certified of various environmental management systems.	Achieved ISO14001 MitraStar、ZCom、ZNet	v	100% certified	100% certified	100% certified	

Note: Carbon Emission Intensity = Carbon Emissions / Zyxel Communications Consolidated Revenue
Note: Zyxel Communications has no manufacturing facilities, thus no waste management information is disclosed
Note: The three main carbon reduction strategy goals, annual targets, and performance: For the green supply chain, refer to the "Partnerships: Supplier Management" section; for Sustainable Products, refer to the "Sustainable Product" section.

A. Climate Change

The impact of climate change requires businesses to establish adaptation and mitigation capabilities to reduce climate risks to their operations. This is a crucial issue that businesses must address and plan for early on in their sustainability efforts. Through collaboration and dialogue with government agencies and environmental organizations, companies can strengthen the resources and actions needed to face climate change and achieve the net-zero transformation goals and vision.

1. Participate in international climate initiatives

Response to SDGs Climate Action Goals

To respond to one of the UN's Sustainable Development Goals, Goal 13: Climate Action, emergency measures are adopted to cope with climate change and its impacts.

We aim for GHG reduction, energy saving, water resource management, the incorporation of product R&D into the life cycle of our products, and the disclosure of product carbon footprints.

CDP (Carbon Disclosure Project) Platform

Subsidiaries Zyxel Communications and MitraStar Technology complete questionnaires about "climate change" and "water safety" on the CDP platform every year. For climate change, they were rated as B & B-. In addition, MitraStar Technology received a B- rating for "value chain engagement". Both of the companies made significant progress in terms of their ratings as compared to the previous year.

The two companies disclose on the CDP platform their climate change-related strategies, goals and actions, set improvement goals and plans for betterment according to the CDP's evaluation requirements and results, and review their improvements based on the customers' requirements for suppliers' CDP performance with the aim of meeting their needs and global expectations.

Participation in the SBTi (Science Based Targets initiative)

Zyxel Group is actively engaging in international initiatives by committing to the SBTi Science-Based Targets Initiative. The company has submitted its SBT commitment letter and plans to present its short-term and long-term targets by 2025 to achieve the Net Zero goal by 2050. We are also evaluating joining the EV100 and RE100 initiatives to demonstrate Zyxel Communications Holdings' commitment to international advocacy and to kick off our carbon reduction actions.

TCFD for Climate Scenario Analysis and Financial Impact Assessment

Zyxel Group has partnered with the "Tunghai University Center for Corporate Sustainability Development" to conduct climate scenario analysis and financial impact assessment. This analysis helps to identify current and future risk factors and their potential financial impacts on the company, allowing for the implementation of risk prevention and response measures.

Additionally, the company has published the" 2023 Zyxel Group TCFD report," which covers climate governance, strategies, risk management, and targets. The report includes the results of the TCFD climate scenario analysis, financial impact assessment, and the identification of climate-related risks, opportunities, and corresponding strategies and actions.

2. Climate-related Financial Disclosures (TCFD)

As an official supporter of the TCFD (Task Force on Climate-related Financial Disclosures), Zyxel Group integrates climate change into one of our assessment projects for significant risks to corporate sustainability. We follow the framework of the "Task Force on Climate-related Financial Disclosures" (TCFD) released by the Financial Stability Board to disclose information on climate governance, strategies, risk management, indicators, and targets, with annual updates. This information is disclosed in our sustainability report and financial annual report.

By adopting this approach, Zyxel Group identifies the risks and opportunities of climate change impact on the company. We oversee operational strategies and financial planning at the corporate governance level, minimizing the financial impact of climate risks on our operations. Furthermore, we analyze opportunities resulting from climate change and intensify our research and development efforts to continuously develop energy-saving products and solutions. In addition, we have conducted climate scenario analyses to assess potential financial impacts and have published the findings in the "2023 Zyxel Holding Climate Action Report."

Climate Change Strategy

- Identify the risks and opportunities arising from climate change, and promote climate change mitigation and adaptation plans.
- Mitigate potential climate change risks and build resilience to adapt to climate risks.
- Analyze opportunities related to climate change, enhance research and development capabilities, and continuously develop green and energy-efficient products and solutions.
- Set greenhouse gas reduction, water conservation, and waste reduction targets within energy management.
- Raise employees' awareness and encourage environmentally friendly actions.
- Integrate climate change-related risks into the corporate risk management system, conducting regular identification, evaluation, and management through standardized processes.

Governance Organization

- **Board of Directors**

  Zyxel Group actively strengthens environmental sustainability in its sustainable operations by establishing the "Zyxel Group Sustainability Committee," chaired by the Chairman of Zyxel Group, who also serves as the Chairman of the Board. The Sustainability Committee reports quarterly to the Board of Directors on sustainability plans and achievements, including environmental aspects. The Board oversees the performance of environmental management policies and commitments.

- **Zyxel Group Sustainability Committee**

  The "Zyxel Group Sustainability Committee" is the highest-level organization for managing sustainable development. It is supported by a dedicated Chief Sustainability Officer, who has established the Sustainability Office. Under the Sustainability Office, various sub-committees are formed, including the Environmental and Safety Group, the Green Products Group, and the Supplier Management Group, which are composed of relevant departments from each subsidiary. These groups coordinate and collaborate on climate change-related issues such as greenhouse gas reduction, energy conservation, water resource utilization, low-carbon green products, and supply chain carbon reduction. The environmental management policies and measures are communicated to both internal and external stakeholders to raise awareness of environmental impacts.

- **Climate change Team**

  The "Zyxel Group Sustainability Committee" has established a "Climate Change Task Force" responsible for addressing climate change-related issues. This task force coordinates with relevant departments to assess the potential operational risks and financial impacts, evaluate related risks and opportunities, and oversee the company's climate actions and outcomes.

Climate-related Financial Disclosures (TCFD)

	Disclosure matters	Response to management strategies and actions
Governance	• The board's oversight of climate-related risks and opportunities.	• The chairman of the Sustainability Committee of the parent company Zyxel Group is concurrently the chairman of the board of directors and supervises the promotion and implementation of the sustainable development of the team, and makes decisions and reports directly to the board of directors.
	• Describe the role of management in assessing and managing climate-related risks and opportunities.	• The "Environment, Safety, and Health Team" under the MitraStar Sustainability Committee is the main member unit of the Climate Change Team. It is responsible for issues related to climate change, assessing its impact in terms of operational crises and financial impacts, evaluating related risks and opportunities, and the company' s climate-related actions and results.
Strategy	• Identify short, medium, and long-term climate-related risks and opportunities	• Based on strategic goals, risks and opportunities are identified. The short-term (3 years) focus is on resource use efficiency, raw material cost increases, environmental regulations, and immediate risks such as extreme weather events including floods and typhoons. The mid-term (3-5 years) primarily addresses the costs of low-carbon and high-efficiency technology improvements, as well as shifts in consumer preferences. The long-term (beyond 5 years) includes carbon pricing and carbon taxes, changes in supply and demand structures, and long-term risks such as chronic climate changes like rising temperatures.
	• Climate-related risks and opportunities impact operations, strategy, and financial planning	• Operationally, climate impacts can lead to shifts in consumer behavior, affecting market share. Strategically, product development requires investment in low-carbon and high-efficiency technologies. Financially, these factors result in increased investment expenses and operational costs.
	• Consider the resilience of organizational strategies in different climate scenarios	• Conducted climate scenario analyses to assess potential financial impacts program
Risk Management	• Process for identifying and assessing climate-related risks	• Use the TCFD framework to establish a climate risk identification process, and actively identify risks through the climate risk matrix.
	• Process for managing climate-related risks	• According to the risk identification process, the identification results are collected and discussed in the "Sustainable Development Committee" meeting held every year to formulate management practices.
	• Integrate the process of identifying, assessing, and managing climate-related risks into the overall risk management of the organization	• Integrate the process of identifying, assessing, and managing climate change risks and various operational risks into the enterprise risk management (ERM) system.
Metrics and Targets	• Evaluation of climate-related risks and opportunities followed by strategies and risk management process indicators	• Greenhouse gas reduction, energy conservation, and water resource management are used as key indicators to measure the extent of risk impacts. • Product development incorporates the product life cycle, disclosing carbon emissions and setting low-carbon product targets.
	• Greenhouse gas emissions and related risks in all areas	• Targets for greenhouse gas reduction, energy conservation, and water resource management are established, along with corresponding action plans. • Regular audits of greenhouse gas emissions are conducted to assess the operational impacts faced by the company.
	• Targets for managing climate-related risks and opportunities, and the performance of corresponding targets	• Expose climate action to meet SDG goals • Participate in the SBTi scientific carbon reduction target initiative • Implement a monitoring mechanism and set targets for climate risks with a high degree of impact • Develop low-carbon indicators for product parts, analyze data on high-carbon parts, and provide relevant information on carbon reduction directions • Link the internal system and the data stream of the carbon footprint platform

Financial Impact Analysis of Climate Change Scenarios

In addition to recognizing the financial impacts of risks and opportunities related to climate change, in 2022, we initiated a significant risk and opportunity scenario analysis project. This project involves a self-assessment of the impact of climate change risks under different climate scenarios, enabling us to adopt adaptive strategies and response measures. Zyxel group not only conducts risk analysis for itself but also includes suppliers within the analysis boundaries of our value chain. Different scenarios are established based on physical risks and transition risks:

Physical Risks

Scenario Setting: We conducted climate change risk assessment for 41 analysis subjects located within Taiwan for Zyxel Group. This includes 2 owned assets and 39 suppliers. Utilizing severity, vulnerability, and exposure as the calculation template for risk assessment, we analyzed extreme rainfall with severity, flooding potential causing vulnerability, potential for landslides and debris flow causing vulnerability, as well as exposure of the assets located in Taiwan, by conducting scenario simulations. The analysis method involves four scenarios described in the IPCC Fifth Assessment Report: RCP2.6, RCP4.5, RCP6, and RCP8.5, which outline future greenhouse gas emissions. Additionally, it encompasses Taiwan temperature and rainfall predictions for four periods based on government reports: short-term (2021-2040), mid-term (2041-2060), medium-long term (2061-2080), and long-term (2080-2100). This comprehensive approach involves climate simulation research up to the year 2100.

Physical Risk Analysis Findings: Zyxel Group's owned assets located in Taiwan do not have any significant physical risks. However, some of the suppliers operating in Taiwan, while not at risk of landslides or rockfalls, may face potential flooding risks in the future.

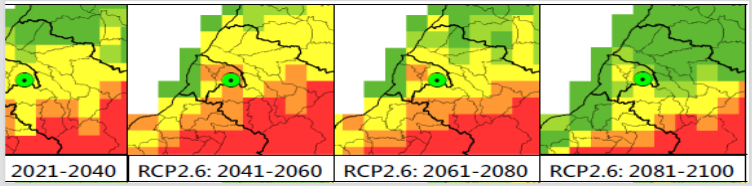
Transition Risks

Scenario Setting: Three scenarios were analyzed based on the Taiwan government's net-zero pathway, IPCC AR6's SSP1-1.9 scenario, and the SBT-NZ scenario, which requires achieving net-zero emissions before 2050 as stipulated by SBT. Three risk factors—regulatory, market, and reputation—were assumed as conditions for analysis. The financial impact estimation was projected until 2050. Regulatory risks primarily affect operational costs and capital expenditures, while market risks mainly influence potential revenue losses for the company.

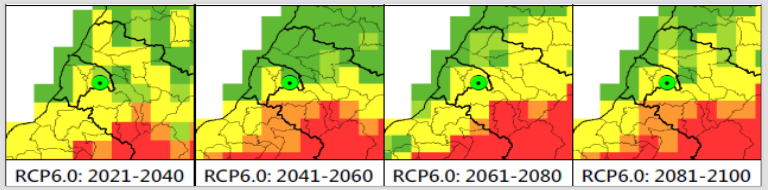
Transition Risk Analysis Findings: Under the scenario of achieving the government's net-zero target, Zyxel Group would require substantial investment in procuring renewable energy. The resulting financial impacts would mainly involve carbon taxes, with market and carbon penalty risks reduced to zero. In the case of achieving the SBT-NZ goal, compliance with SBT-NZ would commence around 2040. The primary cost driver would be the procurement of renewable energy. Additionally, the transition risk concerning customers would involve a decrease in market share for products.

Climate Risk Levels of Owned Asset Locations under RCP Scenarios - Scenario Simulation Chart Data

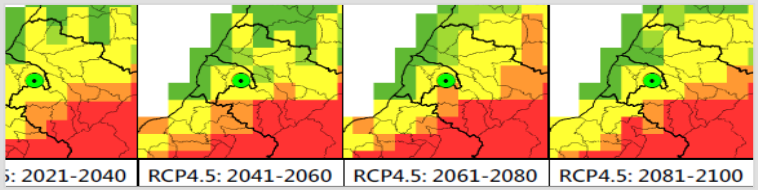
RCP 2.6



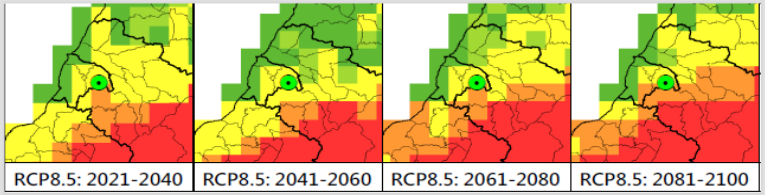
RCP 6



RCP 4.5



RCP 8.5



Transition Risks: Considerations and Assumptions for Scenario Analysis

	Risk	Consideration Factors and Assumptions	Cost Categories
Regulations	Carbon Tax	Based on different scenarios, the company's unit carbon tax payment varies significantly due to substantial differences in taxation systems, leading to a high degree of uncertainty. The assessment primarily considers three levels of carbon tax: 1. Government Net-Zero Pathway: SSP2-4.5 (Approximately 2-10 USD/tCO2e from 2021 to 2050) 1. 2. SSP1-1.9 and SBT-NZ: Carbon price under SSP1-1.9 (Reaching around 650 USD/tCO2e by 2050)	Operating Costs
	Emissions Cap and Carbon Penalty	Currently, international regulations and trends lean towards imposing carbon taxes rather than utilizing carbon penalties or emissions caps. Therefore, only under the Government Net-Zero Pathway would additional consideration be given to carbon penalties (within regulations not exceeding 1500 NTD/tCO2e).	Operating Costs
Technology	Renewable Energy Infrastructure Costs	The installation cost of setting up renewable energy generation facilities in-house is recognized as capital expenditure for the current year. The cost of renewable energy installations is obtained from the IRENA Renewable Energy Report 2022.	Capital Expenditures
	Renewable Energy Operational Costs	The operational costs of renewable energy are obtained from the IRENA Renewable Energy Report 2022.	Operating Costs
	Renewable Energy Procurement Costs	The procurement cost of renewable energy in Taiwan is calculated by adding the Taiwan Power Company' s current average selling price of renewable energy to the public electricity fee (sourced from Tai power).	Operating Costs
	Cost of Purchasing Electricity from Taiwan Power Company	Procurement Cost and Benefits from Tai power are calculated at a rate of 2.55 NTD/kWh for industrial high-voltage electricity consumption.	Operating Costs
	Carbon Removal Costs	According to IEA data, the cost of Carbon Capture, Utilization, and Storage (CCUS) can vary depending on the specific circumstances. As this study considers carbon removal as the ultimate approach to achieving net-zero emissions, the most expensive direct air capture technology is used, which costs around 85-345 USD/tCO2e. Therefore, based on three scenarios, the assumptions are as follows: 1. Immature Technology: 340 USD/tCO2e ; 2. Average Price: 235 USD/tCO2e ; 3. Mature Technology: 130 USD/tCO2e	
Market	Risk of Decreased Market Share for Products	The estimation of market risk is based on the potential loss of customers who prioritize carbon reduction targets when a company does not achieve its transition goals. This could lead to an expected decrease in market share. 1. 1. Government Net-Zero: 1% of revenue loss; 2. SSP1-1.9 and SBT-NZ: 25% of revenue loss	Projected Revenue

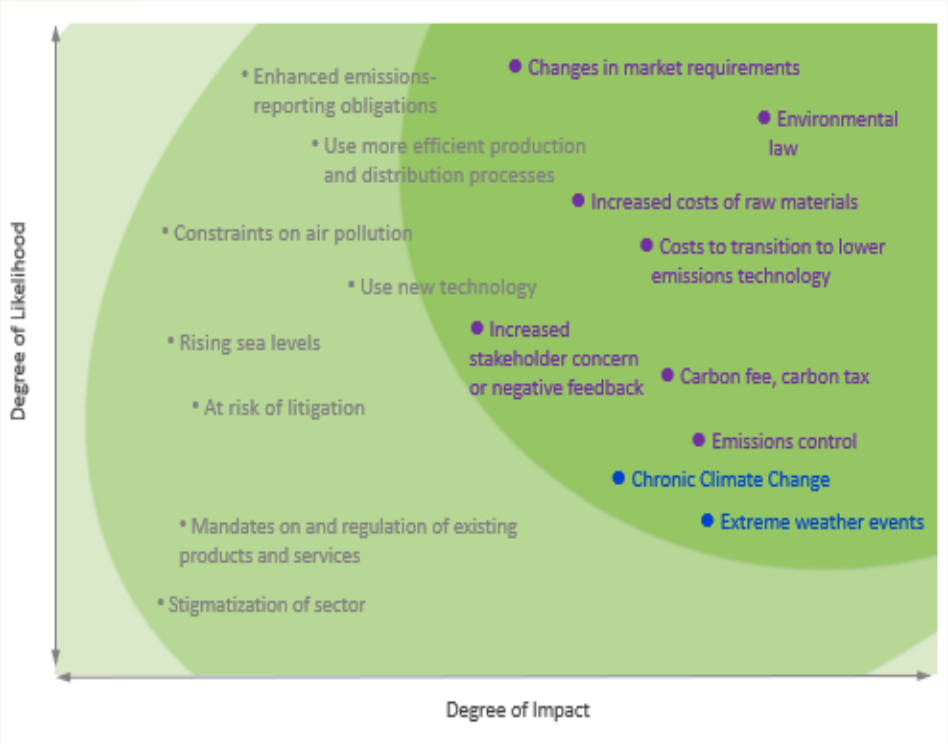
Financial Impact Analysis of Climate Change Scenarios

External Scenarios	Government Net-Zero Pathway	SSP1-1.9	SBT-NZ
Explanation	Based on the net-zero target currently proposed by Taiwan	Based on the SSP1-1.9 pathway outlined in the IPCC AR6 report	Estimated scenarios based on achieving the SBT Net Zero criteria
Assessment of Risks	Regulatory risk, market risk		
BAU situation: Financial Impact (No Implementation of Transformation Strategy)	Regulatory risk: Increasing cost of carbon penalties Regulatory risk: Relatively stable carbon tax fluctuation	Regulatory Risk: Short-Term Growth in Carbon Tax, Followed by Carbon Emission Reduction, Decreases by 2050 Market Risk: Potential Order Loss, Increased Financial Risk	Regulatory Risk: Short-term High Growth in Carbon Tax, Decreases After Carbon Emission Reduction, Lower by 2050 Market Risk: Potential Order Loss, Increased Financial Risk
Transition Scenario: Management Costs (Implementing Transformation Strategy)	Primary cost: Procurement of renewable energy	Primary Costs: Procurement of Renewable Energy, Carbon Tax	Primary costs: Procurement of renewable energy, carbon removal costs
Mitigation Measures	Procurement of renewable energy	Procurement of renewable energy	Procurement of renewable energy, Adoption of carbon removal technology

Climate Change Risk & Opportunity Classification

Based on the categories of climate-related risks and opportunities of TCFD, Zyxel Group' s relevant departments collect and analyze information on international climate-related trends, industry concerns, and Zyxel Group' s reply to the contents of the CDP (Carbon Disclosure Project) questionnaire and meet to evaluate and discuss them. The impacts of specific risk topics and scenarios on Zyxel Group' s organization and operations are identified and climate-related risks and opportunities are ranked according to the degree of impact to find out the potential crises and possible opportunities in response to climate change. Plans to follow TCFD recommendations are included in the annual financial report where Zyxel Group exposes the most important climate-related risks and opportunities.

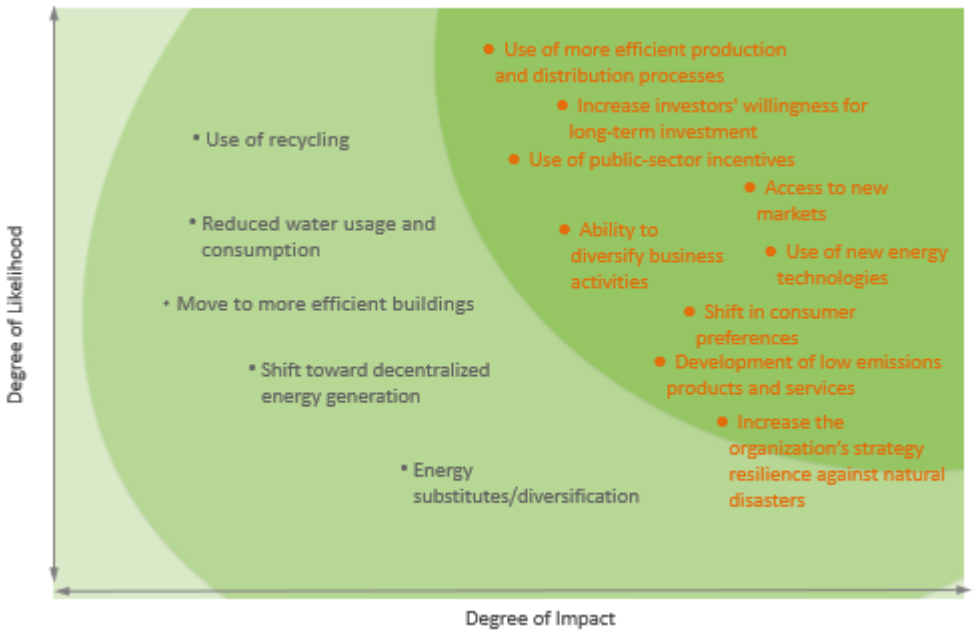
TCFD Climate-Related Risk Identification Matrix



Analysis of Potential Financial Impacts of TCFD Climate Change Risks

Type	Aspects	Major Risks	Analysis of Potential Financial Impacts
Transition Risks	Policy and Legal	Carbon fee, carbon tax	Increased Tax, Management, and Investment Costs
		Environmental law	Increased Costs to Comply with Environmental Regulations
		Emissions control	Increased Costs for Low-Carbon Equipment
	Technology	Costs to transition to lower emissions and effective technology	Increased Costs for Technology Development
	Market	Changes in market requirements	Consumer Behavior Impacting Market Share
		Increased costs of raw materials	Increased Raw Material Procurement Costs
	Reputation	Increased stakeholder concern or negative feedback	Damaged Corporate Brand Image
Physical Risks	Acute	Extreme weather events (ex: typhoons, floods)	Resulting in Power Outages, Factory Equipment Loss, and Supply Chain Disruption
	Chronic	Chronic Climate Change (average temperature rise)	Increased Electricity Usage, Rising Carbon Emissions, Leading to Cost Increases

TCFD Climate-Related Opportunity



TCFD Climate-Related Opportunity Identification Matrix

Type	Major Opportunity	Analysis of Potential Financial Impacts
Resource Usage Efficiency	Use of more efficient production and distribution processes	Production Line Automation, Enhancing Production Efficiency
Energy Source	Use of new energy technologies	Reducing Energy Usage Costs
Products and Services	Development of low emissions products and services	Meeting Customer Demand for Energy-Efficient Products, Increasing Revenue
	Ability to diversify business activities	Exploring New Business Opportunities to Increase Revenue
	Shift in consumer preferences	Prioritize Capturing Market Trends, Meeting Customer Needs, and Enhancing Satisfaction
Markets	Access to new markets	Increase Revenue
	Use of public-sector incentives	Reduce Operational Production Costs
Resilience	Increase investors' willingness for long-term investment	Stabilize Shareholder Structure, Reduce Probability of Stock Value Volatility
	Increase the organization's strategy resilience against natural disasters	Reduce Probability and Impact of Operational Disruptions and Losses

Climate Change Risks and Opportunities Responses

Type	Aspects	Risks	Opportunity	Response plans and actions
Transition Risks	Regulations / Energy	• Carbon fee, carbon tax • Environmental law • Emissions control	• Use of more efficient production and distribution processes • Use of new technologies	• Set SBT carbon reduction targets • Greenhouse gas reduction, water saving, waste reduction targets • Continuous implementation of gas reduction measures • Assess the use of renewable energy
	Technology / Product	Costs to transition to lower emissions technology	• Development of low emissions products and services • Ability to diversify business activities • Shift in consumer preferences	• Introduce green product management system to reduce the impact of product life cycle on the environment • Expose product carbon footprint and respond to customers' demand for product carbon emissions information • Continue to invest in energy-saving product research and development
	Market	• Changes in market requirements • Increased costs of raw materials	• Access to new markets • Use of public-sector incentives	Develop low-carbon design products, improve product efficiency, and respond to market demand
Physical Risks	Reputation	Increased stakeholder concern or negative feedback	Increase investors' willingness for long-term investment	• Continue sustainable environmental goals and actions to establish a sustainable corporate image • Responding to international initiatives
	Acute	Extreme weather events (ex: typhoons, floods)	Increase the organization' s strategy resilience against natural disasters	• Conduct risk assessment and risk mitigation measures for typhoon and flood disasters in the manufacturing plant area • Regular natural disaster emergency drills
	Chronic	Chronic Climate Change (average temperature rise)		

3. Carbon Management

Climate change has become a critical threat to the global environment. To advance sustainable development, Zyxel has committed to science-based carbon reduction targets (SBTi), setting a long-term goal to achieve net-zero emissions by 2050. The company is implementing a carbon reduction plan and developing a timeline and strategy for execution.

Carbon Reduction Pathway and Strategy

Planning a carbon reduction pathway is a crucial step toward achieving the net-zero emissions goal. Zyxel Group is focusing on green operations as its strategic direction. In response to international initiatives, net-zero carbon, energy management, and lifestyle transformation, the company has set short-term, mid-term, and long-term reduction targets. Specifically, Zyxel aims to achieve a 50% reduction in carbon emissions by 2030 and a net-zero commitment by 2050.

The company conducts greenhouse gas inventories to understand its own and its supply chain 's emissions, including scope 3 emissions, and seeks third-party verification. A carbon management platform has been introduced to strengthen operational carbon management, assess areas and actions with carbon reduction potential, and plan the implementation of reduction strategies.

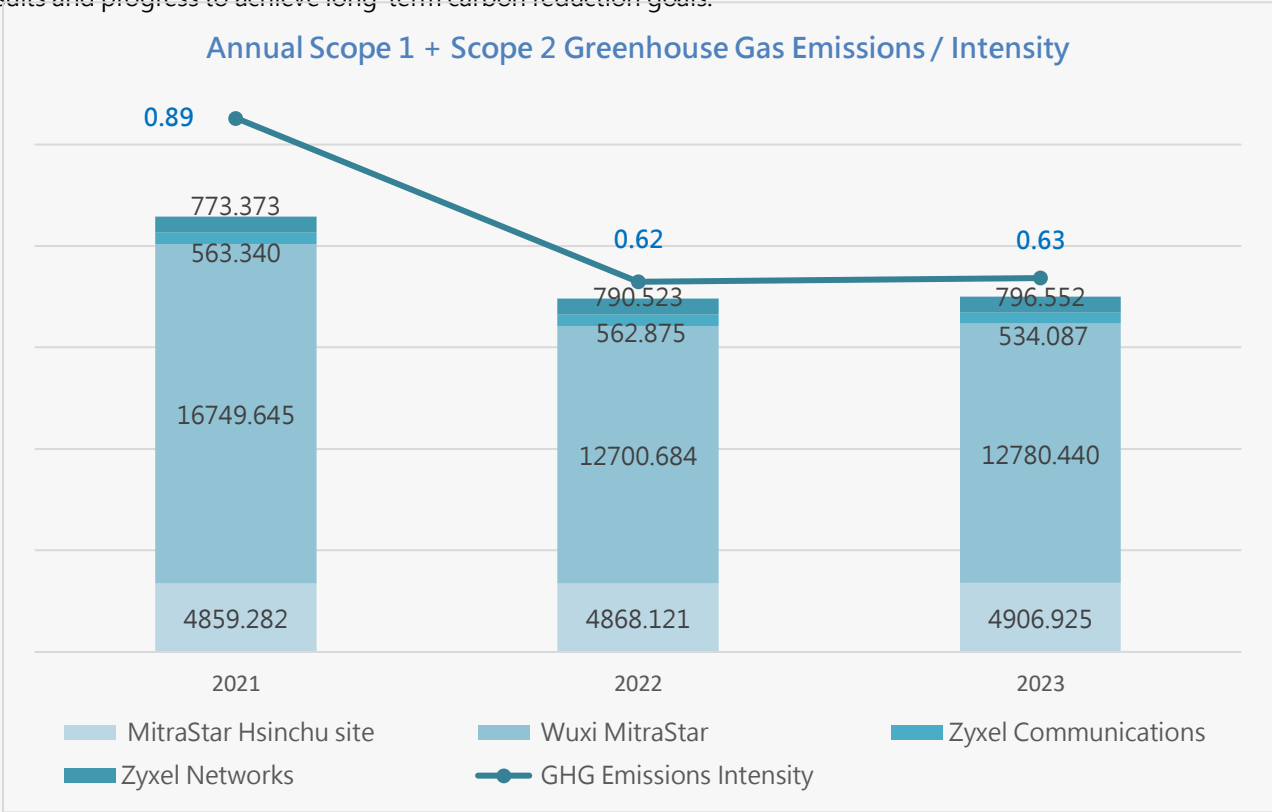
Additionally, Zyxel has initiated internal carbon pricing to guide internal carbon reduction strategy development and foster a culture of carbon reduction within the company. A solar energy project has also been launched, and plans are being evaluated for green electricity procurement. By setting reduction strategies, planning actions, and continuously improving, Zyxel aims to regularly report on carbon reduction results and progress to achieve long-term carbon reduction goals.

Greenhouse Gas Inventory

Zyxel Group's greenhouse gas inventory report adheres to ISO 14064-1:2018 and the Greenhouse Gas Protocol guidelines, using the operational control approach. The baseline year is set as 2021, with external experts assisting in the greenhouse gas inventory and establishing a systematic framework to ensure high data accuracy and credibility.

In accordance with ISO 14064 standards, the greenhouse gas inventory was conducted for Zyxel Group and its subsidiaries, including MitraStar Technology, Zyxel Communications, and Zyxel Networks. In 2023, the inventory also included MitraStar Technology ' subsidiary in Wuxi, China. The assessment covered manufacturing facilities in Taiwan and China, with updated emissions data from 2020 to 2022. The scope 3 inventory range is also being gradually expanded to meet SBTi targets.

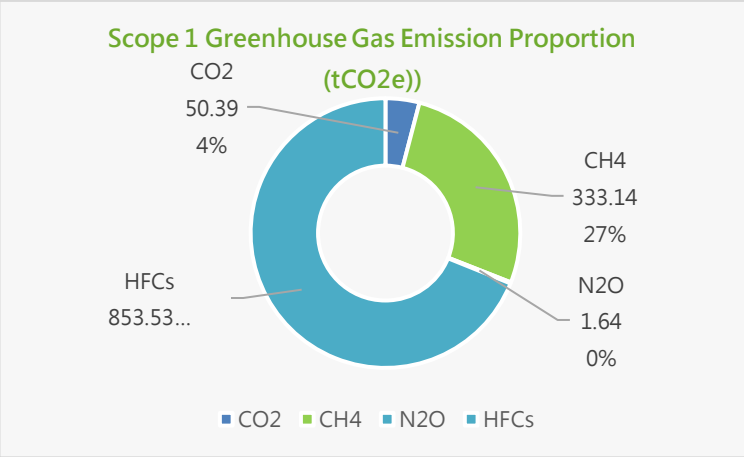
In 2023, the greenhouse gas emissions are as follows: Scope 1 emissions amounted to 1,265.563 metric tons of CO2 equivalent, while Scope 2 emissions totaled 17,710.526 metric tons of CO2 equivalent. The overall total emissions were 18,976.089 metric tons of CO2 equivalent. All subsidiaries have obtained third-party verification for ISO 14064-1.

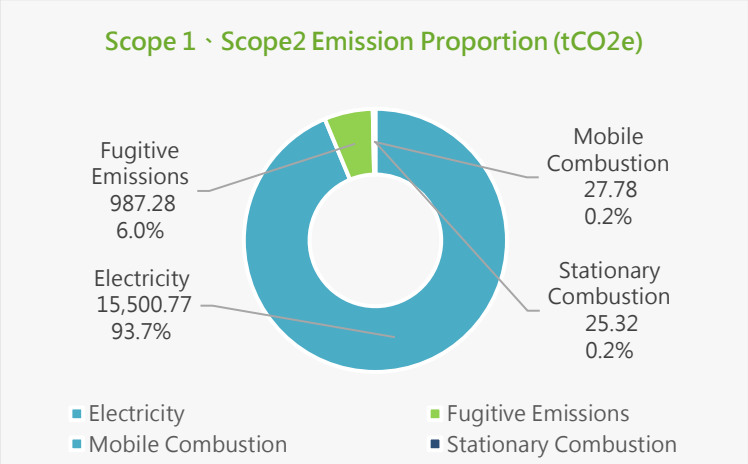


Scope 1 + Scope 2 Greenhouse Gas Emissions (Unit: metric tons CO2-e)

	2021			2022			2023		
	Scope 1	Scope 2	total emissions	Scope 1	Scope 2	total emissions	Scope 1	Scope 2	total emissions
MitraStar	427.340	4,431.942	4,859.282	175.477	4,692.645	4,868.121	491.695	4,415.230	4,906.925
Wuxi MitraStar	597.583	16,152.061	16,749.645	611.873	12,088.811	12,700.684	633.955	12,146.485	12,780.440
Zyxel Communications	76.843	486.497	563.340	79.223	483.652	562.875	78.304	455.783	534.087
Zyxel Networks	86.877	686.496	773.373	97.332	693.191	790.523	103.524	693.029	796.552
Total	1,188.643	21,756.996	22,945.639	963.905	17,958.299	18,922.204	1,307.478	17,710.526	19,018.004

Note: In 2023, the MitraStar subsidiary in Wuxi, China, was included in the disclosure, and the emission data for 2021-2022 were updated accordingly.





Scope 3 Greenhouse Gas Emissions

Both MitraStar and Zyxel sites have identified emission sources based on their organizational boundaries to account for direct and indirect greenhouse gas emissions. However, the classification and quantification of indirect emissions are challenging due to their complexity and difficulty in ensuring accuracy. Therefore, a "Materiality Assessment Criteria" is used to identify emission sources that pose significant risks and opportunities to the company. After discussions among management representatives, considering practical, technical, and economic feasibility, each site has decided on key indirect emission sources for annual reporting, as shown in the table below. Both the MitraStar and Zyxel sites have completed third-party verification and received ISO 14064-1 certification.

The primary sources of Scope 3 emissions are energy and goods procurement. To reduce Scope 3 emissions, we have required suppliers to conduct greenhouse gas inventories and collaborate on carbon reduction initiatives.

Categories	Sources of emissions	Emissions (tCO2e)	
		MitraStar Site	Zyxel Site
Category 3: indirect GHG emissions from transportation	Emissions from upstream transport and distribution for goods	-	17.82
	Downstream Transportation and Distribution of Goods	-	2764.81
	Employee Commuting	305.4288	423.94
	emissions from business travels	99.3543	68.39
Category 4: indirect GHG emissions from products used by organization	Emissions from Purchased goods	870.2595	6023.68
	Upstream Emissions from Capital Goods	-	171.92
	Waste Disposal	13.9783	87.61
Category 5: indirect GHG emissions associated with the use of products from the organization.	Emissions from the Use of Products	-	946033.30
	End-of-Life Emissions from Products	-	666.50

Carbon Reduction Pathway Planning and Strategy

SBTi Science-Based Targets Initiative

In response to the IPCC' s special report on limiting global warming to 1.5°C, Zyxel Group has established short-, medium-, and long-term carbon reduction targets. We are committed to the SBTi Science-Based Targets Initiative and have submitted our commitment letter, with plans to submit our SBT targets by 2025 to achieve our commitment of net zero by 2050.

To meet the SBTi science-based targets, we have set 2021 as our baseline year. Based on our assessed carbon emissions, we will utilize the SBT carbon emissions calculation platform to set annual reduction targets that align with keeping global temperature rise below 1.5°C. Starting in 2021, we will conduct greenhouse gas inventories for Scope 3 emissions.

By joining the SBTi initiative, we aim to establish clear carbon reduction targets and timelines, strengthen our reduction actions and results, and fulfill our net zero commitment, demonstrating our determination as an international company to contribute to global sustainable development.

Carbon Management Mechanism Climate Management Performance Incentives

In 2023, we initiated the planning of KPIs for senior management, department heads, and teams responsible for executing the climate transition plan. This is aimed at promoting the company's long-term sustainable development through incentives. Simultaneously, to encourage employees to achieve greenhouse gas reduction targets and enhance carbon reduction efficiency, we organized a series of energy-saving and carbon reduction activities.

Internal Carbon Pricing (ICP)

To incorporate climate risks into internal financial and operational decision-making, as well as to develop internal carbon reduction strategies and promote a carbon reduction culture within the company, Zyxel Group has begun drafting the implementation plan for internal carbon pricing. This initiative aims to drive proactive internal carbon reduction by internalizing the external costs of carbon emissions. The internal carbon pricing plan will align with the company's climate goals, referencing carbon market prices and regulations to determine an appropriate internal carbon price. Zyxel Group plans to officially launch the internal carbon pricing initiative in 2025.

Carbon Reduction Actions

	scope1	Scope2	Scope3
MitraStar Hsinchu site	• Evaluate using electronic company vehicles. • Purchase temperature and humidity control equipment with low refrigerant content. • Improve septic tank systems to reduce anaerobic emissions.	• Develop solar photovoltaic system • Replace high-efficiency chillers. • Implement energy-saving responsibility zones.	• Indirect greenhouse gas emissions from purchased electricity. • Reduce greenhouse gas emissions from product use. • Reduce waste generated from operational activities.
MitraStar Wuxi site	• Replace diesel forklifts with electric forklifts. • Reduce generator testing time.	• Replace low-efficiency, high-power equipment (e.g., chillers). • Add photovoltaic power generation to reduce electricity consumption. • Continue managing electricity usage effectively.	• Reduce business travel, increase the use of online meetings • Reduce waste generated from operational activities..
Zyxel site	• Reduce frequency of company vehicle usage (prefer online communication). • Reduce frequency of lawn mower usage to reduce gasoline consumption. • When maintenance and testing are in good condition, appropriately reduce diesel generator testing time to reduce diesel usage. • Purchase refrigeration equipment that uses environmentally friendly refrigerants.	• Encourage employees to use stairs more to reduce elevator usage. • Implement night-time lighting control; turn off unused lights and air conditioning during security patrols. • Maintain energy-consuming equipment properly to prevent increased energy consumption due to poor operational efficiency. • Use smaller chillers during non-summer months to reduce energy consumption.	• Reduce business travels, increase the usage of online meetings. • Reduce energy consumption in product usage. • Reduce product weight (e.g., packaging, materials) to lower transportation carbon emissions. • Increase the recycling rate at the product disposal stage to reduce incineration and landfill activities.

Carbon Management Digital Platform

The Carbon Management Digital Platform is designed to manage carbon data, including greenhouse gas emissions and carbon footprint analysis. It also serves as a collaborative tool for collecting carbon data from the supply chain, guiding supply chain partners in emissions accounting. Zyxel Group has established this carbon management system to regularly monitor greenhouse gas emissions and calculate product carbon footprints. The system provides data visualization for managing reductions, tracking progress towards reduction goals, and using analytical metrics to support decision-making and promote reduction actions.

The system includes:
- Organizational Carbon Disclosure and Management Module: This module helps Zyxel Group and its supply chain partners efficiently manage carbon reduction strategies, organizational data, and product carbon footprints. It supports communication, collaboration, support, supervision, and reinforcement, driving supply chain partners to understand and utilize the digital system for carbon accounting.

- Product Carbon Footprint Calculation Module: This module connects with Zyxel Group' s own Green Product Management System to display carbon footprint results across the product lifecycle. It assists internal teams in rigorously examining carbon emissions and footprints at each stage of the product lifecycle—from design and supply chain collaboration to raw material procurement, manufacturing, packaging, logistics, recycling, and disposal—supporting the development of low-carbon products.

B. Energy Management

Zyxel Group is committed to continuously improve energy and resource efficiency. Beyond optimizing the use of resources in product design and development, the Corporate Sustainability Committee closely monitors international trends and regulatory requirements, conducting risk impact assessments and formulating responses. The committee integrates energy-saving and carbon-reduction strategies and initiatives across relevant departments, establishes energy management plans, and continuously tracks performance and progress.

Zyxel Group implements measures such as energy-saving initiatives, enhancing manufacturing process efficiency, replacing energy-consuming equipment, introducing energy management systems, and planning for the use of renewable energy. These strategies are designed to address climate change risks and reduce the environmental impact of greenhouse gas emissions. Additionally, the company promotes energy-saving activities among employees and conducts educational programs to raise awareness about energy conservation and environmental protection.

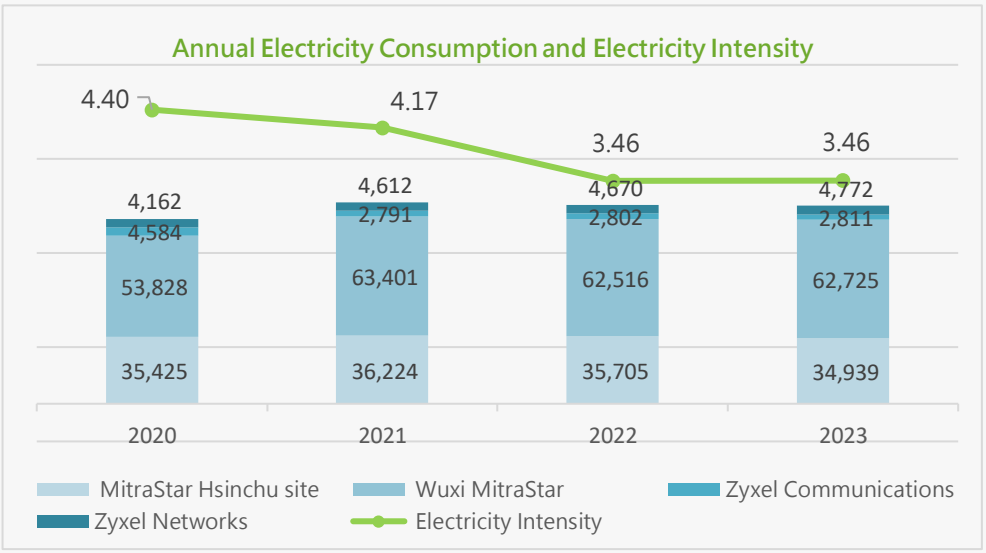
Energy Goals and Achievements

Topic	Strategy action	Performance Indicators	2023 Goal	2023 Achievements		Goals			SDGs
						2024 short-term	2027 mid-term	2030 long-term	
Energy Management	Improve Energy Efficiency	Electricity intensity reduction compared to the base year 2021.	10% reduction	17% reduction	v	20% reduction	21% reduction	27% reduction	
	Smart Energy Management	Smart energy management system implementation.	Plan introduction	In progress	v	Completion of Hsinchu site implementation	-	-	
	Replace Energy-consuming Equipment	Replacement of energy-consuming equipment.	Plan introduction	In progress	v	Completed	-	-	
	Increase Renewable Energy Usage	Completion of solar energy installation.	-	-	-	Begin installation of solar energy	*Completion of solar energy installation	Begin installation of solar energy	

Energy Usage

Unit: Gigajoules (GJ)	2020	2021	2022	2023
Purchased Electricity	97,999	107,028	105,693	97,664
Diesel	22	149	78	53
Gasoline	311	487	319	691
Total Electricity Consumption	97,999	107,028	105,693	97,664
Total Energy Consumption	98,332	107,664	106,090	98,409

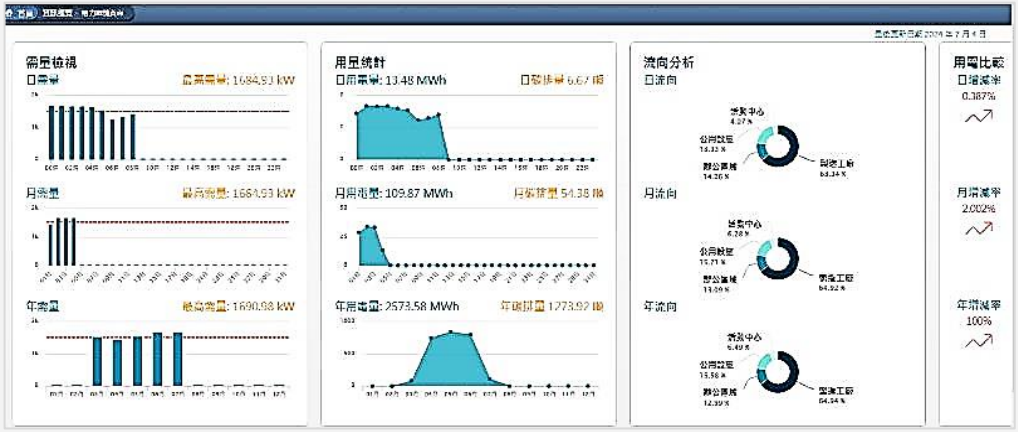
Note: Energy Conversion: According to the energy product heat value table, diesel has a heat value of 8,400 kcal/L, and gasoline has a heat value of 7,800 kcal/L. 1 kcal = 4.184 kJ. Conversion factor for gasoline/diesel: [Usage (L/year) * Calorific Value (kcal/L) * 4.184 kJ/kcal] / 1,000,000\text{[Usage (L/year) * Calorific Value (kcal/L) * 4.184 kJ/kcal] / ,000,000}[Usage (L/year) * Calorific Value (kcal/L) * 4.184 kJ/kcal] / 1,000,000
Note: In 2023, MitraStar Technology 's subsidiary, Wuxi MitraStar in China, was included in the disclosure, and the emissions data for 2020-2022 were simultaneously updated.



Electricity Consumption: Gigajoules (GJ)
Electricity Intensity: Electricity Intensity = Electricity Consumption (GJ) / Zyxel Group Consolidated Revenue (NTD million)

Energy Management Platform

Zyxel Group has established an "Energy Management Digital Platform" that utilizes AI-based energy-saving technologies to effectively manage energy efficiency. This platform analyzes energy efficiency, usage, and consumption processes to identify high-energy hotspots and determine opportunities to improve energy performance. The system includes modules for monitoring, data management, analysis, optimization, control, surveillance, and reporting, all aimed at enhancing energy usage and efficiency. This ensures the minimization of energy costs while maintaining reliable and sustainable energy supply. The smart energy management system features digital management functions for air conditioning and electrical energy.



Renewable Energy Usage Plan

Renewable energy utilization is a critical strategic goal within Zyxel Group's energy management plan. In 2023, Zyxel Group initiated a solar power installation project, starting with the installation of photovoltaic systems at the MitraStar Hsinchu plant in Taiwan and the MitraStar Wuxi plant in China. This project is expected to be completed by 2025, with an estimated total generation of approximately 1.76 million kWh, which will account for 6.47% of the total electricity consumption. For new facilities currently under planning, solar photovoltaic systems have also been incorporated into the design to progressively increase the use of renewable energy.

In alignment with Zyxel Group's commitment to the SBTi 2050 net-zero target, the company is not only focusing on self-generated solar power but also planning for the use of other renewable energy sources and the procurement of renewable energy certificates to enhance the overall renewable energy usage ratio. Zyxel Group supports the RE100 renewable energy initiative and has evaluated joining RE100 to demonstrate its commitment to clean energy and proactive low-carbon transformation.

Replace Old Equipment

In the low-carbon manufacturing process, a comprehensive evaluation of major energy use across the entire plant is conducted to identify processes where production improvements and energy savings can be achieved. This analysis prioritizes the updating of relevant equipment.
By analyzing the efficiency of the SMT process temperature and humidity control system and wave soldering process equipment, outdated equipment with low energy efficiency, such as ice water chillers, soldering furnaces, and reflow ovens, has been identified. These old equipment are targeted for carbon reduction upgrades to optimize production processes and manufacturing techniques.

It is estimated that this initiative will result in an energy savings of 1.1 million kWh and a carbon reduction of 546 tonnes.

Energy Saving Solutions

	item	2021	2022	2023
Lighting System				
Installed LED lighting Installed sensor lights in basement	Energy savings	-	605.89	1,260.44
	Carbon reduction	-	85,665	189,441
Air Conditioning System				
Reduced night-time chiller operation time & replaced cooling tower heat exchanger Replaced cooling tower heat exchanger	Energy savings	92.97	87.69	709.30
	Carbon reduction	14,307	12,399	111,966
Management System				
Reduced exhaust fan operation time	Energy savings	-	-	50.77
	Carbon reduction	-	-	6,967
Production System				
Integrated tin furnace operation	Energy savings	518.13	-	-
	Carbon reduction	79,735	-	-
Total	Energy savings	611	694	2,021
	Carbon reduction	94,042	98,064	308,375

unit: Energy savings (kWh) , Carbon reduction (kg CO2-e)

C. Water Management

Zyxel Group' s subsidiary MitraStar' s production process is based on assembly and does not use water so the company does not consume a lot of water resources. We mainly use water for basic factory facilities and people's daily life needs and the sources are all tap water. With limited water resources in Taiwan, Zyxel Group also actively promotes various water-saving measures to reduce water use.

Zyxel Group actively implements water conservation measures, resulting in a year-on-year decrease in water intensity. In 2023, the water intensity was 4.83, representing a 22.43% reduction compared to the baseline year of 2021.

Goals and Achievements

Issue	Strategy actions	Performance indicators	2023 goal	2023 achievement		Goals			SDGs
						2024 short-term	2027 mid-term	2030 long-term	
Water Management	• Continue to implement daily water saving measures • Water Conservation Education and Advocacy	Percentage Reduction in Water Intensity Compared to Baseline Year 2021	Reduced by 10%.	Reduced by 22.43%	v	Reduced by 23%	Reduced by 24%	Reduced by 26%	

1. Water Resources Management Policy

The water resources management policy aims to achieve the results of saving water resources through water-saving facilities, water-saving measures and education promotion.

Water risk assessment

To understand water resource risks, we refer to the World Resources Institute (WRI) Water Risk Assessment Tool, specifically the "Aqueduct Water Risk Atlas," to identify potential impacts and risks at each production site. The analysis indicates that our production and operational locations in Taiwan are situated in low water stress risk areas, while the Wuxi site in China, located in a high-risk area, has proactively implemented water conservation measures in response.

2. Water Management

Water saving measures

- Cherish water resources, specific measures include:
- Assess water usage to improve efficiency
- Set targets to reduce water consumption
- Install water-saving faucets in all employee washroom facilities
- Install water-saving devices
- Control water usage for exterior wall cleaning and irrigation
- Adjust the blowdown ratio for cooling towers
- Promote water-saving concepts and plans among employees

Wastewater Management

Sewage from MitraStar and Zyxel sites are included in the waste water plant of the Hsinchu Science Administration Bureau for treatment. The sewage treatment fee is paid quarterly according to the water quality and volume, so it has not caused damage or impact to the surrounding ecology of the operating base.

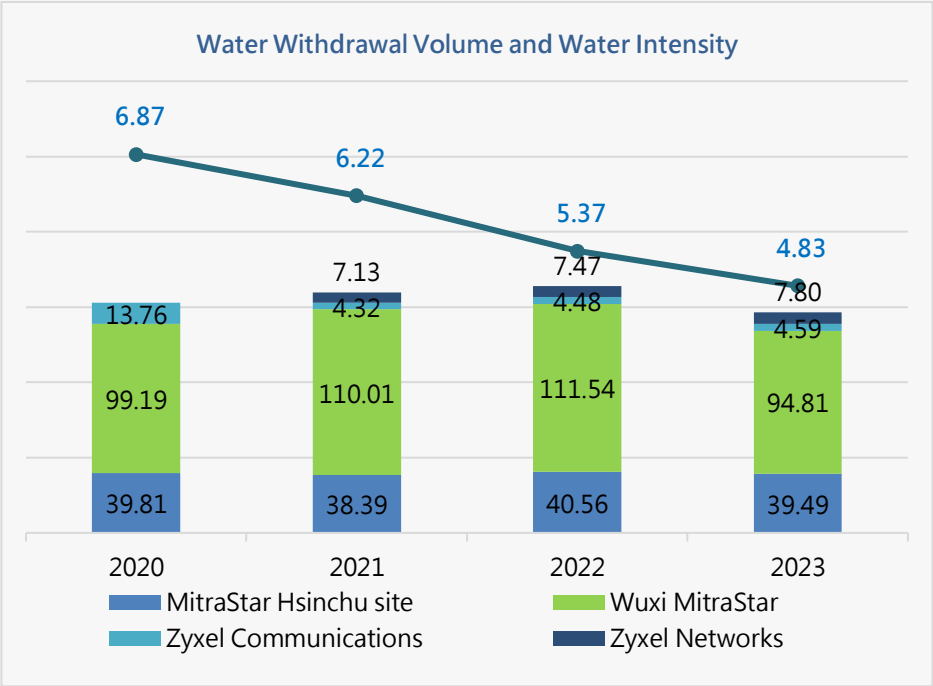
Simultaneously, regular outsourced wastewater testing is conducted on the sewage discharged into the drainage system of the Hsinchu Science Park to ensure compliance with standards. The industrial wastewater discharge from the Hsinchu Science Park is coordinated and managed by the Park Administration's wastewater treatment plant, eliminating the need to apply for pollution facility installation permits or pollution emission permits in accordance with regulations.

In 2023, there were zero wastewater discharge pollution incidents.

Historical Water Usage

(M Liters/year)	2020	2021	2022	2023
Surface water	-	-	-	-
Underground water	-	-	-	-
Third-party water	152.76	159.85	164.06	146.69
Total water withdrawal	152.76	159.85	164.06	146.69
Total water discharge	109.55	119.17	121.38	107.76
Total water consumption	43.19	40.69	42.68	38.93

Note: In 2023, the MitraStar subsidiary in Wuxi, China, was included in the disclosures, and the water data for 2020–2022 has been updated accordingly.



Water Intensity: Water withdrawal volume (cubic meters) / revenue (million NTD)

D. Waste Management

We continue to improve our production equipment to meet international environmental protection requirements and help protect our environment. MitraStar' s Hsinchu site includes a manufacturing plant. In terms of environmental considerations, the main environmental pollution sources that may arise are reflow ovens and wave soldering ovens for soldering operations. The exhaust gas contains trace metal fumes and volatile organic compounds.

Goals and achievements

Topic	Strategy Actions	Performance Indicators	2023 Goal	2023 Achievement		Goals			SDGs
						2024short-term	2027mid-term	2030long-term	
Waste management	• Promote Waste Classification and Reduction • Strengthen Waste Recycling and Reuse	Percentage reduction in waste intensity compared to the baseline year of 2021.	Reduce by 10%	Reduce by 14.67%	v	Reduce by 15%	Reduce by 16%	Reduce by 18%	
		Waste Recycling Rate	>70%	80%	v	>70%	>80%	>82%	

Most wastes produced on the MitraStar Hsinchu site fall into three categories:

- General commercial wastes: These are mostly daily-life garbage.
- Hazardous commercial wastes: Waste organic solvents, tin and lead pieces as well as electronic components.
- Recyclable materials: Paper, plastic and iron/tin cans.

1. Reduced use of raw materials

The amount of raw materials used in the manufacturing processes is deliberately decreased to save on costs and to cut the waste. The reduction has been realized with the following methods

- Packaging materials are recycled
- Low-volatility solvents are used to reduce the amount needed
- Closed spraying system for less organic solvent usage
- Improved flowing path in tin ovens for less tin bar usage
- Fans are replaced by smart heat
- dissipation mechanisms
- The packaging material for heat sinks has been changed from wooden boxes to cardboard boxes
- The discarded wooden boxes are provided to farmers for use as chicken breeding boxes

Note1: In 2023, Zyxel' s subsidiary, Wuxi Zyxel Technology in China, was included in the disclosure, and the waste data for 2020-2022 were simultaneously updated.

Note2: Zyxel site only generate "general household waste" and "recyclable materials," which are collectively managed and transported for disposal by the Hsinchu Science Park Administration. Therefore, there are no records of the weight of waste collection and disposal.

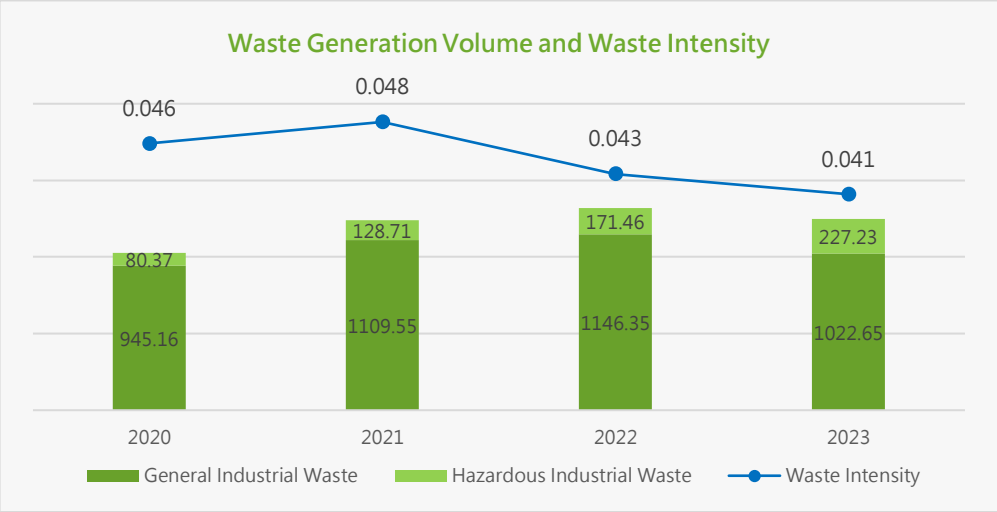
2. Management and recycling of wastes

During the manufacturing processes we employ workflow improvement and material recycling to cut both acquisition costs and pollution to the environment. Under the strict supervision of MitraStar, qualified processing service providers separate and categorize all recyclable or reusable materials and report them online as required by the Environmental Protection Administration.

In 2023, the MitraStar produced 1022.65 tons of general commercial waste, 24.382 tons of hazardous waste, and recycled 80.08% of waste resources. All wastes were confirmed to meet the Environmental Protection Administration' s standards. The wastes are managed with the following principles:

- Experts from the Environmental Protection Administration are invited to instruct us on how to separate different waste materials.
- Paper is cut and bound to become notebooks.
- Packaging material made of PVC is reused.
- Waste tin or lead pieces are collected and melted to make blocks.
- Inseparable metal wastes are recycled to become raw materials or even works of art.

The rest of the waste shall comply with environmental protection laws and be entrusted to qualified removal and treatment manufacturers for physical or other forms of treatment.



Units: Waste Generation Volume: Metric tons, Waste Intensity: Metric tons / Revenue (million NTD)

Waste Recycling Situation (Unit: Metric Tons)

Category	Handling Method	2020	2021	2022	2023
General Business Waste	Reuse for Original Purpose	0	0	0	0
	Recycling	906.71	1065.77	1101.25	979.24
	Other Recycling	0	0.77	5.25	12.61
	小計	906.71	1066.54	1106.50	991.85
Hazardous Business Waste	Reuse for Original Purpose	0	0	0	0
	Recycling	63.84	90.08	82.80	107.63
	Other Recycling	10.20	12.16	22.51	8.03
	小計	74.04	102.23	105.31	115.66

Waste Direct Disposal Situation (Unit: Metric Tons)

Category	Handling Method	2020	2021	2022	2023
General Business Waste	Landfilling	0	0	0	0
	Incineration for Energy Recovery	0	0	0	0
	Simple Incineration	38.45	43.01	39.85	30.80
	Other Treatment	0	0	0	0
	Treatment Unknown	0	0	0	0
	小計	38.45	43.01	39.85	30.80
Hazardous Business Waste	Landfilling	1.45	2.18	1.88	1.73
	Incineration for Energy Recovery	4.52	24.02	64.28	109.60
	Simple Incineration	0	0	0	0
	Other Treatment	0.35	0.27	0.00	0.24
	Treatment Unknown	0	0	0	0
	小計	6.32	26.47	66.15	111.57

Waste Generation and Recycling Rate (Unit: Metric Tons)

	2020	2021	2022	2023
General Business Waste	38.45	43.01	39.85	30.80
Hazardous Business Waste	6.32	26.47	66.15	111.57
Total Recycling / Reuse Amount	980.76	1168.77	1211.80	1107.51
Total Waste Generation	1025.53	1238.25	1317.81	1249.88
Waste Recycling Rate (%)	95.63%	94.39%	91.96%	88.61%
Waste Intensity	0.046	0.048	0.043	0.041

E. Air Pollution Prevention

Zyxel Group' manufacturing facilities do not emit ozone-depleting substances or sulfur oxides, and there are no significant emissions of other air pollutants. The only emissions are volatile organic compounds (VOCs) and nitrogen oxides (NOx). In 2023, the emissions were 9.27 metric tons of VOCs and 0.06 metric tons of NOx. These emissions are reported and fees are paid on a quarterly basis.

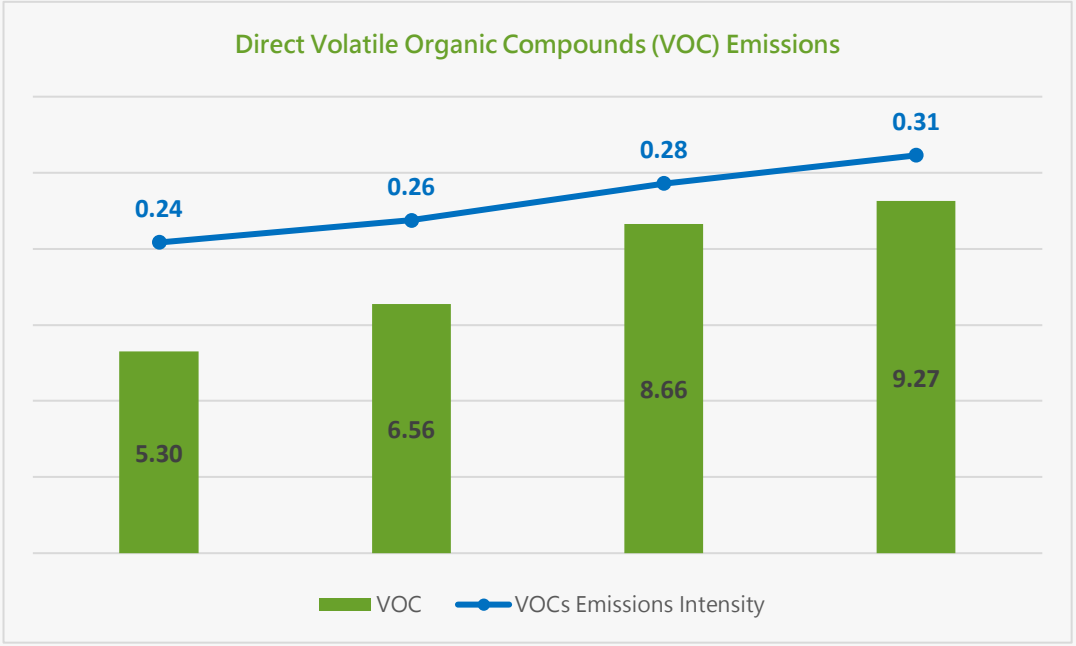
	2020	2021	2022	2023	2024 target
VOCs	5.30	6.56	8.66	9.27	10% Reduction
NOx	0.03	0.04	0.04	0.06	
Total	5.33	6.59	8.70	9.32	
VOCs Emissions Intensity	0.24	0.26	0.28	0.31	

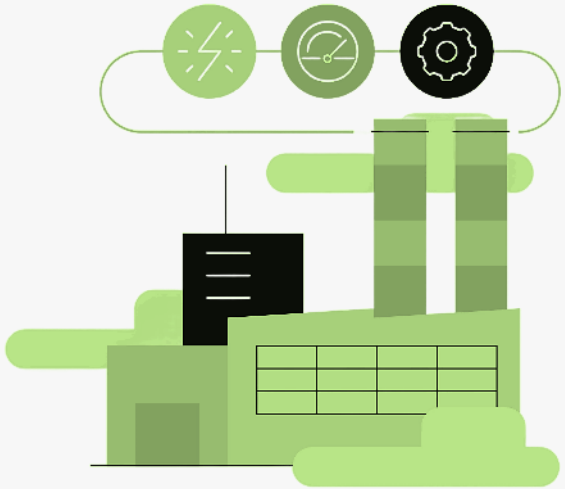
Note: The air pollution calculation scope includes the MitraStar Hsinchu and Wuxi factories. Zyxel Communications and Zyxel Networks, being non-manufacturing companies, do not have air pollutant emissions.

Reduction of Volatile Organic Compounds (VOCs)

To address VOC emissions, we are implementing active reduction measures, including:

Reducing the residual amount of chemicals in containers.
Covering solvents when not in use.
Replacing old tin furnaces with new ones in 2024, aiming for a 10% reduction in VOC emissions.





F. Biodiversity

We have responded to the TNFD biodiversity initiative by establishing the "Zyxel Group Biodiversity and No Deforestation Commitment," which has been approved by the Board of Directors. This commitment involves engaging with external stakeholders across all business operations and value chain management. Additionally, biodiversity is integrated into our risk assessments concerning the ongoing management of operations, and we have identified no biodiversity-related risks in our operations, taking proactive measures to address potential challenges.

We have also incorporated biodiversity into our supplier code of conduct, requiring suppliers to comply and support biodiversity alongside the value chain. Zyxel Group is taking active steps to preserve biodiversity and forest conservation, reducing negative impacts on the natural environment and addressing the challenges posed by climate change to ecosystems. **We aim to complete the TNFD nature-related financial disclosure report by 2024 and will publish it on our official website.**

Biodiversity and No Deforestation Commitment

Zyxel Group and its value chain suppliers and partners avoid establishing factories or conducting operations near globally or nationally significant biodiversity areas.

- Compliance with all international and local forest and biodiversity laws and regulations relevant to our operations.
- Avoiding or minimizing the impact of Zyxel Group's value chain operational activities on biodiversity.
- Conduct regular biodiversity risk assessments, set priorities and targets, and adopt mitigation measures according to the mitigation hierarchy (Avoidance, Minimization, Restoration, and Offset) to achieve the goal of No Net Loss (NNL) in operational activities.
- Aim to achieve Net Positive Impact (NPI) on the environment and ecology, as well as No Gross Deforestation by 2050, committing to biodiversity preservation and preventing deforestation.
- Collaborating actively with non-profit organizations to support initiatives and efforts related to forest and biodiversity conservation.
- Promoting biodiversity awareness among stakeholders such as employees, suppliers, etc., and organizing actions that contribute to ecological conservation.

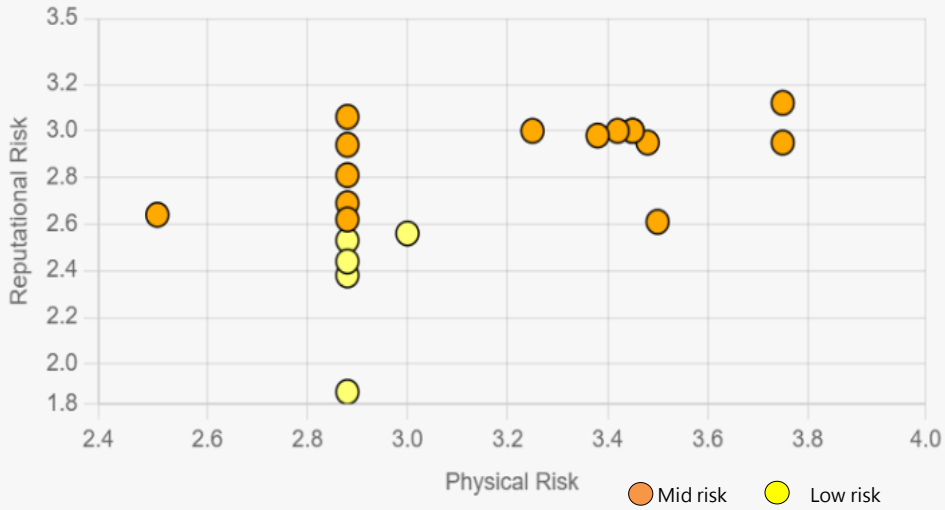
Biodiversity Risk Assessment

Zyxel Group utilizes the Biodiversity Risk Filter (BRF) tool and database developed by the World-Wide Fund for Nature (WWF) to assess biodiversity risks associated with its own operations and those within its supply chain. The BRF tool evaluates risks based on the "Dependency" and "Impact" relationships between business activities and biodiversity. It categorizes these risks into eight major types and 33 specific risk items, including both Physical Risks and Reputational Risks. Zyxel Group also plans to incorporate future regulatory risks into its analysis in line with BRF updates.

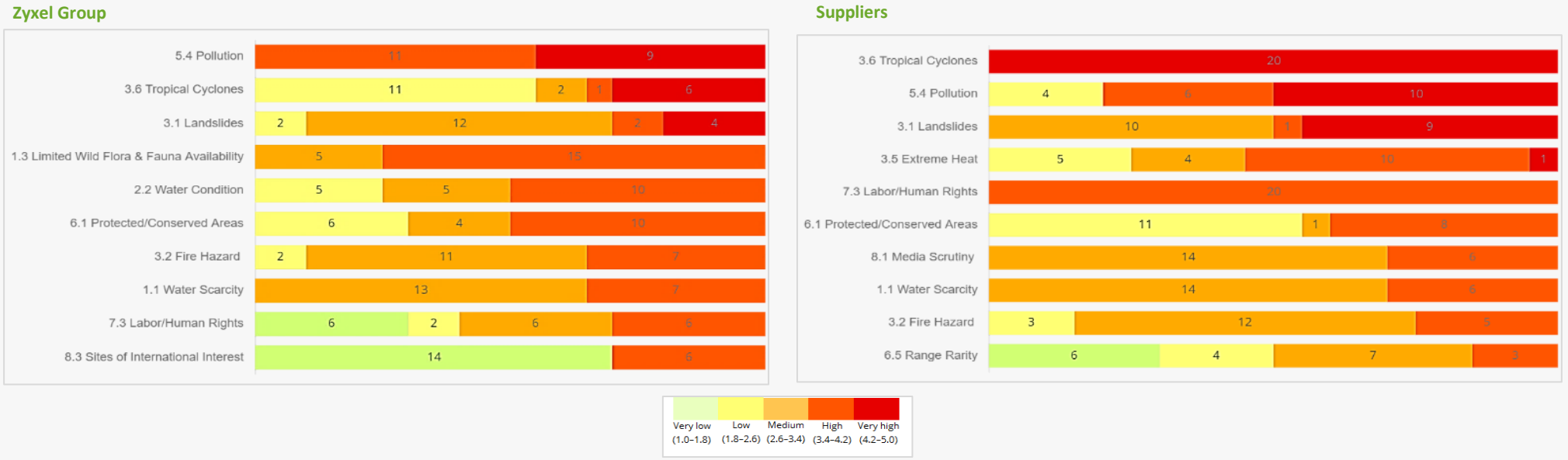
The company has conducted risk assessments for its 20 global locations, spanning Asia, Europe, and the Americas, as well as for 20 key suppliers. These assessments consider the industry attributes, operational locations, and the significance of each supplier to Zyxel’ s operations.

Biodiversity is also integrated into Zyxel Group's risk management framework, aligning with climate change-related financial impact assessments (TCFD). The results of these analyses prioritize high-risk areas, where immediate mitigation measures are taken to minimize ecological impacts.

Physical and Reputational Risk Assessment Matrix for Company



Top 10 Risk Categories - Number of Operational Sites with Risk Ratings



Results of Biodiversity Risk Analysis

Based on BRF analysis, Zyxel Group's 20 operational sites across Asia, Europe, and the Americas, along with 20 key suppliers, were evaluated. The analysis identified the top 10 risk factors for each site, including both dependency and impact risks. Risks such as limited wildlife resources, water quality issues, water shortages, and pollution, which are not relevant to the company's industry, were excluded.

The analysis revealed that for both Zyxel Group's operational sites and its suppliers, tropical cyclones pose the highest dependency risk, while proximity to protected areas represents the highest impact risk.

Category	Item	Mitigation Measures
Dependency Risk	Tropical Cyclones	Tropical Cyclones: Conduct annual emergency response drills across all sites in accordance with disaster emergency procedures.
Impact Risk	Protected Areas	Ensure compliance with all international and local forestry and biodiversity laws and regulations at operational locations.

Biodiversity Risk Mitigation Measures

To address biodiversity risks, Zyxel Group is committed to ensuring that its operations comply with all international and local forestry and biodiversity laws and regulations. The company adopts avoidance and mitigation measures to minimize environmental and biodiversity impacts.

Regular assessments of biodiversity impacts are conducted, integrating biodiversity protection into business decisions. Zyxel plans and carries out ecological conservation activities, strengthens environmental education for employees, and encourages their participation in biodiversity protection efforts. The company also actively collaborates with local communities, supporting biodiversity-related issues and participating in the establishment and management of local protected areas, further reducing the impact of business activities on the natural environment.

For suppliers, Zyxel leads efforts in biodiversity protection, ensuring that they adhere to principles of sustainable resource use. The company prioritizes sourcing environmentally certified materials from suppliers to prevent impacts on local biodiversity.

Ecological Conservation Actions

Zyxel Group' s operational sites are located in densely developed urban areas, not near ecological protection zones. The construction and operation of company facilities have not significantly impacted the surrounding ecosystems. We strictly adhere to environmental regulations to prevent our operations from affecting biodiversity conservation. In Taiwan, through the Zyxel Foundation, we continue to undertake natural ecological protection projects and conduct employee education and advocacy. We initiate a series of activities to promote natural conservation and biodiversity, fulfilling our responsibility to mitigate ecological impacts and achieve a positive environmental impact with no deforestation.

Factory Green Beautification

Awarded the "Factory Green Beautification and Environmental Maintenance Competition Prize" by Hsinchu Science Park.

MitraStar Park, Zyxel Park

Both the MitraStar site and Zyxel site are equipped with parks, with the goal of preserving biodiversity. These parks also provide spaces for employee relaxation and serve as educational environments for promoting environmental diversity.

MitraStar Park

The green area of the park reaches5,140 m^2

Zyxel Park

The green area of the park reaches5,140 m^2

Biodiversity and Ecological Conservation Tour

Ecological experts have been invited to organize biodiversity and ecological conservation guided tours within the company's parks.

"Nature Valley Environmental Trust Base" Reforestation Project

Zyxel Foundation has adopted the "Nature Valley Environmental Trust Base" reforestation project, specifically the "Pencil Tree Conservation Ark Plan," located near the Zyxel Group headquarters in Hsinchu County. This project aims to restore the endangered pencil tree species, offering hope for its future and actively supporting environmental sustainability and biodiversity.
Additionally, Zyxel Foundation collaborates with the Nature Valley Environmental Trust Base to organize ecological experience activities.

These events allow employees to connect with the land, experience valuable natural and cultural assets, calculate their daily carbon emissions, and measure the carbon storage of trees. This initiative integrates ESG education deeply into the employees' consciousness.

Sustainable Product

A. Green Collaboration System

B. Sustainable Design

C. Sustainable Manufacturing

D. Sustainable Packaging & Shipping

E. Disposal & Recycling

F. Carbon Footprint Disclosure

G. Green Channel

Sustainable Product

Sustainable product commitment

The era of green consumption is approaching as the world' s awareness of environmental protection and concern about climate change is raised. We, as an international network communication company, are deeply aware that developing green industries and following international green regulations will help sharpen our global competitive edge. Zyxel Group formulates green product policies, works together with the employees, suppliers, and customers in confronting the impacts of climate change on the world, commits to the minimization of the environmental impacts throughout our products' life cycle, and supports the net-zero emission initiative with them.

Sustainable Strategy: Innovative sustainable product

Major Issues: Sustainable product

Stakeholders: Customer Supplier

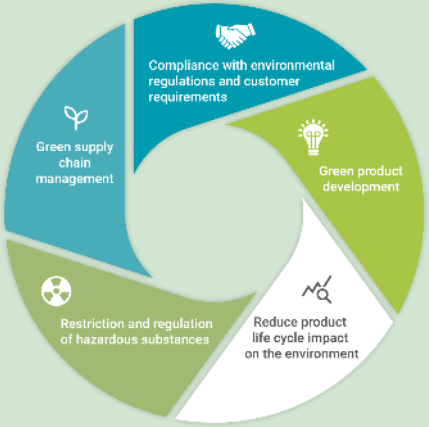
SDGs

Performance Highlights

14 products use PCR recycled plastic for their casings	Fully implemented packaging design **without PE bags** (except for customer-specific requirements/EMS)	**75%** of product boxes made from recycled paper	**0** products violating hazardous substance management	Assisted the Environmental Protection Administration in **Formulating standards for calculating environmental information disclosure**

Green Product Policy

Zyxel Group's green product policy focuses on ensuring that products meet international environmental standards throughout their design, manufacturing, packaging, transportation, and recycling processes. The policy aims to develop strategies to reduce environmental impact and includes five key implementation policies: compliance with environmental regulations, green product research and development, minimizing the environmental impact over the product lifecycle, restrictions and regulations on harmful substances, and green supply chain management. These efforts are directed towards sustainable development, reducing resource consumption, lowering pollution, and promoting a circular economy with green products.



Green Product Management Strategies

Zyxel Group' s subsidiaries, MitraStar Technology, Zyxel Communications and Zyxel Networks, strictly control their product quality and obtain the ISO 9001 & TL 9001 quality management system certificate on an ongoing basis. Different green management systems are introduced based on the business nature, e.g., R&D and OEM of products, brand management, and channel sales, for the product life cycle involving product design, supply chains, green products, manufacturing, packaging and transportation, and waste and recycling, thereby monitoring the environmental impacts of the products throughout all stages, from raw materials, production, transportation, use to disposal.

The products of our subsidiaries are sold through the green channels of e-commerce platforms to mitigate the environmental impacts of the sale. In addition, marketing programs are developed for green products to motivate customers to buy the products and to give green education.

We launch a product carbon footprint label project to answer the customers' demand for information on the carbon emissions of the products and achieve green marketing for consumers by disclosing the carbon footprints of the products.

Goals and Achievements

Major Issue	Operational Impact	Actions	Performance Indicators	2023 Goals	2023 Achievements		Goals			SDGs
							2024 short-term	2027 mid-term	2030 long-term	
Green Products	Enhance the sustainable value of products by implementing green product research and designs to reduce environmental impact.	• •Green product-related design guidelines and checklists establishment. • •Product carbon footprint inventory and management. • •Green product design and packaging implement.	• Develop operational procedures for product carbon footprint. • Achieve product carbon footprint management targets. • Proportion of green product design implementation.	• Use PCR recycled plastic for product casings. • Adopt plastic-free packaging. • Use recycled paper for product boxes. • Provide product carbon footprint reports upon customer requests.	• 14 products used PCR recycled plastic casings. • Plastic-free packaging. • 75% recycled paper for product boxes. • Provided product carbon footprint reports upon customer requests.	v	• Implement ISO 14064-1/14067 module for the product carbon footprint platform. • Achieve certification for the first carbon-neutral product (ISO 14068-1).	• Develop comprehensive product environmental footprint impact reports. • 100% implementation of green product design.	• Use recycled plastic • Energy-efficient hardware/software • Plastic-free packaging • 100% recycled paper packaging • Comprehensive environmental footprint reports • Design considerations for disposal/recycling/repair/reuse/refurbishment/durability/SoC	

A. Green Collaboration System

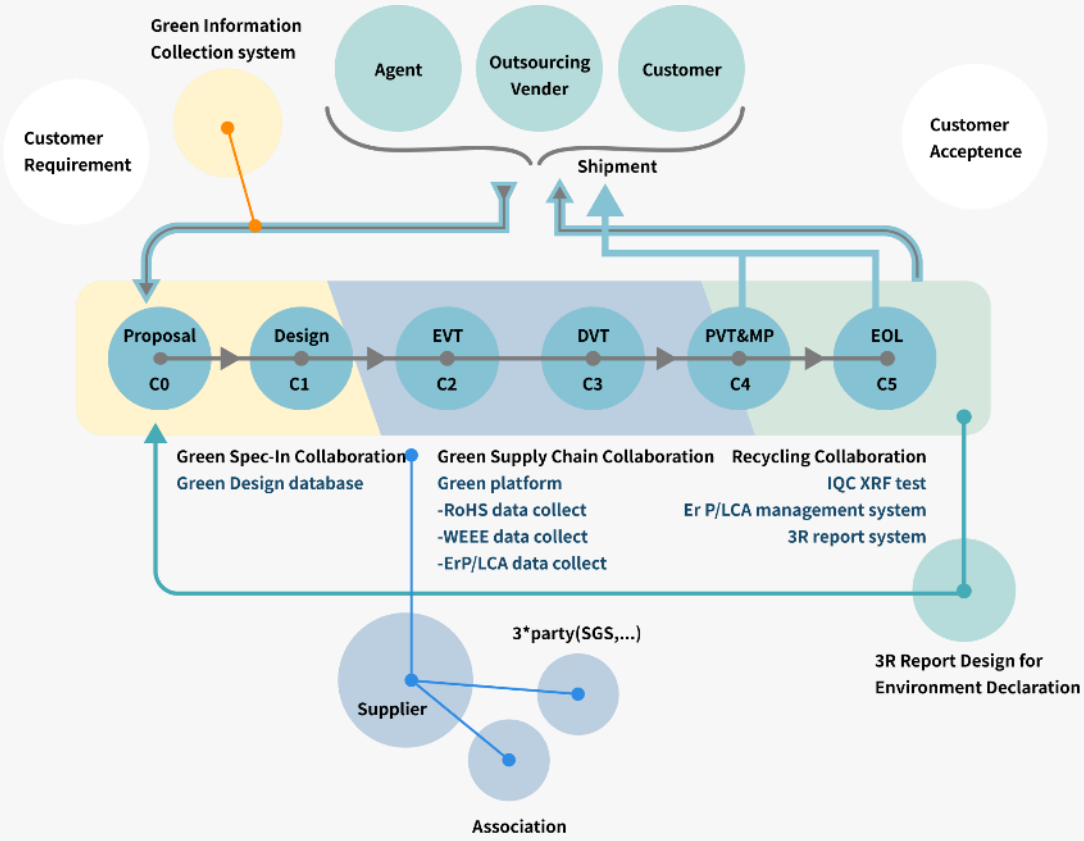
We launch excellent products and provide customers with high-quality services with the concepts of leading technology, excellent quality, customer satisfaction, and sustainable development. They follow the Hazardous Substances Restriction Directive, Waste Electrical and Electronic Equipment Directive, Packaging and Waste Packaging Materials Directive, EU Chemical Registration, Evaluation, Authorization, Restriction Regulations, Batteries, Waste Batteries and Waste Batteries Directive, Energy consumption related products Ecological Design Directive (ErP), Conflict Minerals, Stockholm Convention Persistent Organic Pollutants (POPs), EPA Toxic Substances Control Act, and other requirements to prevent pollution and reduce impact on the environment. These policies help minimize impact on sustainable development and achieve the goal of sustainable cooperation with suppliers. Combining relevant instructions and requirements with the ISO9001&TL9000 Quality Management System and ISO14006 Environmental Management System - Ecological Design through the PLMS (Product Life Management System) gives us systematic and structured methods that are effective throughout the entire product development and life cycle. We implement control and supervision to reduce the impact on the environment and we continue to obtain the ISO14001 environmental management system verification certificate.

Sustainable Product Collaboration System

In order to fully implement green business management, we have built a "Green collaboration information system" to control each stage from the suppliers of raw materials, production, manufacturing, transport, to usage and disposal to ensure all meet green requirements in every aspect. It is jointly implemented by MitraStar's factories in Hsinchu and Wuxi China, and continues to obtain QC 080000 hazardous material process management certification.

Through use of the " Collaboration Information System" including "Green Product Database", "Life Cycle Analysis System", "3R and disassembly Report Database" and "Restriction of Hazardous Substances Management System", MitraStar aggressively controls its environmental impact in the entire lifecycle of all of its products, in its commitment, and in its responsibility as a corporate citizen in developing a low-toxic, waste-reducing, easily recyclable and energy-efficient product.

With establishment of the "Information Management System for Green Product Collaborative Operations" , we become the first in the industry to implement many green development initiatives.



B. Sustainable Design

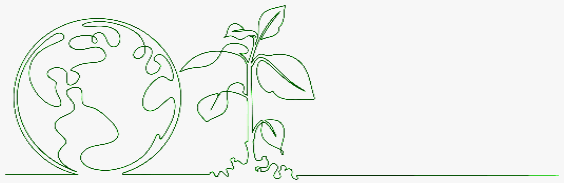
The goal of Zyxel Group's green products is to minimize the impact of products on the environment. Zyxel Group is committed to optimizing product energy efficiency and reducing materials used to cope with climate change. We comply with international regulations and requirements, including but not limited to: 2009/125/EC and amending Regulation (EC) No 1275/2008, ENERGY STAR - Small Network Devices, and the European Union Code of Conduct (CoC).

In addition to optimizing product energy efficiency, Zyxel green products use low-power external power supplies, all of which comply with the European Union's ErP Regulation (EC) No. 278/2009, the US CEC of the United States, and Canada's CSA C381.1-08 to reduce product usage energy loss.

Three Principles of Green Product Design:

1. Material Selection for Products: Based on three criteria: :
Reduced Usage, Utilization of Recycled Materials, Consideration of Material Suitability

- **Reduced Usage:** In response to the circular economy, the use of virgin materials is minimized from the beginning of the product lifecycle, and
  - Implement standardized component design, defining 38 categories of parts, with an estimated 305 part numbers to be designated as PCL (Preferred Component List) to enhance component sharing.
  - 21 hardware circuit design modules have been defined, with 8 modules completed and introduced into mass production in key projects, while the design and verification of 13 modules are ongoing.
- **Use of Recycled Materials:** Zyxel Communications uses 95% PCR (Post-Consumer Recycled) plastic materials in product structural design and thermal requirements. At the end of 2022, the first green product with an outer casing made from PCR plastic was launched.
  - By the end of 2024, all Zyxel green product casings are expected to be made from PCR recycled plastic.
- **Consideration of Raw Material Ecological Characteristics:**
  - **Selection of Components with Green Certifications:** IC chipsets and power supplies are certified by RoHS, Energy Star, ErP, CoC, etc., with 100% of the PSUs meeting ErP and RoHS standards.
  - **Implementation of Hazardous Substance Management**: Products are designed and developed with priority given to user safety and health, complying with RoHS, WEEE, ErP, and REACH standards. The 2023 report from the European Rapid Alert System for Dangerous Products (RAPEX) indicated that Zyxel Group produced zero unsafe products.



2. **Product Structure Design:** Focuses on "simplification," "standardization," and "modularization"

Aiming to reduce unnecessary hardware design to lower energy consumption and decrease product size, thereby reducing carbon emissions. Cloud-based CAD tools with AI computation are used to optimize product structure design, achieving the same structural strength with minimal plastic usage.

Execution Results:

- Completed the revision of the green product design guide, including PCR plastic, plastic-free packaging, recycled aluminum, etc.
- Implemented 38 projects focused on easy assembly/disassembly, achieving a 100% completion rate.
- Implemented 37 redesign projects, with a completion rate of 97.37%.
- Integrated PCR recycled plastic into product casings in 16 projects.
- Fully implemented plastic-free packaging design (except for special customer requirements/EMS).
- Achieved over 85% pallet stacking utilization in 41 projects, with a completion rate of 83.67%.
- Adopted single PCB designs in 30 projects to avoid using multiple boards, achieving a completion rate of 71.43%.

3. **Product Usage Design:** Guided by the principles of "High Efficiency," "Energy Savings," "Low Impact," and "Extended Product Lifespan," aiming to enhance the practicality and satisfaction of consumers with the product.

Aiming to enhance the practicality and satisfaction of consumers with the product.

Energy-saving Design:

- Software Energy-saving Design
  - Power-saving Mode: Automatically enters power-saving mode when Ethernet connection is inactive.
  - Wake-up Mechanism: Continuously maintains power-saving mode until network activity resumes.
  - Scheduling Mode: Schedules Wi-Fi connection status based on user habits. Hardware Energy-saving Design
- Hardware Energy-saving Design
  - LED Indicators: Zyxel Communications Use highly efficient LED bulbs; reduce default LED brightness; adjust brightness through buttons or software.
  - External Power Supply: Choose power supplies certified by RoHS, Energy Star, ErP; high-efficiency energy conversion: >90% DC/DC conversion; optimized energy supply for Type C power supply.

Easy Refurbishment : Casing design facilitates easier maintenance and refurbishment, meeting low-impact requirements.

- Snap-fit Design to replace Adhesives and Hot-melt
- Adhesive-free Assembly: Back and front covers are assembled without adhesives, allowing technicians to disassemble the product casing during refurbishment without special tools
- Textured Design: Special embossed texture design on the back cover prevents scratches during refurbishment

Durability: Prolongs the product's lifespan

- Meets IP68 Standard: Our high-end outdoor routers comply with the IP68 standard, ensuring the product can operate in extreme environments.
- Built-in SFP/SFP+: Incorporates SFP/SFP+ casing, supports various network architectures and aiding service providers in seamless upgrades using the same product, thereby avoiding wastage during technological upgrades.

C. Sustainable Manufacturing

We focus on the inputs and processes during manufacturing, including source management of raw materials, clean production efficiency at the supplier end, output from the manufacturing process, the product itself and its provided services, and the byproducts of production and the related processes. All material flows, including energy and resource flows, related to these inputs and outputs are the environmental footprint concerns we have for the manufacturing process. Through a comprehensive assessment of environmental performance indicators, we consider the results and impacts, quantitatively analyzing the value created for society and its correlations.

We are verified by ISO 14001:2015 Environmental Management System and ISO 45001:2018 Occupational Health and Safety Management System, aiming to maintain the effectiveness of the environmental health and safety management system. We continue to promote continuous improvement activities, develop improvement plans, assess their effectiveness, and undergo annual external audits conducted by verification bodies.

Additionally, we have obtained IECQ QC080000:2017 certification for hazardous substance process management, ensuring that all products comply with customer and relevant regional requirements for hazardous/substance restrictions and recycling directives. We go beyond standard requirements to establish internal requirements for green products, environmental protection, safety, health, and the manufacturing environment and processes.

Sustainable Raw Materials

Policy

Zyxel Group is committed to sustainable raw material management, covering the entire process from sourcing to the production and sales of the final product. By actively collaborating with internal and external stakeholders, we aim to use resources responsibly and reduce environmental impact. Our approach to manage and utilize raw materials aligns with sustainable development principles, promoting environmental protection, sustainable resource utilization, and supply chain transparency. Zyxel Group has established the "Sustainable Raw Materials Policy," which has been approved by the Board of Directors.

Strategy

- Strictly adhere to international hazardous substance environmental management standards and customer requirements to ensure product design and manufacture comply with relevant regulations.
- Implement sustainable raw material actions to minimize the negative impact of raw materials on sustainable development.
- Promote the concept of a circular economy by continuously increasing product sustainability and the use of recycled materials.
- Increase the use of third-party verified raw materials to ensure sustainability and verifiability of raw material sources.
- Collaborate with business partners and value chain stakeholders to implement best practices for sustainable raw materials.
- Identify and protect globally and nationally significant biodiversity conservation areas, avoiding the use of raw materials that may originate from these areas to reduce ecological impact.

Sustainable Raw Material Actions

- Raw Material Selection Priorities

Implement Life Cycle Assessment (LCA) to evaluate the entire life cycle of raw materials, including resource consumption and environmental impact. Recycling is the key consideration, involving not just end-of-life processing but also material recovery and reuse. We analyze "closed-loop recycling" and "open-loop recycling" and find that recycling plastic products can significantly save about 97% of production energy, optimizing resource circulation and reducing waste.

- Tracking Raw Material Sources

Apply LCA to trace the environmental impact of products from raw material procurement, manufacturing, usage, to disposal, identifying carbon emission hotspots and requiring third-party verification. Zyxel Group emphasizes the "Reduce, Reuse, Recycle" (3Rs) principle to minimize waste, extend product life, and increase recycling rates, thus reducing overall environmental impact.

- Reducing Negative Environmental Impacts of Raw Material Production

Use Life Cycle Impact Assessment (LCIA) to identify environmental impacts from raw material procurement to final disposal, highlighting the most significant environmental impact stages to guide sustainable design and operational decisions. Analyze environmental issues like Global Warming Potential (GWP) and Ozone Depletion Potential (ODP), using data and model results to implement eco-design measures, support policy development, and identify opportunities to reduce environmental impacts, providing scientific basis for product environmental labeling.

- Reducing Negative Social Impacts of Raw Material Production

According to ISO 14020 series standards, disclose environmental information about products and services, and attach environmental labels on products, sustainability reports, or promotional materials. These labels are based on scientific and fair assessment methods to help consumers understand the environmental impact of products and make more informed choices.

- Setting Targets for Sustainable Raw Material Shares and Recycled Material Ratios

Provide transparent environmental information about products based on ISO 14025 Type III environmental labels, showing specific environmental data and benefits. Since 2022, we have implemented this environmental declaration system, aiming to set targets that meet all customer needs and improve continually to achieve consensus.

- Reporting Progress on Sustainable Raw Material Procurement Targets

Require all suppliers to obtain ISO 14064-1 verification statements from third-party certification bodies to promote LCA concepts and self-emission source identification, achieving 100% completion. Next, we require key component (e.g., PWBA, power adapters, PCB motherboards, Ethernet cables, BOSA, plastic mechanical parts) suppliers to obtain ISO 14067:2018 verification, with 42% progress to date. In the next phase, we will focus on reduction requirements and plans according to the ISO 14064-2 and ISO 14068-1 standards.

- Trainings for Raw Material Management Personnel

Provide training on LCA and ESG basic concepts to business teams in order to effectively interact with customers and understand their needs. All LCA analysis team members hold ISO 14067 Lead Auditor qualifications. After receiving business feedback, they conduct professional analysis to support decision-makers in ESG strategy formulation and assist the procurement team in setting targets. To foster knowledge of sustainability and the capability to procure sustainable raw materials, training courses for supplier management personnel are offered, including basic and advanced versions of "Supplier ESG Education Training Materials," to integrate sustainable procurement concepts into supplier selection and management.

D. Green Packaging & Shipping

1. Product Packaging

Suppliers are required to adhere to the EU "Packaging and Packaging Waste Directive," with "Reuse," "Recycle," and "Reduce" as the primary guiding principles. *Note

Green Packaging Design Principles:

- Ensure materials are recyclable and biodegradable.
- Avoid the use of single-use plastics.
- Optimize product packaging proportions.
- Clearly label recycling and disposal information.

Reuse /Recycle

- Plastic-free packaging design, avoiding the use of plastic film or coatings. No toxic inks, adhesives, or hazardous substances, using halogen-free or soy-based inks for printing.
- Select packaging paper and supply chains with FSC certification.
- Use recyclable single packaging material.
- Utilize recycled fibers.

Labeling Materials and Recycling Symbols

Design of Single Recyclable Corrugated Cardboard Packaging Box

Note: The Zyxel Group's Sustainability Committee's Green Product Team has established the Group's Green Product Design Guidelines. Due to differences in business sales scope and customer attributes among the various subsidiaries under the Group, product designs need to adhere to local regulations and customer requirements. Therefore, actual designs for green products may differ from the general principles mentioned above.

Reduced

While prioritizing product protection, design packaging with minimal materials to minimize the packaging size for optimal design. This not only reduces manufacturing and transportation costs but also lowers carbon dioxide emissions.

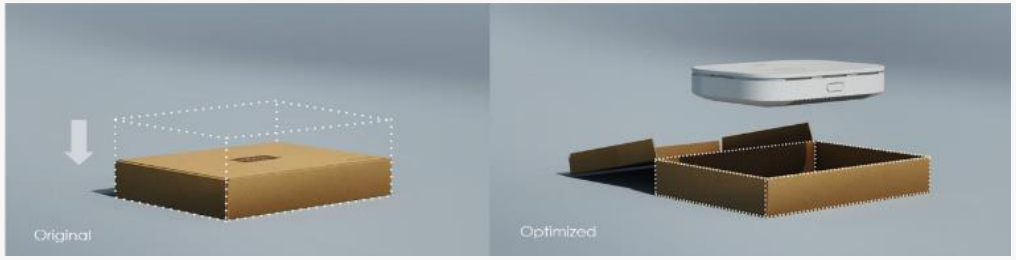
- Avoid overpackaging and minimize packaging volume and weight.
- Use single-color black and white printing and reduce the printing area.
- Reduce unnecessary printed materials.

Monochromatic Printing in Minimal Area

Eliminate PE bags and plastic ties for products and accessories, using paper packaging for essential accessories instead.

2. Product Transportation

Optimizing pallet utilization and product loading efficiency are key focuses in transportation design, as increasing loading rates can significantly contribute to carbon reduction. By refining product casing designs to reduce packaging volume, standardizing pallet specifications, and adjusting packaging dimensions, Zyxel Group aims to enhance the stacking and loading efficiency of pallets and containers. This approach not only increases the quantity of products transported per shipment but also substantially reduces greenhouse gas emissions during transportation, aligning with carbon reduction and environmental sustainability goals.



E. Green End of Life

We require the suppliers to adopt the 3Rs and disassembly process in the product recycling phase as the guiding principles for product design when designing products. We also provide proactive guidance for the suppliers in completing WEEE surveys and preparing 3R reports on an irregular basis to create a "product recycling library" for the reference of recycling companies and consumers from different countries for recycling and disassembly, thereby fulfilling the obligation to actively inform.
The companies also register for WEEE separately in European countries and/or enroll in WEEE programs jointly and take direct responsibility for finance and management. In addition, we report real information on their products and the sales thereof, ensure there are appropriate measures in place, and collaborate with distributors complying with the WEEE legislation of the countries where they operate.

F. Carbon Footprint Disclosure

Product Carbon Footprint Inventory Plan

The Company's "Product Carbon Footprint Inventory Plan" adopts the concept of source management, where life cycle thinking is introduced at the initial design stage of products. Thus, by initiating the plan, we incorporate the product design process into the environmental impact assessment and take every possible chance to minimize the direct and indirect environmental impacts of the products so as to achieve the aim of the Product Carbon Footprint Inventory Plan, i.e., implementing the eco-friendly/ecological/sustainable design and manufacturing of our products.

Product Carbon Footprint and Environment Carbon Footprint Calculation Platform

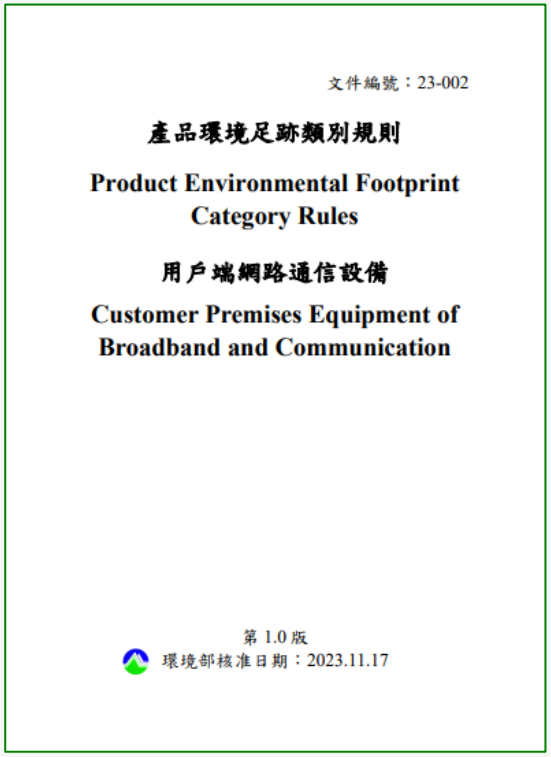
Starting 2021, in Zyxel Group undertook the initiative of independently developing a product carbon calculation platform and implementing a life cycle assessment software database. Through these efforts, we assist Zyxel Group in presenting the environmental impacts caused during product design, development, and manufacturing in various indicator forms such as carbon footprint, water footprint, ozone depletion, etc. We transform these environmental impact indicators into further analytical indicators for human health and natural resource consumption. This empowers us to provide assessment data on the environmental friendliness level to end customers during service delivery, and helps us fulfill our commitment to achieving net-zero emissions.

National Standard for "Environmental Footprint Category Rules for Network Communication Equipment Products"

In 2023, Zyxel Group, represented by its subsidiary Zyxel Communications, collaborated with Chunghwa Telecom, a leading domestic telecommunications company, to develop the "Product Environmental Footprint Category Rules (PEFCR) for Network Communication Equipment." In the fourth quarter of 2023, this standard was reviewed and approved by the Ministry of Environment and released as the "23-002 Product Environmental Footprint Category Rules - Network Communication Equipment" standard.

Following this standard, manufacturers of network communication equipment can calculate the environmental footprint of their products, including the product carbon footprint. The PEFCR ensures that products of the same type and function have a consistent baseline when calculating environmental information disclosures (e.g., product carbon footprint), ensuring fairness, transparency, and consistency.

The "23-002 Product Environmental Footprint Category Rules - Network Communication Equipment" standard is publicly available for download on the Ministry of Environment's website at the following link: link!



文件編號：23-002

產品環境足跡類別規則

Product Environmental Footprint Category Rules

用戶端網路通信設備

Customer Premises Equipment of Broadband and Communication

第 1.0 版

環境部核准日期：2023.11.17

G. Green Channel

1. Green Marketing

Zyxel and ZNet use virtual websites in conjunction with physical stores to sell their products via online e-commerce platforms. Despite having no warehouses and shelves, the companies can, with the Internet enabling two-way interaction with consumers, not only cut their marketing costs, but also greatly reduce the environmental impacts caused by the sale of the products through physical channels.

In addition, ZNet has offered an online security license subscription service for its B2C service platform, Zyxel Marketplace, and further planned to release its own e-commerce platform allowing the direct purchase of its hardware equipment in Europe in Q4 2022 to expand its online marketing services.

2. Green Education

Through the quick after-sales services and systems, Zyxel and ZNet carry out a series of educational green product marketing campaigns and selling programs for consumers to raise their awareness of green products and motivate them to purchase the products. Green education and products can thus be promoted by changing the consumers' awareness/attitude and buying behavior on an experiential basis.

Zyxel Group spares no effort to disseminate eco-friendly concepts. Internally, the Company actively implements green product design and encourages the employees to take part in environmental protection events. Externally, we are dedicated to proactive interaction and cooperation with government agencies, communities, and industries in the hope of ingraining the concept of a green environment and fulfilling corporate responsibility with our influence as an international enterprise.

Promotion of Green Design

Zyxel and ZNet products are designed to be highly efficient and energy-efficient, to cause less pollution, and to have longer lifespans. Their design employees are also required to view consumer value, practicality, and satisfaction as considerations when designing the products. Related energy-saving technologies have been put into practice as follows:

- Automatic power consumption adjustment based on the status of the connected household appliances
- Automatic power consumption adjustment based on the length of network cables
- Wireless network connection timing
- Automatic device hibernation
- Custom PoE Power Scheduling Feature (Zyxel Networks)
- Smart energy-efficient fans
- Smart Ethernet energy-saving function

Improvement of Employees' and Consumers' Green Awareness

- Encourage the employees to participate in internal environmental protection and energy-saving campaigns such as electricity saving in offices, waste battery recycling, etc.
- Actively join environmental protection activities in the community, e.g. the science park' s Industrial Safety and Environmental Protection Month events
- Organize environmental protection experience sharing sessions
- Post articles with green topics
- Employee Carbon Footprint Label Design Competition

Friendly Workplace

A. Diversity & Inclusion Recruitment

B. Human Capital Development

C. Human Right

D. Workplace Health & Safety

Friendly Workplace

Talent is the most valuable asset supporting the continuous growth of the company. In addition to fostering an innovative and diverse company culture, we are committed to providing employees with a challenging, enjoyable, and fairly rewarding work environment.

We prioritize the hiring of local employees at our operational sites around the world, encouraging contributions from marginalized groups. In addition to establishing comprehensive management systems to safeguard employee rights, providing smooth labor-management communication and complaint channels, we also offer competitive compensation and benefits, launch a variety of work-life balance programs, and ensure a safe and healthy working environment, all aimed at nurturing the holistic well-being of our employees.

Through a comprehensive education and training system and employee development planning, we assist employees in enhancing their professional skills and personal growth, making them a crucial driving force for the company's sustainable development.

Sustainable Strategy: Creating Shared Value

Major Issues: Talent attraction & retention Talent cultivation & development Human Right Management Workplace Health & Safety

Stakeholders: Employee Supplier Government

SDGs

Performance Highlights

Sustainable Leadership in a Healthy Workforce Top 10% in the Electronics industry	Women in Tech 19.4% of Senior Executives are Women 25.7% of STEM Positions Held by Women	Human Capital Return on Investment 7.98	Average Employee Training Hours 29.5 hours Average Training Cost per Employee NTD 1,703	Conducted Human Rights Due Diligence
Major Human Right Violations 0 cases	Completion Rate of Human Rights-Related Training 97.7%	Occupational Safety Education Coverage Rate 99.6%	Major Occupational Accidents 0 cases	Conducted Employee Engagement Survey

Policies

Build a friendly workplace

Provide a good working environment, pay attention to employees' physical and mental health and career development

Protect the rights and interests of employee

Diversity and inclusion, human rights protection, no discrimination, bullying, harassment

Commitment

- Support and respect, within its sphere of influence, the protection of international human rights set out in the United Nation’ s Universal Declaration of Human Rights, the International Labor Organization’ s (ILO) fundamental conventions and the Global Compact.
- Restrict any discrimination, harassment or persecution in the workplace. Forbid any discrimination regarding race, color, religion, national origin, gender, age, disability, sexual orientation, gender identity, pregnancy, political factions and marital status.
- Provide a safe working environment and require extensive training and safe equipment.
- Employees must be committed to maintaining a safe and healthy work environment by employing all safety operation procedures and principles while conducting business.

Friendly Workplace Objectives and Results

Strategy	Issue	Operational Impact	Strategic Actions	Performance Indicators	2023 goal	2023 Achievements	Status	Goals			SDGs
								2024 short-term	2027 mid-term	2030 long-term	
Creating Shared Value	Talent attraction & retention	Attracting and retaining top talent can enhance operational performance.	Monitor market salary trends to ensure competitive total compensation.	Indirect employee turnover rate	<15%	11.4%	V	<15%	<14%	<12%	
	Talent cultivation & development	Diverse training programs will attract and retain talent	Provide diverse talent training programs	Annual training program completion rate	>90%	96%	V	>92%	>93%	>95%	
			Ensure professional skills training opportunities for staff	Satisfaction with professional skills training courses (Maximum score: 5 points)	>4	4.65	V	>4	>4.1	>4.3	
	Human Right Management	Maintain human rights to establish a sustainable work environment	Focus on women’ s career development	percentage of female managers	-	30.6%	V	>30.7%	>30.8%	>31%	
			Human rights awareness promotion	Completion rate of human rights training courses	>97%	97.7%	V	>98.5%	>99%	100%	
	Employee Care	High-Quality Work Environment and Employee Care to Enhance Employee Engagement	Providing Comprehensive Employee Facilities Offering Diverse Employee Activities	Employee Activity Satisfaction Rate	≧80%	80%	V	≧80%	≧82%	≧85%	
	Workplace Health & Safety	Maintain a safety-first work environment to ensure continuous operations and steady growth.	Promote a safety culture	Coverage rate of occupational safety education courses	>98%	99.6%	V	>98.5%	>99%	100%	
			Implement preventive management	Number of major occupational accidents	0	0	V	0	0	0	

A. Diversity and Inclusion Recruitment

Human resource structure

As of the end of 2023, Zyxel Group employs 3,893 people. Of these, 78.4% are permanent employees, 0.7% are temporary staff, and 20.8% are dispatched workers. Among the permanent employees, 16.6% are supervisors, 54% are professionals, 8.6% are administrative staff, and 20.8% are direct workers. The gender distribution is 56.5% male and 43.5% female. Due to the characteristics of the technology industry and the employment market, there are more male employees than female, but the overall male-to-female ratio remains balanced. Geographically, 64% of employees are based in Taiwan, at the headquarters of the parent company and its subsidiaries. The average age is between 30 and 50 years, with an average tenure of nearly 6.5 years. The human resource structure supports the company's steady growth.

	Categories	Zyxel Group			MitraStar			Zyxel Communications			Zyxel Networks			Total Number / Proportion		
		Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Total
Type	Full-time	47	85	132	834	801	1,635	425	222	647	431	209	640	1,737 / 56.9%	1,317 / 43.1%	3,054 / 78.4%
	Contract	0	1	1	0	0	0	4	0	4	15	8	23	19 / 67.9%	9 / 32.1%	28 / 0.7%
	Temporary	0	0	0	430	362	792	13	4	17	1	1	2	444 / 54.7%	367 / 45.3%	811 / 20.8%
	Total	47	86	133	1,264	1,163	2,427	442	226)	668	447	218	665	2,200 / 56.5%	1,693 / 43.5%	3,893 / 100%

	Categories	Zyxel Group			MitraStar			Zyxel Communications			Zyxel Networks			Number/Proportion by Type		
		Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Total
Job	Manager	22	21	43	163	71	234	97	32	129	75	27	102	357 / 70.3%	151 / 29.7%	508 / 16.6%
	Professional	20	35	55	438	201	639	311	146	457	343	154	497	1,121 / 67.5%	540 / 32.5%	1,661 / 54.4%
	Administration	5	29	34	21	107	128	18	43	61	12	29	41	57 / 21.3%	211 / 78.7%	268 / 8.8%
	Direct Employee	0	0	0	212	422	634	0	0	0	0	0	0	212 / 33.4%	422 / 66.6%	634 / 20.8%
Locations	Taiwan	45	85	130	440	477	917	296	173	469	275	164	439	1,056 / 54.1%	899 / 45.9%	1,955 / 64.5%
	Asia	2	0	2	394	324	718	4	4	8	31	20	51	431 / 55.3%	348 / 44.7%	779 / 25.5%
	Americas	0	0	0	0	0	0	49	21	70	14	1	15	63 / 74.1%	22 / 25.9%	85 / 2.8%
	Europe	0	0	0	0	0	0	76	24	100	110	25	135	187 / 56.4%	50 / 21.1%	237 / 7.8%
Age	<30	2	9	11	136	168	304	60	26	86	74	33	107	276 / 53.6%	239 / 46.4%	515 / 16.9%
	30-50	32	64	96	632	572	1,204	283	171	454	306	161	467	1,259 / 56.4%	972 / 43.6%	2,231 / 73.1%
	>50	13	12	25	66	61	127	82	25	107	50	16	66	211 / 64.9%	114 / 35.1%	325 / 10.6%
Average Tenure		10.5	8.5	9.2	7.2	5.6	6.4	7.1	7.0	7.0	6.8	6.8	6.8	6.9	6.8	6.9

Note: The employee numbers for all companies include their overseas subsidiaries, except for Zyxel Group, which does not include the subsidiary Black Cat Information, and MitraStar, which does not include the subsidiary XSquare Communications Corporation.
Note: Permanent employees refer to full-time employees with a permanent contract. Part-time employees include those with no guaranteed hours, short-term contract staff, and interns.
Note: Employees classified as dispatch workers are primarily support staff for the Wuxi MitraStar production line.

Comprehensive Talent Recruitment

In an effort to promote all-round talent solutions, the Company ensures a good work environment and integrates the resources from industry, academia and the government for organizing various recruitment campaigns, developing online exposure, and engaging in interactions on social media.

Talent is recruited through physical channels, including employee reference programs, campus recruitment, campus internship programs, industry-academia cooperation, and R&D substitute services. Newsletters are used for internal marketing. We also run the Company's website, social media, Facebook page, LinkedIn page and YouTube channel to increase reach.

Young Talent Cultivation

Committed to empowering future young talents, enhancing competitiveness, and promoting the development of network communication research and technology, Zyxel Group focuses on campus talent development. Through initiatives such as "Internship Programs" and "Industry-Academia Collaboration," the company actively nurtures future talents in network communication research and technology.

Campus Recruitment: In Taiwan, the campus recruitment activities take place annually during the recruitment season in March to April. Each session involves HR staff paired with engineers, aiming to provide participants with not only basic information about the company but also an in-depth understanding of network communication expertise. Depending on the situation, various interactive games may be prepared to engage the public and further enhance the company' s image in the network communication field. In 2023, Zyxel Group participated in campus recruitment activities at four universities.

Internship Program: Zyxel Group's university internship program offers students the opportunity to engage in internships ranging from one semester to one year through face-to-face interviews. Interns receive compensation that exceeds the statutory minimum wage, free lunch, and dedicated guidance from departmental staff. This program allows interns to experience the operations of the company' s internal information services department while integrating their academic knowledge and accumulating practical experience.

Campus Recruitment Marketing and Internal Referrals

Recruitment Social Media Management

FB: link!

LINKEDIN : link!

2. Diverse and Inclusive Workplace

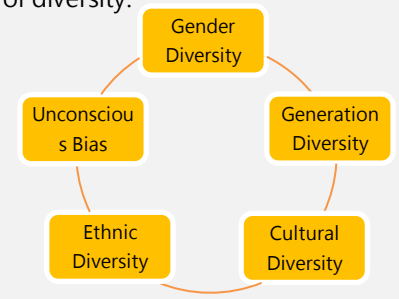
Zyxel Group and its subsidiaries across global operations adopt an open and fair approach, utilizing diverse channels to recruit outstanding talent. We comply with local regulations and the RBA (Responsible Business Alliance) Code of Conduct. Employment decisions are made without discrimination based on race, color, religion, nationality, gender, age, disability, sexual orientation, pregnancy, political affiliation, or marital status. We do not employ child labor or forced labor and ensure the protection of the rights of minorities, individuals with disabilities, women, migrant workers, and non-employee workers.

Zyxel Group adheres to the RBA Code of Conduct and local regulations, and has established procedures such as the "Recruitment and Labor Management Procedure," "Employee Code of Conduct," and "Employee Appointment Regulations," dedicated to building an equal opportunity and inclusive workplace.

Diversity and Inclusion Policy

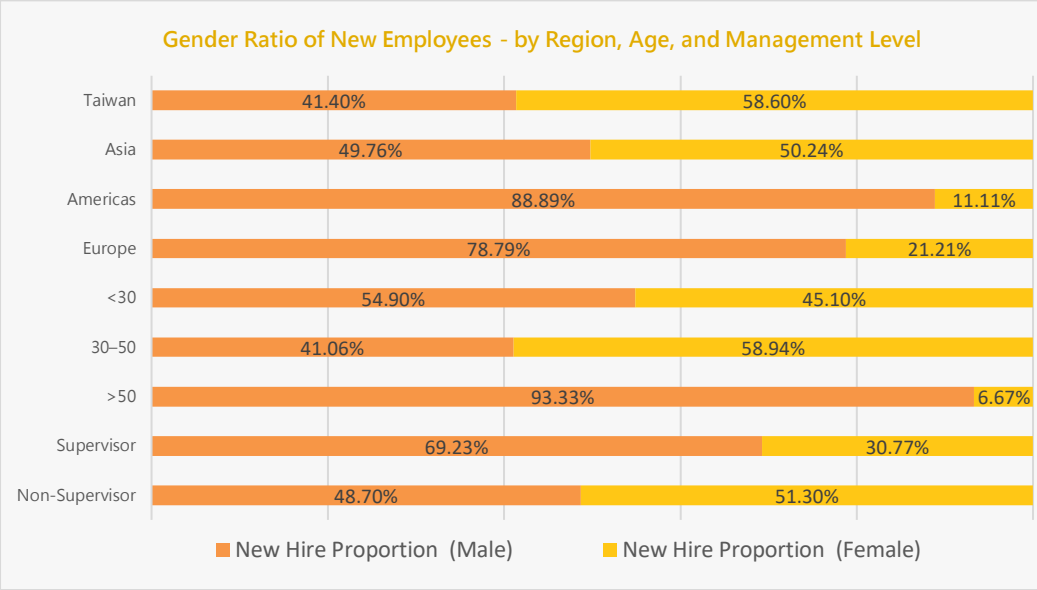
Zyxel Group provides a friendly workplace of gender equity, generational inclusion, and cultural diversity. Our employees with different cultures and experiences around the world learn from and communicate with each other to form collaborative cohesion and contribute to the Company in their own ways.

The "Zyxel Group Diversity and Inclusion Policy" has been established to implement relevant action plans. Different action plans in line with the policy aiming for diversity and inclusion are developed according to the definitions of diversity.



Number of New Hires / New Hire Rate in 2023

	Indirect Employee		Direct Employee	
	Number of Employees	New Hire Rate	Number of Employees	New Hire Rate
Taiwan	114	7.3%	72	18.0%
Asia	39	7.1%	793	340.3%
Americas	9	10.6%	-	-
Europe	33	14.0%	-	-
≤30	66	20.1%	526	292.2%
31-49	114	6.3%	339	81.3%
≥50	15	5.2%	0	0.0%
Supervisor	13	2.6%	0	0.0%
Non-Supervisor	172	6.8%	865	136.4%
Total	195	8.1%	865	136.4%



Enhancing New Hire Retention

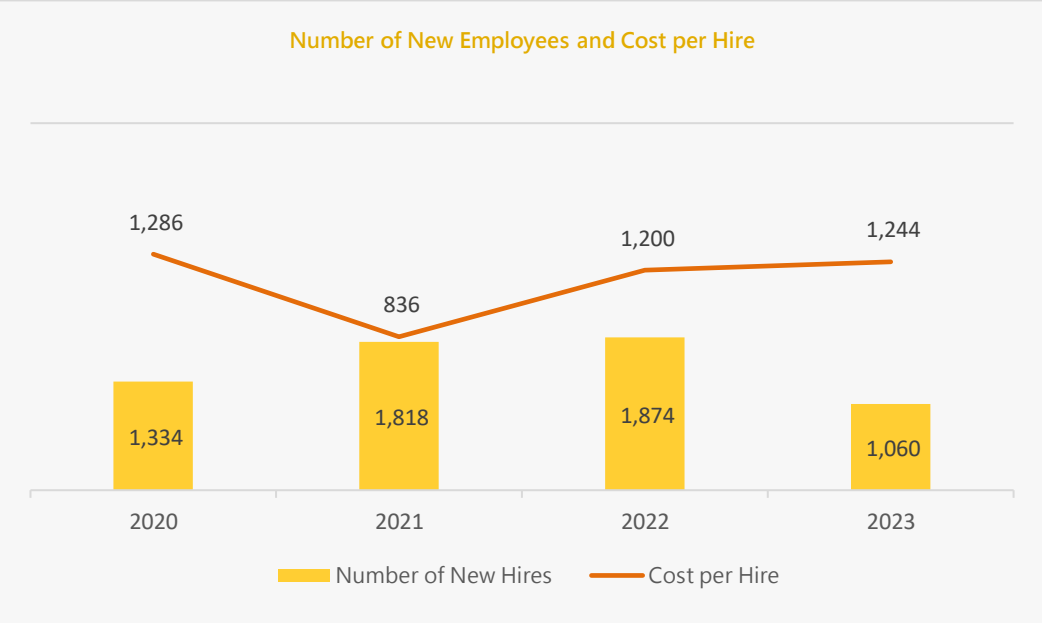
Establishing an Indirect Personnel Newcomer Care Mechanism:

Design a satisfaction survey for new hires one month after joining, complemented by newcomer care interviews. This aims to strengthen the integration of new hires with their mentors and departments, provide timely assistance for any adaptation issues, and effectively stabilize new employees.

Establishing Direct Personnel Newcomer Training:

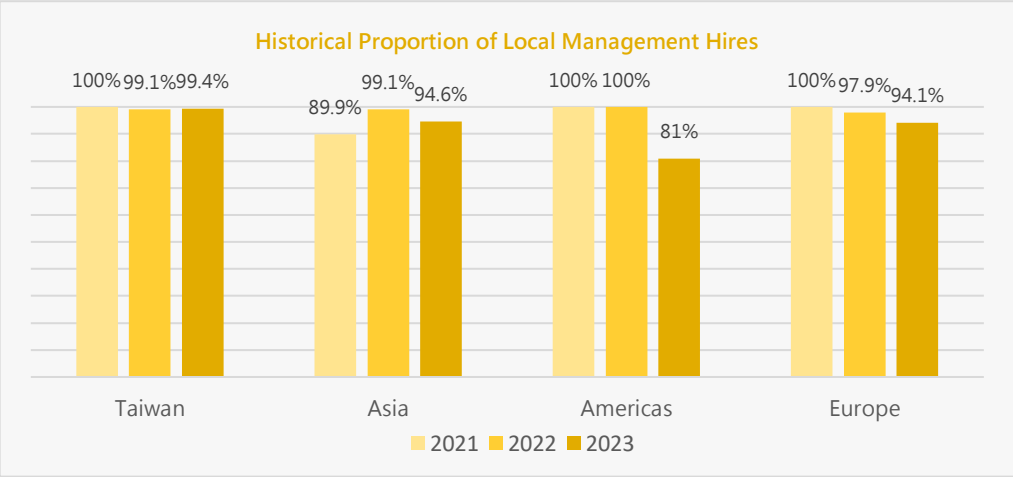
To reduce instability among new hires on the production line, design specialized training for direct line employees. The training includes company policy introductions, environment orientation, ESG courses, occupational safety courses, production line quality/green products, ESD/6S, and more.

In 2023, the turnover rate for new hires decreased by 5% at Zyxel Communications compared to the previous year, and by 4% at MitraStar.



Local Employment

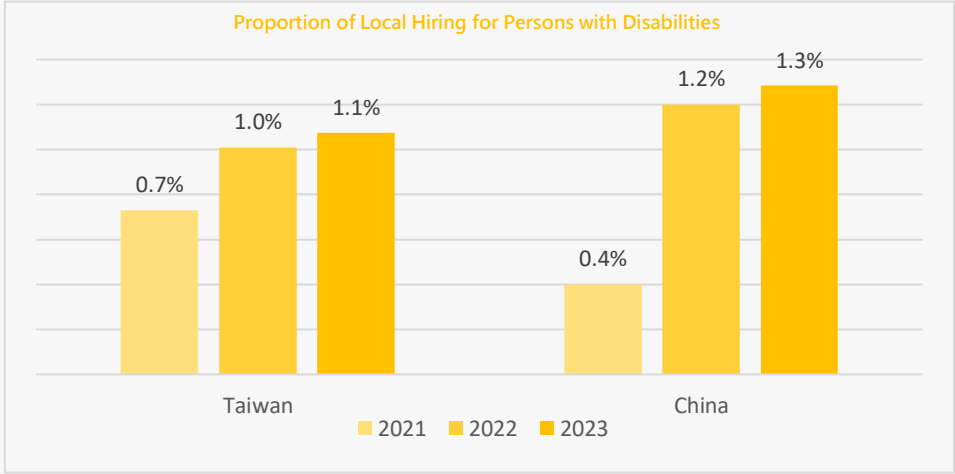
Our overseas business and sales locations engage local talent. Most of the top management of our overseas subsidiaries are locals. We use the local talent to fully understand the local market situation and thereby adopt management approaches in line with local customs. Local Hiring is based on employing individuals who hold the nationality of the country where the operation is located. In 2023, the number and proportion of local managers hired in each region were as follows: Taiwan - 323 people, representing 99.4%; China - 88 people, representing 94.6%; Americas - 17 people, representing 81%; Europe - 48 people, representing 94.1%.



Employment of Individuals with Disabilities

Zyxel Group provides job opportunities for individuals with disabilities to ensure fair employment practices and offers facilities such as ramps, elevators, and accessible restrooms. In 2023, the number and proportion of employees with disabilities hired in each region were as follows: Taiwan employed 21 individuals with disabilities, representing 1.07% of the total workforce, in compliance with local regulations. China employed 10 individuals, representing 1.3%.

Note: According to Taiwanese regulations, the employment of individuals with severe disabilities is counted as 2 employees per person. In Taiwan, the total number of employees with disabilities includes 15 with mild to moderate disabilities and 3 with severe disabilities, totaling 21.



Employment of Minorities

Zyxel Group respects the unique cultures of minority groups, and talent recruitment is conducted without discrimination based on race or ethnicity. The company collects information on employee ethnicity to evaluate policies and practices related to equal employment opportunities. We respect individual privacy, and personal data related to minority groups is protected.

Employment of Minority Groups / Proportion in Managerial Positions

	Number of Minority Group Members	Number of Minority Group Managers	Proportion of Minority Group Members	Proportion of Minority Group Managers
Taiwan	22	2	1.1%	0.4%
China	33	0	4.2%	0.0%
Americas	11	2	12.9%	0.7%

Note: In Taiwan, minority groups refer to indigenous people and new immigrants; in China, minority groups refer to ethnicities other than Han; in the United States, minority groups refer to individuals who are not Caucasian or White.

Non-Employee Workers

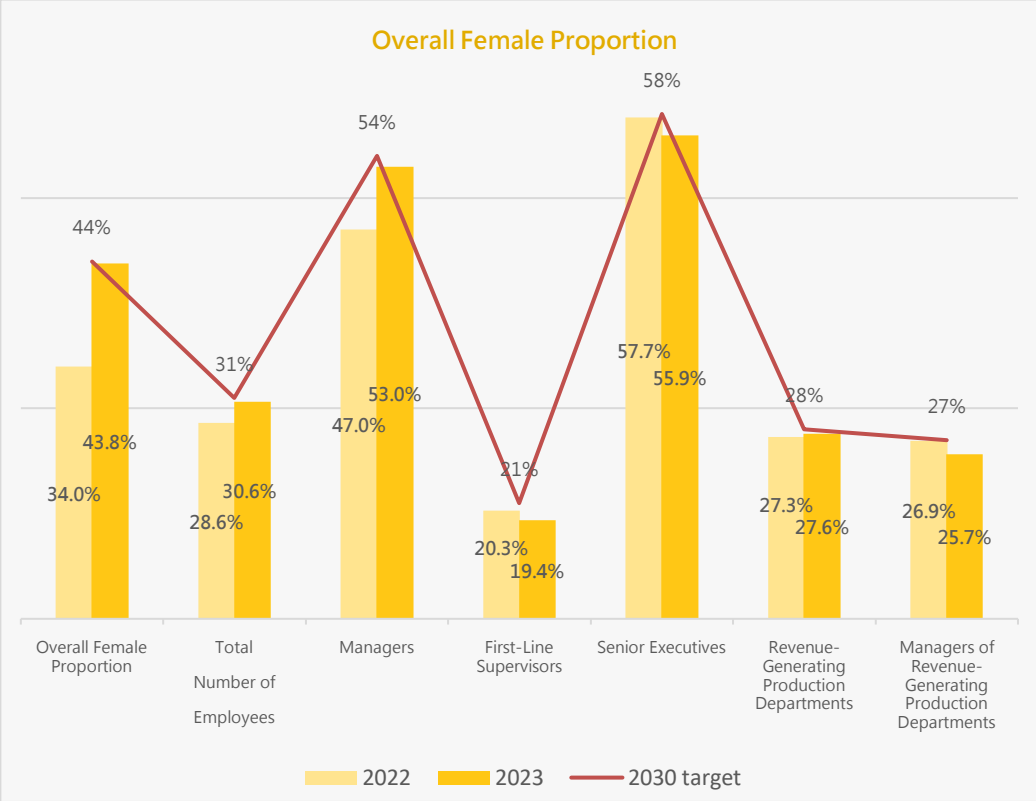
Non-employee workers include temporary staff, as well as contractors engaged in security, cleaning, and catering services, and on-site medical personnel. In 2023, due to manpower shortages caused by production adjustments and the pandemic, MitraStar continued to collaborate with high-quality intermediary companies to allocate a portion of the work to temporary employees. By offering employment conditions that exceed labor law standards and providing company meals, we attracted talent to join our workforce. Additionally, we regularly offer opportunities for temporary employees to transition into permanent positions, aiming to establish long-term and stable working relationships with our staff.

Number of Non-Employee Workers

	Number
Taiwan	68
China	828
Americas	8
Europe	4
Total	908

Gender diversity

Zyxel Group ensures gender equality in employment rights, with no impact on hiring, compensation, or promotion based on gender. Women make up 43.8% of the total workforce, with women managers at 30.6% and women in senior management roles at 19.4%. Women represent 25.7% of STEM positions. Due to the nature of the technology industry, management and professional engineering roles are predominantly male, while women are more prevalent in revenue-generating departments. The proportion of female employees remains stable each year, with a strong focus on the promotion and development of female colleagues, and no significant fluctuations in the percentage of female managers.



Parental Leave & Return to Work

Zyxel Group cares for and respects the workplace environment, allowing employees to care for their families and contribute their skills without worry. We have partnered with childcare facilities to offer discounted rates for employees in need.

When employees need to personally care for family members, they can apply for "Family Care Leave," which allows up to seven days per year. In cases where a new family member requires parental leave, employees can apply for "Parental Leave Without Pay" according to the law. Before the leave ends, the company proactively arranges reemployment planning.

Parental Leave & Return to Work in 2023

	Male	Female	Total
Number of individuals eligible for parental leave (A)	37	46	83
Actual number of individuals applying for parental leave (B)	3	25	28
Parental leave application rate (B/A)	8.1%	54.3%	33.7%
Number of employees qualified to return to work after parental leave (C)	1	17	18
The number of people returning to work after parental leave (D)	1	16	17
Rate of employees returning to work after parental leave (D/C)	100%	94.1%	94.4%
Number of employees returning to work after parental leave in 2021 (E)	4	23	27
Number of people who have returned to work after parental leave and worked continuously for one year in 2021 (F)	4	21	25
Retention rate of employees after parental leave (F/E)	100%	91.3%	92.6%
Paid Parental Leave for Primary Caregivers (weeks)	81.4 weeks		
Paid Parental Leave for Non-Primary Caregivers (weeks)	19.4 weeks		

Note: According to Taiwan's Gender Equality in Employment Act, employees may apply for parental leave without pay. This statistic includes only employees in Taiwan.

Employee Turnover Analysis

In 2023, Zyxel Group had a total of 1,109 employee departures, with a gender ratio of 51.7% male and 49.3% female. When comparing the employee turnover rate in Taiwan to other companies in the same industry, and considering that appropriate talent mobility contributes to the healthy development of the company' s human capital, this turnover rate indicates a relatively stable situation.

Number of Employee Departures / Turnover Rate in 2023

	Indirect Employees		Direct Employees	
	Number	%	Number	%
Taiwan	178	11.5%	75	18.7%
Asia	62	11.4%	759	325.8%
Americas	6	7.1%	-	-
Europe	29	12.3%	-	-
≤30	75	22.9%	507	281.7%
31-49	163	9.0%	324	77.7%
≥50	37	12.8%	3	8.1%
Supervisor	28	5.5%	6	0.0%
Non-Supervisor	247	9.7%	828	130.6%
Total	275	11.4%	834	131.5%

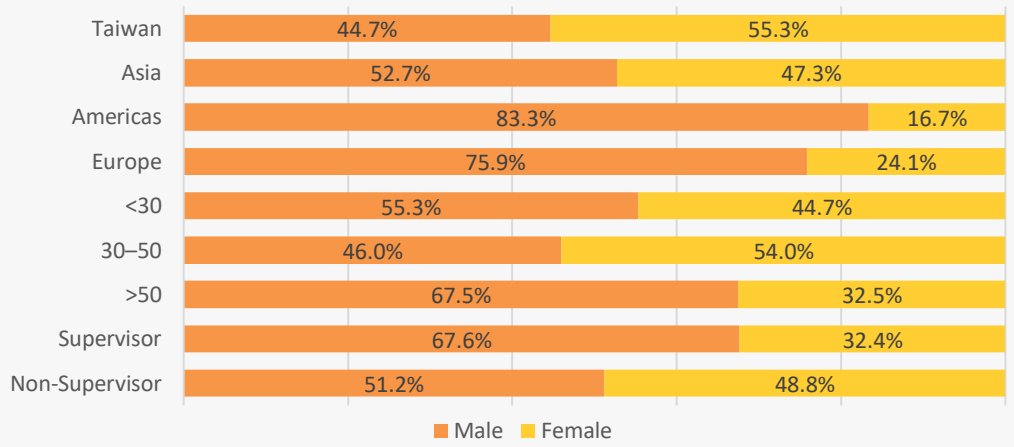
Note: Number of departures refers to full-time permanent employees who left.
lote: The turnover rate is calculated as the number of direct (or indirect) full-time permanent employees who left during the year divided by the total number of direct (or indirect) full-time permanent employees at the end of the year.

Annual Turnover Rate / Voluntary Turnover Rate

	2020	2021	2022	2023
Turnover Rate	41.7%	41.8%	35.7%	36.3%
Voluntary Turnover Rate	38.8%	34.1%	38.1%	34.1%

Note: Total number of employee departures refers to the sum of voluntary and involuntary employee departures.

2023 Employee Turnover Gender Ratio - by Region, Age, and Management Level



Internal Job Replacement Rate

The Group has established succession plans for specific positions, ensuring smooth business continuity through internal training and development programs. Internal job postings are periodically initiated to allow employees to pursue positions that align with their career goals.

Historical Internal Hiring Rate

	2020	2021	2022	2023
Number	12	11	12	11
%	4.7%	3.2%	2.8%	6.1%

Note: Total Number of Indirect Employee Vacancies Filled by Internal Candidates / Total Number of Company Vacancies

Turnover Reduction Strategy

Zyxel Group is committed to long-term talent retention. By integrating group resources, the company enhances organizational weaknesses, improves talent development management mechanisms, career development opportunities, and offers various benefits to increase employee retention.

- Establishing an Exit Interview Mechanism: Supervisors and HR familiar with the organization conduct exit interviews to gather feedback, aiming to reduce turnover rates.
- Building a Key Talent Database: Regularly track and evaluate talent development to retain key employees, assess potential risks, and manage departures to prevent the loss of business secrets.
- Internal Transfer Opportunities: Analyze individual skills, adjust job content and work environment, and offer internal transfer opportunities to retain employees.
- Talent Rehire Program: HR collaborates with department supervisors to regularly review the list of former employees. For those interested in returning and deemed suitable, the company actively provides rehire opportunities.

3. Comprehensive Talent Retention Program

Employees are valuable assets to the company. To ensure long-term employee retention, Zyxel Group has established a high-quality work environment through comprehensive management systems and incentive measures to attract and retain talent.

Compensation

Zyxel Group's employee compensation policy is designed to balance the interests of shareholders and employees, and is governed by the "Salary and Allowance Management Procedure" to ensure that the company's salary and benefits practices comply with legal regulations and effectively protect employee interests.

Starting salaries for new employees are determined based on factors such as educational background, professional knowledge and skills, and years of experience, ensuring that the minimum starting salary is above the statutory minimum wage.

The compensation structure includes base salary, position allowances, shift allowances, and overtime pay, with compliance to local "Labor Standards Act" requirements in Taiwan. To maintain competitive overall compensation, the company provides a comprehensive promotion system and adheres to local regulations. Employees receive timely bonuses based on the company's profitability each year in the first quarter. Additionally, to encourage long-term service and continued contribution, the company offers annual cash bonuses or long-term incentive plans ranging from 1 to 3 years, ensuring that overall compensation remains competitive in the market.

Compensation for all employees is not differentiated based on gender, age, race, nationality, religion, political affiliation, or sexual orientation. It fully reflects individual job performance and aims to achieve fairness and reasonableness while protecting personal information related to compensation.

Bonuses and Employee Rewards

Zyxel Group offers various incentive and reward programs to encourage outstanding performance from employees and teams and to share the company's operational success. These include: Lunar New Year bonuses, year-end bonuses, performance bonuses, special excellence awards, and stock options for high-performing employees.

Lunar New Year Bonuses:

Bonuses are provided annually during the Lunar New Year, Dragon Boat Festival, and Mid-Autumn Festival in Taiwan.

Profit Sharing Bonuses:

According to the "Performance Bonus Guidelines," bonuses are given based on the company's profit achievement rate. These include quarterly bonuses, annual bonuses, and special bonuses, which are provided to both indirect and direct employees to share in the company's profits.

Employee Stock Options:

The "Employee Stock Option Issuance and Subscription Guidelines" are established to offer stock options to high-performing employees. This aims to attract and retain outstanding talent long-term, while also motivating employees, enhancing their engagement, and fostering a sense of belonging.

Rewards for Creative and Inventive Proposals:

With the aim of encouraging employees to be engaged in innovative R&D, Zyxel Group has developed the "Guidelines on Rewards for Creative and Inventive Proposals" to offer rewards for creative proposals, patent application proposals, and invention patents.

Incentive Projects:

A wide range of incentive projects is provided to motivate our employees to give suggestions for job improvements and praise employees for their remarkable performance by posting their contributions on the internal website. In doing so, an incentive and a role model are provided for the employees. Cohesion among the employees can thereby be improved to boost the corporate competitiveness.

Employees of the Year:

Every year, department heads would recommend employees with exceptional performance as candidates for all employees to vote for the "Employees of the Year". Zyxel Group also offers rewards and acclamation to the winners to recognize their achievements.

Reward for Long Tenures:

In the year-end company banquet, employees with long tenures will be rewarded and recognized for their long-time contribution to Zyxel Group.

The ratio of the minimum wage for entry-level personnel to the local statutory minimum wage

Work area	Category	Gender	
		Male	Female
Taiwan	indirect employees	1.44	1.44
	direct employees	1.00	1.00
China	indirect employees	1.32	1.32
	direct employees	1.20	1.20

Gender Pay Gap in Average Base Salary/Total Compensation

Work area	Category	Job Level	Male	Female	
				Average Base Salary	Total Compensation
Taiwan	indirect employees	supervisory position	1	0.79	0.76
		non-supervisory position	1	0.80	0.72
	direct employees	-	1	0.98	0.99
China	indirect employees	supervisory position	1	0.83	0.94
		non-supervisory position	1	0.95	0.91
	direct employees	-	1	1.14	1.16

Gender Pay Gap in Average Salary/Bonus and Median Salary/Bonus

Work area	Category	Male	Female			
			Average Salary	Median Salary	Average Bonus	Median Bonus
Taiwan	indirect employees	1	0.74	0.78	0.62	0.63
	direct employees	1	0.99	0.96	0.85	0.72
China	direct employees	1	0.93	0.82	0.83	0.83
	indirect employees	1	1.16	1.05	0.95	0.98

Benefits Superior to Statutory Regulation

Flexible working hours	We provide one hour of flexibility for the work day' s starting and ending times to help colleagues deal with commuting.
Employee Benefits	• Established the "Zyxel Group Welfare Committee" to organize large-scale events across the entire group: Family Day, annual dinners, sports activities, cultural events, employee travel. • Various subsidies: Subsidies for club activities, Dragon Boat Festival and Mid-Autumn Festival benefits, birthday welfare points, emergency assistance, Employee Assistance Program (EAP). • Group insurance: Providing group insurance for employees and their dependents.
Work environment facilities	The gymnasium includes a multi-sport court, rhythm classrooms, fitness center, and leisure room. We also provide a convenience store, staff canteen, staff dormitory, coffee bar, female breast pumping room, and free parking for colleagues On-site services including banks, insurance services, shuttle bus are also available.
Health improvement	Health inspection services are provided for general employees, supervisors, new employees, and high-risk employees. The inspection items and frequency exceed regulatory requirements. For employees who need medical treatment, Zyxel Group provides one-day medical leave and medical subsidies.
Probationary leave	We exceed the labor law requirements by offering three days of leave during probation.

Insurance & Pension

Zyxel Group provides employees with social insurance that is superior to what the law requires to enhance and protect the basic rights and benefits of employees. In addition to statutory labor insurance and national health insurance, it also provides free group insurance for employees and their spouses and children, including life insurance, accident insurance, critical illness insurance, hospitalization medical insurance, injury medical insurance, cancer medical insurance, and occupational accident insurance. The insurance company's on-site service was also provided: employees can directly conduct insurance consultation and application services inside the company.

The Committee of Employee Pension Reserve Administration has been established in accordance with the Labor Standards Law to supervise the deposit process of pension funds into the Central Trust Bureau. Employees who chose to adopt the new pension system would have 6% of their monthly salaries automatically transferred to their personal pension accounts at the Labor Insurance Bureau.

Note: Due to different minimum salary standards in Asia, Europe, and the Americas, significant differences exist among the subsidiaries in these regions. Therefore, data from these regions are not disclosed. The tables only disclose information for Taiwan and China.
Note: Gender ratio differences are presented with the male ratio as 1.
Note: Average total compensation refers to the annual salary, including the average values of full-time employees' base salary, annual allowances, and bonuses.

B. Human Capital Development

Cultivating talents and learning culture

Based on the strategy of cultivating qualified and potential employees, we provide diversified learning resources and programs to strengthen all employees' professional skills and knowledge. Also, through the principle of knowledge and experience sharing, we encourage our employees to expand their experience level and to accumulate intellectual assets. For our efforts in nurturing talents, we won the bronze medal in the "Talent Development Quality Management System (TTQS)". We believe that good training quality will help our colleagues continue to grow and become an important driving force for the company's continuous advancement.

Human Capital Development Policy

- Consolidate human capital and improve the efficiency of core talent assets
- Cultivate corporate human resources and improve employee performance
- • To meet the needs of organizational development, improve the company's productivity and competitiveness

Human Capital Development Strategy

- Establish a training system for multi-career planning and development
- Provide customized learning consultation and multiple learning channels
- Form an expert network system to provide knowledge inheritance and skill teaching

Human Capital Development objective and result

Sustainable Strategy	Major Issues	Operational Impact	Strategy action	Performance Indicators	2023 Goal	2023 Achievements	Status	Goals			SDGs
								2024 short-term	2027 mid-term	2030 Long-term	
Creating Shared Value	**Talent cultivation & development**	Diverse training programs will attract and retain talent	Provide diverse talent training programs	Annual training program completion rate	>90%	96%	V	>92%	>93%	>95%	
			Ensure professional skills training opportunities for staff	Satisfaction with professional skills training courses (Maximum score: 5 points)	>4	4.65	V	>4分	>4.1 分	>4.3 分	

Human Capital Return on Investment

year	2020	2021	2022	2023
Human Capital Return on Investment	6.16	7.66	8.33	7.98

Note: Return on Human Capital Investment = (Operating Revenue - (Operating Expenses - Employee-Related Expenses)) / Employee-Related Expenses

Talent Development Strategy I:
Create a training system for diverse career planning and development

Corporate University

Founded in 2006 with the aim of training all types of required talent and fostering their core competitive edges. We develop a competency-based training system, offer customized learning consultations and a diverse range of learning channels, and form an expert network system enabling the internal lecturers and consultants to be trained to pass their knowledge on and teach skills.

Rich learning resources

With our systematic management and training plan, we have also expanded our courses through use of on-line e-School learning. Along with internal/external training, all employees have many opportunities to improve their professional skills and their interaction with others. The courses include: new employee training, management courses of all levels, industrial safety, environment protection, marketing, quality assurance, research and development as well as other general and advanced sessions.

In addition to regular training courses, Zyxel also helps employees developing themselves in terms of collaborative ability and personal specialties. The in-depth, all-aspect development projects in turn make it possible for Zyxel Group to benefit from the talents.

Dual-Ladder Career Development

Provide a dual-ladder career roadmap which consists of both management-level

and professional-level career training.

Multiple Career Plans and Development

Development Facet: Job rotation helps provide comprehensive training for Zyxel Group personnel.

Product Facet: Zyxel Group has a great variety of product lines and cross-product development.

Global Facet: Co-work with our subsidiaries and branch offices for a broad international point of view.

Education and Training Focus

Key Talent Development

Select key talent for the organization to carry out training and development plans based on the needs and future development of the organization.

Management Competency Training

Develop indicators for the leadership competencies required for the Group' s management, utilize 360-degree competency assessment tools to identify deficiencies in their management competencies in an objective manner, and continuously enhance the competencies through training.

Professional Competency Training

Set up a department responsible for training and development to draw up a wide range of competency-based talent development programs and training blueprints comprehensively and systematically.

Education and Training System Blueprint

Job Position	Training by Job Level	Training by Competency	General Education and Training	OJT	SD
Strategic level	Leadership competency training for top management	Management strategy, market analysis, competitive edge, international management	Visions and values Core competency courses Quality awareness Occupational safety awareness Information security awareness CSR awareness Customer satisfaction Service quality Interpersonal communication and coordination Microsoft Office utilization Knowledge on network communication products Employee health management Self-encouragement Stress/emotional management	Job instruction Training programs Daily guidance	Further education courses for self-development
Operating level	Training for new management Leadership competency training for entry-level and middle management	R&D positions: Innovative thinking, problem analysis and solving Sales positions: Customer orientation, project management Marketing positions: Project management Customer service positions: Customer orientation, problem analysis and solving			
Management level					
Individual contributor	Basic job management and team communication training				
New employee	New employee training	Education for new employees' transition to their departments			

Key Talent Development

Zyxel Group always values talent training and development. As the industry advances and changes, we put our focus on the departments' needs for key talent development and transformation training and develop a comprehensive talent development process model. A diverse range of training programs is also formulated to ensure that the competencies of the key talent meet the organization's needs and thereby allow them to confront future challenges jointly with Zyxel Group.

Talent Development Process Model

Selection
- Setting of training objectives
- Creation of talent profiles
- Talent selection & communication

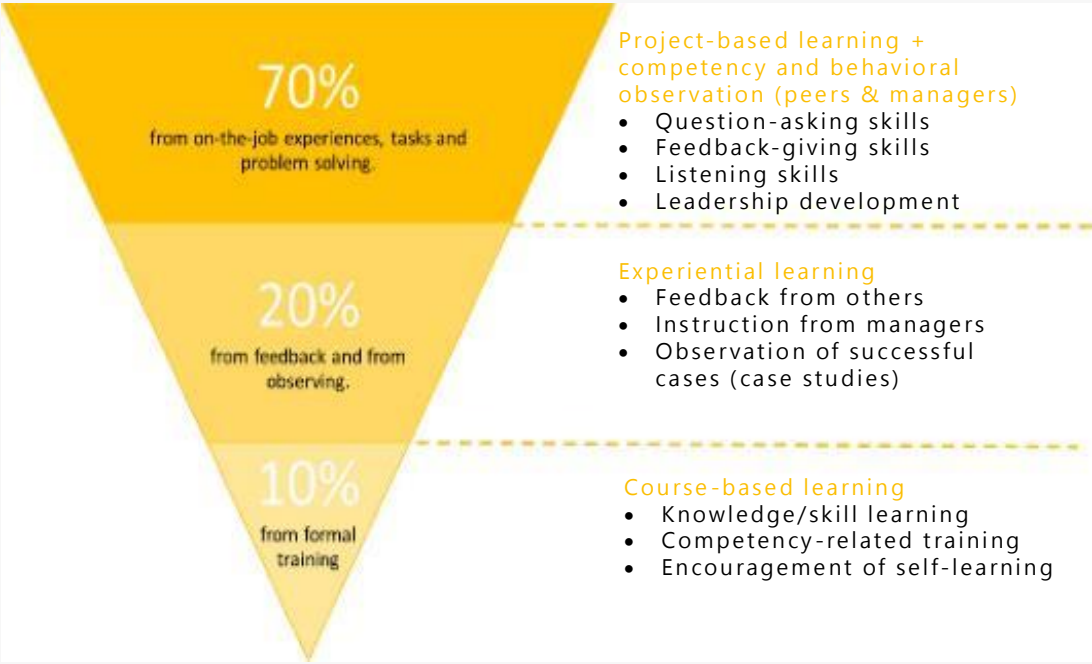
Competency observation/feedback
- Competency evaluation
- Personality tests

Competency development
- Implementation of training programs
- Regular review of program effectiveness

Connection with the HR system
- Connection with performance evaluation, promotion and reward systems

Election of R&D Talent for Transformational Development

The R&D of hardware requires collaboration between R&D, mechanism, and verification departments. To ensure quality and efficiency in meeting the needs of customers, the organization needs integrated leadership roles with technology backgrounds to effectively connect the lateral resources. Therefore, we initiate an HPL (H/W Project Leader) training and development program to follow the talent development process model involving creating a talent profile for a role, selecting key talent with a certain level of R&D experience, and formulating training plans based on the 70-20-10 rule. The hardware R&D engineers are thereby allowed to step out of their field of expertise to learn the competencies of project management professionals (PMPs) and gain knowledge and skills in project management. With the help of project-based and experiential learning, they can also enhance their eight competencies required for being an HPL and make corrections through actual practices during their gradual transition to an HPL.



Talent Development Strategy II:
Offer customized learning consultations and a diverse range of learning channels

Diverse learning channels

According to different job roles and development needs, we provide a variety of learning channels, combining a variety of the most suitable teaching methods, tools and activities, and design a diversified and systematic step-by-step development plan to help with different learning needs. We work to help employees grow their skills and abilities.

Internal training: internal e-school courses for professional skills, cultural and general knowledge along with management training.

External training: we provide subsidies for external training courses or conferences to offer employees with more opportunities to learn and to expand their professional knowledge.

Online learning: our online platform provides digital learning courses and experience sharing. Comprehensive learning resources are open anytime for employees anywhere.

Supervisor's guidance: cultivating the necessary skills in each team member for their job roles

Help from mentoring: each new employee has a mentor to help he or she understanding Zyxel Group' s company culture as well as to offer advice.

International personnel cultivation: online English courses and international projects.

eSchool Online Academy

Integrate various learning resources of Zyxel Group with e-learning and establish an online learning platform eSchool Online Academy, which provides employees with a platform for querying and recording all-round learning resources. In addition to searching for the courses they want to learn on the platform, employees can also search for the courses they want to learn on the platform. The platform clearly grasps the learning process

Talent Development Strategy III:

Form an expert network system for passing knowledge on and teaching skills

New Hire Camp

To help new employees quickly become accustomed to the organization and its culture, we develop individual guidance plans specifically for them before their on-boarding and designate mentors to assist the new hires. The system gives the new employees a helping hand to shorten their learning curve and smoothly complete the required basic job training. A series of training courses on general knowledge, covering both online learning courses and physical courses, are also designed for the employees in order for them to more understand Zyxel Group's related systems and fit in with the corporate culture.

New Hire Guidance Procedure

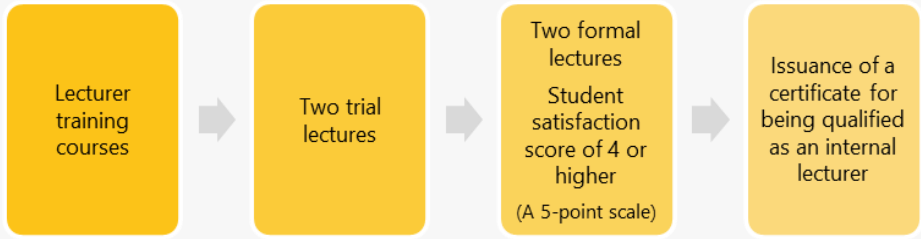
Pre-onboarding	Onboarding day	Three months after onboarding
• Designate mentors for new employees • Complete the guidance and learning items	• Show the new employees around the environment • Explain the new employee guidance handbook	• Conduct new employee training (online + physical courses) • Pay attention to the employees' adaptation to work and carry out new hire performance evaluations after three months

In 2023, a total of 1,203 participants completed new employee training sessions.

Internal Lecturer Training

The internal lecturers and consultants are trained to pass their knowledge on and teach skills, which are two of the objectives of education and training. The Group has a well-developed internal lecturer training system to train talented trainee lecturers and accumulate our knowledge inheritance and training capacities.

Internal Lecturer Training System



- Development Goal: To develop internal talents with secondary skills and effectively pass on knowledge and skills within the organization.
- Development Outcome: As of 2023, a total of 33 internal trainers have been developed, with a cumulative teaching time of 962.6 hours, achieving the company's strategy of nurturing organizational talent and reducing costs.

Training hours/cost

In 2023, Zyxel Group's Taiwan and China sites conducted over 114,690 hours of training through both internal and external classrooms as well as online courses. The total number of training participants reached 23,896, with an average of 29.5 training hours per employee. The total training cost was NT$4,144,066, and the average training cost per employee was NT$1,703.

Item	Category	Number of Trainees	Training hours
Age	<30	9,174	79,564
	30-50	13,415	33,074
	>50	1,307	2,052
Gender	Male	13,725	66,725
	Female	10,171	47,880
Job category	Managerial Indirect Employees	3,137	5,287
	Non-managerial Indirect Employees	11,986	14,750
	Direct Employees	8,773	94,573
Course category	New Employee Training	6,409	93,341
	Management Training	326	924
	Professional Training	7,260	11,375
	Other Training	9,901	9,432
Total		23,896	114,690

Average training cost of employees (NT$)

	2020	2021	2022	2023
Total training cost	2,174,836	2,131,939	6,726,476	4,144,066
Employee Number	2,104	2,251	2,329	2,433
Average training cost	1,034	947	2,888	1,703

Note: Training hours are calculated only for the Zyxel site and MitraStar site in Taiwan, and the Wuxi site in China

Internal Transfer and Rotation Policy

Zyxel Group has always prioritized nurturing high-quality, potential talent. For employees with excellent performance evaluations who are identified as having development potential by their supervisors, the training and development department works with them to draft an Individual Development Plan (IDP). This plan addresses their developmental needs and suitability for certain projects. It includes short-term job rotations or role transitions to help them gain diverse experiences, broaden their perspectives, and bring new insights back to their original positions to spark innovation.

In 2023, the internal transfer rate reached 6.1%, a 3.3% increase compared to the previous year

International Assignment Mechanism

In terms of cultivating international talent, Zyxel Group strategically develops globally mobile employees. The company plans to recruit talent either locally or from within the parent company to strengthen its expanding bases and quickly build a pool of elite professionals worldwide. Senior leadership and the training and development unit collaborate to identify and develop high-potential candidates. After communicating with these individuals, the company tailors training programs aligned with future organizational development and strategic objectives.

Course Satisfaction Survey

	2020	2021	2022	2023
Number of Respondents	384	404	517	487
Training Satisfaction Average Value (out of 5)	4.47	4.50	4.61	4.65

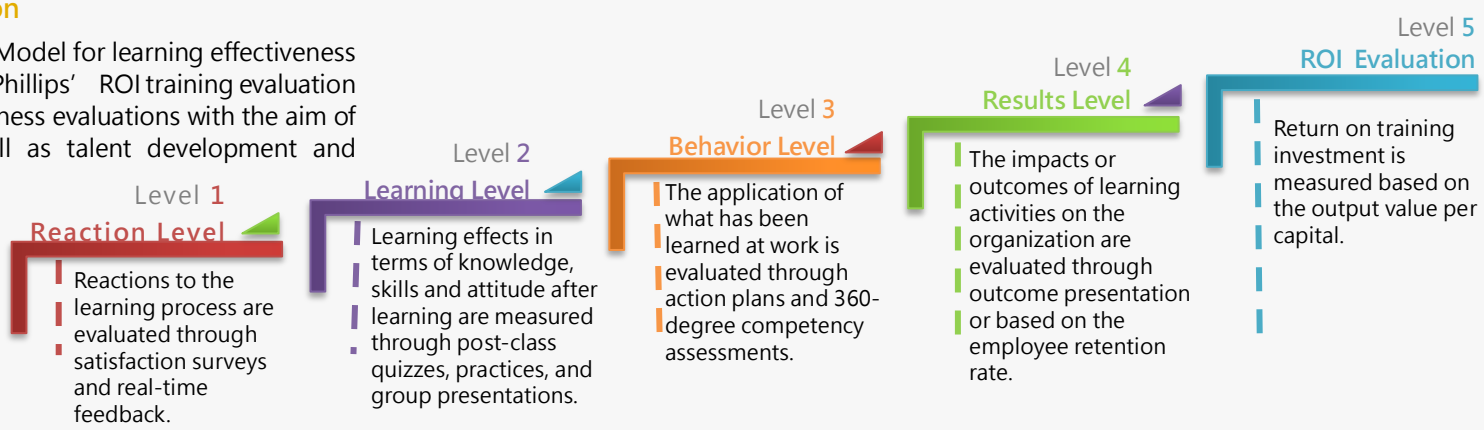
Performance Management

In order to fairly evaluate performance of employees, then reward them properly with job transfer, promotion, salary raise or training courses and to recognize the core competence and career path of every employee, Zyxel Group has created the "Performance evaluation guideline" to coordinate targets and plans. The guideline will ensure that PDCA is implemented effectively for Zyxel Group to align with the business roadmaps.

The new recruits will receive their first evaluation as soon as they are hired, while current employees are evaluated in the mid-year period and by the end of the year. Managers and their associates will discuss the progress of annual plans, confirm needs for additional trainings and draft new objectives and plans for the upcoming year. In 2023, The employee performance evaluation completion rate was 100%.

Training Effectiveness Evaluation

Zyxel Group adopts the Kirkpatrick Model for learning effectiveness evaluation in conjunction with Jack Phillips' ROI training evaluation model to conduct training effectiveness evaluations with the aim of ensuring effective training as well as talent development and retention.



Evaluation Type

Item	Target	Frequency	Description
Management by Objectives (MBO)	All Employees	Once a Year / Real-time Adjustments	At the end of each year, the next year's operational strategy is set, and specific goals are established by each Business Unit (BU) at the beginning of the following year. Senior management then cascades these goals down to departmental and individual levels. Throughout the execution of these goals, regular mid-term and end-of-term reviews are conducted to assess progress and performance. If there are any changes to the goals, managers can make adjustments as needed to ensure alignment with the intended objectives.
Performance and Competency Assessment	All Employees	Twice a Year	Performance evaluations are conducted twice a year: mid-year and at year-end. During these evaluations, managers and employees review the achievement of goals, and managers provide evaluations and feedback based on both job performance and behavioral competencies. The weight of these evaluations differs for management and professional roles, emphasizing the importance of both achieving results and demonstrating good behavior.
Performance Ranking	All Employees	Once a Year	Based on the annual goal achievement, performance, and potential, performance rankings are conducted at the BU/Div. level, differentiated by management and professional roles. These rankings serve as a key reference for talent development and compensation systems.
Multi-dimensional Competency Evaluation	Specific Professionals (Key Talents, Leadership Talents, etc.)	As Needed, Based on Project Planning	For specific professional personnel, key talents identified by the organization undergo development assessments through a planned project. These assessments include "180° to 360° feedback" from supervisors and peers, which serves as a reference for further development.

C. Human Rights Management

Human Right Policy

- Zyxel Group respects the human rights of all stakeholders, including customers, employees, suppliers, communities, and investors.
- Our Human Rights Policy supports internationally recognized human rights standards and principles, including the "United Nations Universal Declaration of Human Rights," the "United Nations Global Compact," and the International Labour Organization's "Declaration on Fundamental Principles and Rights at Work." The policy is established based on the "United Nations Guiding Principles on Business and Human Rights" to ensure the protection of employee rights.
- In addition to adhering to relevant international standards and complying with the laws and regulations of the countries where we operate, Zyxel Group implements its Human Rights Policy in accordance with the "Responsible Business Alliance (RBA) Code of Conduct." We have also established a "Supplier Code of Conduct" to collaborate with supplier partners in protecting human rights.
- This policy applies to all Zyxel Group entities and direct operational activities, products, or services. It encompasses employees, customers, suppliers, contractors, and partners, ensuring the protection of human rights issues related to nationality, race, social class, language, thought, religion, political affiliation, place of origin, birth, gender, sexual orientation, age, marital status, appearance, physical or mental disabilities, and other groups.

For more details, please visit Zyxel Group's official website: Human Rights Policy

Human Rights Management Implementation Guidelines

- Ensuring freedom of employment, equal job opportunities, training and development, and promotion opportunities.
- Safeguarding the labor rights of different ethnic groups, establishing a diverse, inclusive, and harmonious workplace environment.
- Legal and fair working hours and remuneration, with equal pay for equal work guaranteed.
- Prohibition of modern slavery, child labor, forced labor, and human trafficking.
- Zero tolerance for any form of harassment, bullying, or discrimination.
- Establishing information security and confidential information protection mechanisms to safeguard the information security of employees, customers, and suppliers.
- Taking measures to provide a safe, healthy, and hygienic working environment.
- Establishing a free two-way communication channel to provide employees with the freedom to express their opinions.
- Supporting employees' freedom of assembly, association, and collective bargaining rights.

Human Rights Management Organization

Zyxel Group's human rights management is overseen by the Board of Directors at the highest level. Under the Zyxel Group Sustainability Committee, the Labor and Human Rights Team is responsible for executing human rights management, with the Sustainability Audit Team conducting reviews. The Sustainability Committee regularly reports on execution results to the Board of Directors.

Achievements

◆In 2023, no incidents involving forced labor, human trafficking or other human rights violations occurred within the Group and no human rights-related complaints were received, handled and solved via the formal reporting mechanism.
◆Completion Rate of Human Rights-Related Training Courses : 97.7%
◆Completion Rate of Employee Sexual Harassment Prevention Courses 97.7%

Human Rights Goals and Achievements

Goal	Major Issue	Operational Impact	Actions	Performance Indicators	2023 Goal	2023 Achievement		Goals			SDGs
								2024 short-term	2027 mid-term	2030 long-term	
Creating Shared Prosperity Value	Human Rights Management	•Human Rights Protection •Promote the concept of human rights	Focus on Women's Career Development	Percentage of Female Managers	-	30.6%	V	>30.7%	>30.8%	>31%	
			Human Rights Awareness Advocacy	Completion Rate of Human Rights Training Courses	>97%	97.7%	V	>98.5%	>99%	100%	

1. Human Rights Management Process

Zyxel Group has established a human rights management policy that outlines an implementation framework to address human rights issues encountered during operations. This involves identifying human rights risks, including the affected parties and specific issues. For different risk categories, we develop preventive guidelines and employ various investigation methods to assess the extent of human rights risks. By implementing mitigation measures and providing complaint channels, we aim to prevent incidents that could harm human rights, while continuously monitoring and improving our practices.

Identification of Issues and Parties at Risk → Establishment of Preventive Procedures → Risk Assessment → Mitigation Measures → Follow-up and Improvement

Identify issues and objects

Zyxel Group conducts internal and external stakeholder surveys by sending questionnaires by email and posting the questionnaires on the official website to gain a grasp of the issues of the stakeholders' concern, thereby identifying the parties exposed to high human rights risks, including the employees and suppliers. The issues and parties are then used as indicators for assessing the level of human rights risks and managing the risks.

Establishment of Preventive Procedures

For Employees: In addition to the "Work Rules", "Employee Handbook", and "Regulations for Staff Employment" specifying requirements for human rights protection, the "Regulations for Sexual Harassment Prevention Measures, Reporting and Punishment", "Management Procedure for Anti-forced Labor", "Procedure for Protection of Child and Underage Labor", "Management Procedure for Prohibition of Mental and Physical Abuse", "Anti-discrimination Management Procedure", "Religion and Belief Management Procedure", and other internal management regulations have been developed to explicitly affirm that we protect the rights of our employees and ensure they have access to appropriate care.

For Suppliers: To further ensure the human rights of all personnel in the supply chain, the "Code of Conduct for Suppliers" has also been instituted to, jointly with the suppliers, protect and take care of their employees.

Identification of Issues and Parties at Risk

Employees are a vital foundation for the sustainable development of the business, and human rights issues have become a key focus in the global ESG landscape in recent years. It is essential to proactively and systematically identify potential human rights impacts and their possible locations. For employees and suppliers considered high-risk groups, Zyxel Group employs various risk assessment methods. Based on the likelihood and severity of risks, we identify critical human rights issues and establish targets and strategies for implementing mitigation measures.

Employees:

"Labor Risk Factor Identification and Assessment Form" : The "Zyxel Group Risk Management Team" conducts a human rights risk survey for the employees using the "Labor Risk Factor Identification and Assessment Form" every year. The survey covers human rights topics such as "child labor", "forced and compulsory labor", "disciplinary measures and discrimination", "working hours", and "remuneration and compensation" and gives scores for the probability and frequency of occurrence and severity of the risk issues concerning the topics based on their descriptions. The risk level is then calculated using the hazard level assessment method to identify high-risk issues and a "high-risk item assessment result report" is issued. The report describes the control measures and the high-risk issues and rectifications made for the high-risk issues and records the reviews verified subsequently.

Internal Audit: Our subsidiaries carry out internal audits based on the RBA Code of Conduct. Document audits focusing on "child and underage labor", "forced labor", "discrimination and discipline", "freedom of association and communication", "working hours and wages", and other human rights issues are executed. An audit report is then issued based on the audit result. The subsidiaries determine the required improvements and the deadline according to the level of the deficiencies and implement subsequent follow-ups while performing further on-site audits.

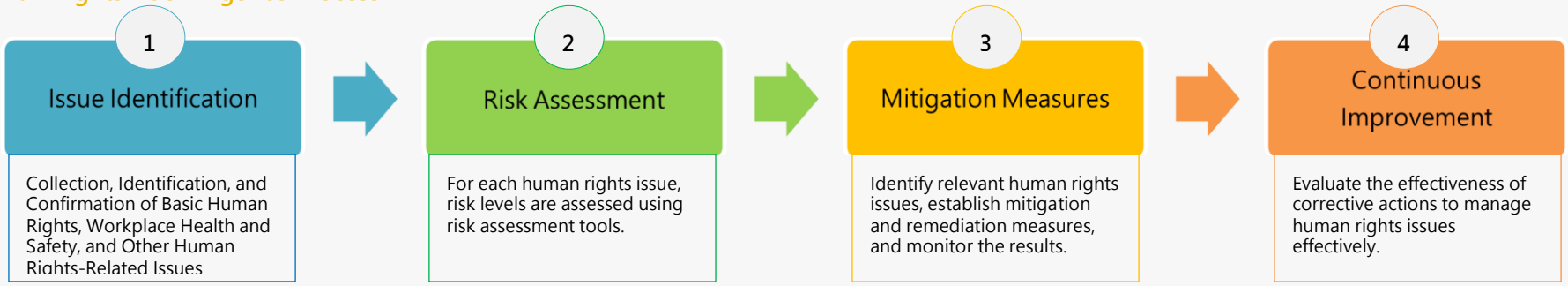
Suppliers:

With the "Supplier Social Responsibility Evaluation Questionnaire" designed in accordance with the RBA Standards and "on-site audits", the suppliers are audited for human rights issues such as "child and underage labor", "forced labor", "Human trafficking ", "discrimination and discipline", "Right to collective bargaining", "working hours and equal remuneration" and an audit report is issued to identify the human rights risks that may occur to the suppliers.

Human Rights Due Diligence

To ensure the implementation of its human rights policy, Zyxel Group has expanded its human rights due diligence in line with international standards and the European Union's "Corporate Sustainability Due Diligence Directive." This expansion is based on the annual Human Rights assessment results from the "Labor Risk Factors Identification and Assessment Form." The Zyxel Group Sustainability Committee's Labor and Human Rights Team conducts due diligence following the "Human Rights Due Diligence Process," which includes identifying potential human rights issues, assessing risks, implementing mitigation measures, and pursuing continuous improvements. To gather broader feedback and insights into the company's Human Rights issues, the team distributes online questionnaires to employees. This process helps in further understanding the current state of Human Rights issues within the company and employees' feedback, guiding future Human Rights risk management and strategies.

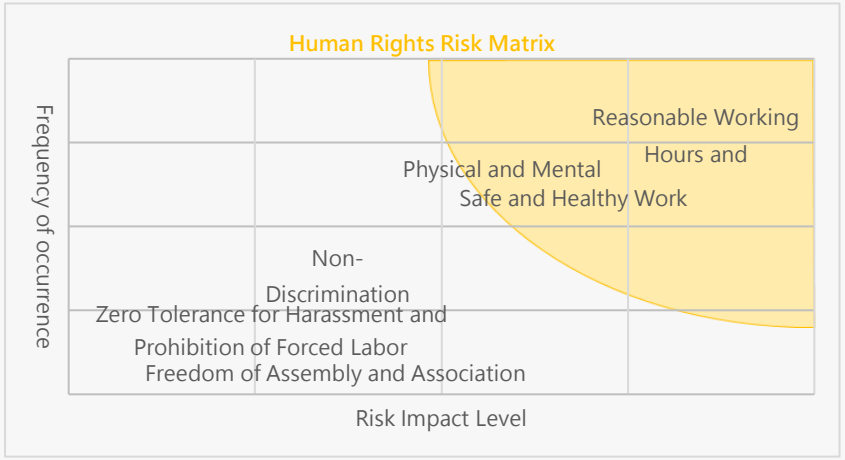
Human Rights Due Diligence Process



Human Rights Issues

Based on the RBA (Responsible Business Alliance) guidelines and subsequent identification and collection, the following seven Human Rights themes have been confirmed: "Fair Working Hours and Compensation," "Prohibition of Forced Labor," "Safe and Healthy Working Environment," "Zero Tolerance for Harassment and Bullying," "Physical and Mental Health and Well-being," "Non-Discrimination," and "Freedom of Assembly and Association." These include issues such as human trafficking, collective bargaining rights, and equal pay, amounting to a total of 31 Human Rights topics investigated through a survey.

The survey, conducted across Zyxel Group subsidiaries—MitraStar, Zyxel Communications, Zyxel Networks, and Wuxi MitraStar—covers both Taiwan and Wuxi regions, involving direct and indirect employees, including foreign migrant workers. The identified issues were categorized based on frequency and risk into low, medium, and high-risk categories.



Human Rights Due Diligence Risk Response

The analysis identified "reasonable working hours and compensation" and a "safe and healthy working environment" as higher-risk issues. The company will implement several response measures and continue to track and improve in these areas.

Human Rights Issue	Mitigation Measures	Follow-up and Improvements
Reasonable working hours and wages	· Ensure a minimum salary level higher than the basic statutory wage for the employees · Flexible commuting system	Create an overwork management and tracking mechanism were taking one day off is required for every seven days of work
A work environment of safety and health	Ask the employees to follow the "Management Procedure for the Identification and· Assessment of Safety and Health Hazards"	· Pass the certification audit for the ISO45001 · Conduct regular follow-ups on groups with potential health risks

Mitigation Measures

2. Labor-Management Relations and Communication

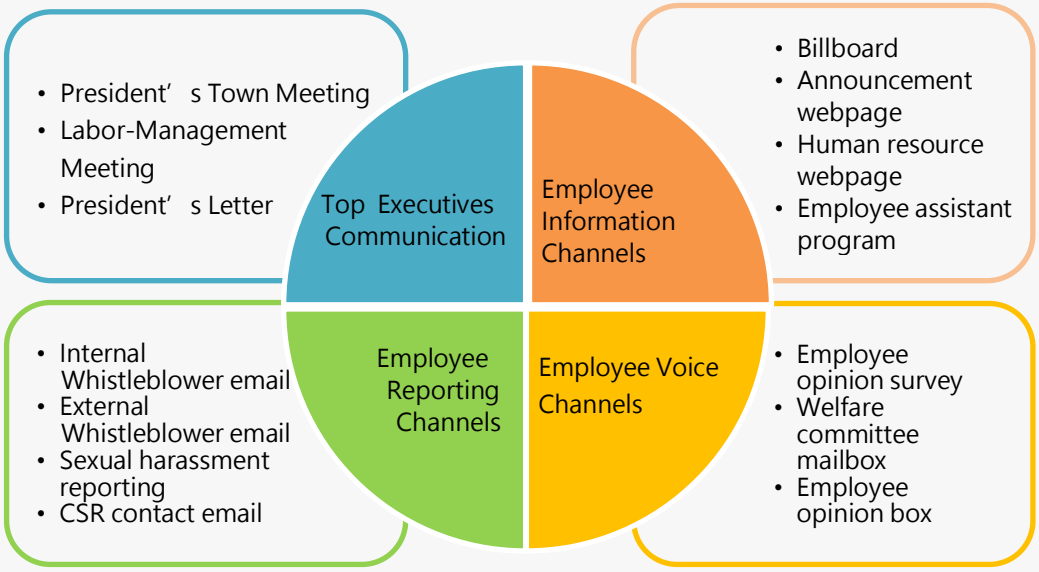
In addition to the identified high-risk issues, we develop goals and strategies for the human rights issues of significant concern. The Company executes mitigation measures and actions and establishes a mechanism for continuing follow-ups and improvements to monitoring the implementation effectiveness. Our measures for mitigating the impact of the human rights issues focus on diverse communication channels, dissemination campaigns, education, and training to achieve the goals set according to the implementation guidelines under Zyxel Group's human rights policy。

Multiple communication channels

Zyxel Group not only have legitimate and competitive wages, working hours, benefits, vacation and retirement offerings, but also provide adequate channels for employees to communicate their thoughts and ideas with the management and to receive positive feedback through constructive interactions.

We strive to keep these communication channels open between employees and the management. Such conduits include meetings, suggestion boxes, bulletin boards, internal documents and e-mails for work groups. Managers are also given the opportunity to talk to their colleagues directly, in face-to-face affairs like "Free to Speak", "Groups of Honor" and "Town Meetings". In these events, employees can freely express their opinions or doubts about company policies, followed up on by responsible managers.

Communication Channels



Freedom of Association

Zyxel Group respects employees' rights to collective bargaining and freedom of association. The company has established the "Freedom of Association and Labor-Management Meeting Procedures" to inform employees that they are free to join any organization of their choice without facing any negative consequences or retaliation from the company.

Labor-Management Committee

Zyxel Group has established a "Labor-Management Committee," with representatives from both sides elected by the workforce. Regular labor-management meetings are held, where management presents work-related measures, and the labor representatives offer suggestions. This ensures mutual agreement on various issues, fostering a harmonious relationship. During quarterly labor-management meetings, labor representatives communicate with management to advocate for employees' rights. Over the years, internal communication has remained smooth, with 100% of employees covered by collective bargaining agreements.

Independent trade union

The Wuxi MitraStar Technology subsidiary in China has established a union organization. Employees can voluntarily join the union, which serves as a channel for employees to express their opinions regarding management and factory operations. These opinions can be conveyed through the union, and responsible departments will handle the subsequent processing. More than 80% of employees participate in the union.

The number of cases reported through the communication channels

	2021	2022	2023
Labor management meeting MitraStar, Zyxel Communications, Zyxel Networks	19	23	52
Employee opinion survey MitraStar	404	517	487
President's Town Meeting MitraStar, Wuxi MitraStar, Zyxel Communications, Zyxel Networks	35	55	24
Employee congress Wuxi MitraStar	19	62	39
Employee opinion box	1	4	7

Employee Engagement Survey

Zyxel Group conducts an "Employee Engagement Survey" by distributing online questionnaires on human rights-related topics to widely collect and analyze feedback from employees. This process deepens communication with employees, allowing more appropriate protection of employee rights and facilitates improvements. In addition to periodic assessments of organizational status, the survey also targets specific groups to understand their needs and make rolling, flexible adjustments to optimize human capital investment effectively.

Survey Objectives

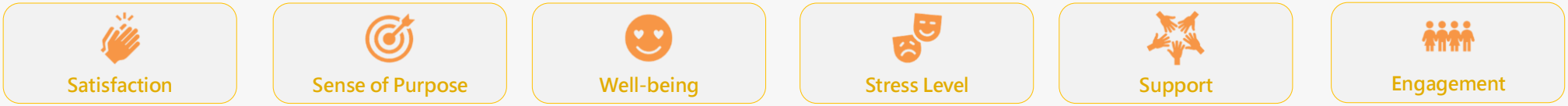
- Satisfaction: Evaluate employees' satisfaction with job content, environment, and compensation benefits to identify factors affecting satisfaction and develop corresponding improvement measures.
- Sense of Purpose: Identify issues related to job goals and role responsibilities to further optimize work processes and organizational structure.
- Well-being: Assess whether employees maintain a balance between work and life, understand its impact on reducing work-related stress, and promote overall employee well-being and long-term loyalty.
- Stress Level: Evaluate employee work stress levels and their impacts to identify sources of stress and develop measures to alleviate it, promoting psychological health.
- Support: Gauge employees' views on leadership style, management capabilities, and level of support to identify strengths and areas for improvement in leadership effectiveness.
- Engagement: Understand employees' perceptions of work challenges and sense of achievement to determine if they find their work challenging and meaningful, aiming to enhance work motivation and engagement.

Survey Subjects

The survey subjects include Zyxel Group subsidiaries MitraStar, Zyxel Communications, Zyxel Networks, as well as direct and indirect employees and foreign migrant workers in Taiwan and the Wuxi sites.

Types	Number of Employees by Proportion	Response Rate
Indirect Employees	29%	76%
Direct Employees	40%	77%
Foreign Migrant Workers	31%	92%
Total Response Rate		81%

Note: The proportion of direct employees excludes foreign migrant workers.



Survey Items and Results

Employee engagement was surveyed on a 5-point scale, with a high engagement target set at 3.8.

item	Questionnaire Sample	Average Score
Satisfaction	• I have a trusting relationship at work. • My salary is fair for my job responsibilities. • I am completely satisfied with my job.	3.8
Sense of Purpose	• My job has clear goals. • The responsibilities and authority in my department are clearly defined.	4.1
Well-being	• I feel happy at work most of the time. • I can maintain a positive attitude towards work.	4.0
Stress Level	• I often feel stressed at work. • A moderate level of work stress is acceptable to me. • I have enough energy after work to enjoy other activities.	3.5
Support	• I have enough resources at work to support my health and well-being. • My supervisor supports my work-life balance.	3.8
Engagement	• My work gives me a sense of personal achievement	3.8
Average Score		3.8

Item	Percentage
Percentage of Highly Engaged Employees (Score of 3.8)	81%

Response Measures and Improvement Actions

Through response measures and improvement actions, the company can effectively address employee engagement survey results and translate survey data into practical improvements, thereby enhancing employee satisfaction and overall work performance.

- Management Involvement: Analyze survey data and share results with management to discuss findings and recommendations. Ensure management understands employee needs and expectations and actively participates in implementing improvement measures.
- Resource Allocation: Implement improvement actions based on survey results, such as enhancing the work environment, providing more training, and adjusting management styles.
- Feedback Mechanism: Establish a continuous feedback mechanism through various channels, like suggestion boxes and email inboxes, to encourage employees to provide feedback and suggestions at any time, maintaining dynamism and continuity in improvements.
- Management Training: Train management to understand survey results, improve management styles and skills, and enhance interaction and support for employees.
- Regular Engagement Surveys:

Prevention of Workplace Unlawful Infringement

To protect employees from physical or mental unlawful infringement that may cause physical and mental health issues during their work, the company explicitly states, through written declarations and educational training, a zero-tolerance stance and attitude toward any unlawful infringement by company management, between employees, or from customers and strangers toward company employees.

Workplace Unlawful Infringement Statement:

Defines workplace unlawful infringement as any incident where staff experience abuse, threats, or attacks in a work-related environment (including commuting), which clearly or implicitly challenges their safety, well-being, or health. This includes physical, psychological, and verbal unlawful infringement, sexual harassment, and stalking.

Prevention of Workplace Unlawful Infringement

- Revise the "Prevention of Unlawful Infringement in the Course of Duty" operational guidelines.
- Conduct educational training to explain the definition and response measures for workplace unlawful infringement.
- Display "Workplace Unlawful Infringement Statement" posters within the facility for awareness.
- Announce it on the internal employee management system bulletin board.
- Provide channels and methods for filing complaints, encouraging employees to use the internal complaint handling mechanism for such disputes. Employees are required to assist in ensuring a workplace free from unlawful infringement. Anyone witnessing or hearing about such incidents should notify the HR department or call the employee complaint hotline.

Human Rights Complaint Channels

Zyxel Group will conduct confidential investigations upon receiving a complaint. If the investigation confirms the complaint, appropriate disciplinary action will be taken. Retaliation against the complainant, whistleblower, or those assisting in the investigation is strictly prohibited and will also result in disciplinary action.

Employees who halt operations or move to a safe location due to the discovery of imminent danger to their physical well-being or life while performing their duties will not face any adverse consequences for their actions.

Complaint Hotline: 51140 Complaint Email：care@zyxelgroup.com

Human Rights Protection Training

Zyxel Group provides online learning courses. All new employees are required to undergo training on compliance with human rights regulations, sexual harassment prevention, and comprehensive occupational safety after participating. The annual mandatory corporate social responsibility course for all employees covers the following topics. In 2023, the number of participants, training hours, and coverage rate for human rights-related courses are shown in the table below.

In 2024, a new "Workplace Gender Equality Education" course will be introduced for all employees.

Training was provided to HR managers and staff responsible for handling bullying or harassment reports. In 2023, an external "Workplace Sexual Harassment Prevention Workshop" was held, and awareness was raised among general managers. In 2024, advanced training on "Workplace Sexual Harassment Prevention" will be provided, focusing on process handling and other foundational knowledge for general managers.

Human rights education and training/ Sexual harassment prevention training

	Required Trainees	Actual Trainees	Training Hours	Coverage Rate (%)
MitraStar- Hsinchu site	974	956	478	98.2%
MitraStar- Wuxi site	6753	6745	3372.5	99.9%
Zyxel Communications- Hsinchu	498	468	468	94%
Zyxel Networks- Hsinchu	392	387	387	98.7%
Total	8617	8556	4705.5	97.69%

Campaigns

President's Town Meeting	Employee EDM	Workplace Unlawful Infringement Prevention Poster

Human Rights Issues Management

No discrimination, harassment or persecution in the workplace

Zyxel Group' s "Employee Code of Conduct" expressly states that no discrimination, harassment, or persecution of any kind shall be tolerated in the work environment. We expressly forbid discrimination against employees based on race, color, creed, national origin, religion, gender, age, disability, sexual orientation, pregnancy, political affiliation, or differences in their marital status, etc. The "Anti-Discrimination Management Procedures" also regulate the management procedures and methods for preventing and combatting any form of discrimination.

No forced labor and prohibition of child labor

Zyxel Group supports the effective elimination of forced labor as defined by the ILO and pledges not to use child labor. In the "Procedures for the Prohibition of Child Labor and Underage Workers", necessary measures are taken to prohibit the employment of child labor and ensure the safety, health, education and development of children.

Gender Equity

Zyxel Group has "Sexual Harassment Prevention Methods" to prevent sexual harassment in the workplace and maintain equal job opportunities for both genders. Zyxel Group also has a sexual harassment complaint channel, and the complainant can make a complaint orally, by telephone, fax, letter, email, etc. We have also formed a Sexual Harassment Complaint Appraisal Committee which is jointly formed by the company and colleagues to deal with sexual harassment complaints and the punishment of confirmed cases. The company considers protecting employees from sexual harassment as a basic responsibility.

Religious Freedom

Zyxel Group respects the religious beliefs of employees of various nationalities and regularly organizes gatherings for employees with the same religious beliefs to find spiritual comfort through religious activities, such as English Bible study sessions.

Human Rights of and Care for Foreign Employees

There are 140 production line employees at the MitraStar Hsinchu site, most of which are foreign migrant workers. 80% of them are Filipino and 20% are Vietnamese.

Zero Payment from Migrant Workers

In compliance with the RBA Trafficked and Forced Labor – Definition of Fees, MitraStar ensures responsible employment and recruitment that prevent the employees from being exploited when being employed. It protects their labor rights by making sure that they do not pay any expense for application, recruitment, employment and placement and bears processing fees to enable its foreign employees to work in Taiwan without worry. MitraStar Technology pays in full the expenses and placement fee required for its direct foreign employees to work when they are hired and requests the recruitment agencies not to charge the employees the placement fee.

Care for Foreign Employees

Life: In the dormitories, there is a convenience store offering foreign employee' s snacks from their countries/groceries to meet their needs.

Health: Brand-new and-suite dormitories are provided for the employees to ensure their health.

Mentality: During the pandemic, MitraStar has provided grocery buying assistance, offered special meals, and organized festival activities to enrich the lives of employees in the dormitories while they were advised against going out.

Privacy and Personal Data Protection

Regulations: Zyxel Group takes the employees' privacy and personal data protection seriously. Thus, the "Personal Data Protection Regulations" have been established to require our employees and suppliers to comply with Taiwan's "Personal Data Protection Act" and "Regulations for the Maintenance of the Safety of Personal Data and Files", the EU's "General Data Protection Regulation (GDPR)", and the laws and regulations concerning personal data protection of the countries where we operate in so as to regulate the protection, management, maintenance and treatment of personal data. We specify that personal data must be used in a legal and reasonable manner by personnel with particular permission to secure the storage and transmission of the data. A zero-tolerance policy is implemented for any violations of data protection regulations, and such behaviors will be subject to strict disciplinary actions.

Dissemination and Education: Dissemination, education and training on the protection of personal data are implemented. All our employees are required to complete our CSR courses every year. These courses to the employees to respect any individual' s private information during data processing. The Internal Auditing Office conducts irregular audits for personal data protection and management to ensure a thorough human rights-based management approach to privacy and personal data protection.

Supplier Management: Zyxel Group also audits the suppliers for their privacy and personal data protection and requires them to abide by the related laws and regulations to respect privacy and protect personal data together with them.

Human Rights Issue Management Practices and Goals

Human Rights Issue	Target	Regulation and Practice	Risk Assessment	Mitigation Measures	Follow-up and Improvement	Planned Goal	2023 Achievements
Reasonable working hours and wages	All employees	Salary policies	• Labor Risk Factor Identification and Assessment Form • · Internal audits based on the RBA Standards	• · Ensure a minimum salary level higher than the basic statutory wage for the employees • · Flexible commuting system	Create an overwork management and tracking mechanism were taking one day off is required for every seven days of work	Comply with the regulations for legal and reasonable working hours and wages	• Establish an Overtime Accumulation Report for supervisors to reference when arranging overtime. • Monthly Overtime Statistics reported at management meetings.
Interdiction of forced labor	All employees	• Management Procedure for Anti-forced Labor • Management Procedure for Prohibition of Mental and Physical Abuse	• Labor Risk Factor Identification and Assessment Form • Internal audits based on the RBA Standards	Provide multiple communication channels	Offer education and training on human rights protection	Ensure zero material violation of the laws	Human Rights Protection Training: 956 trainees, coverage rate of 98.2%.
Zero tolerance of harassment and bullying	All employees	• Regulations for Sexual Harassment Prevention Measures, Reporting and Punishment • Written Declaration on Workplace Violence Prevention	• Assessments for identifying violations • Labor Risk Factor Identification and Assessment Form	• Implement a "program for the prevention of unlawful infringements in the execution of duties" annually • · Provide multiple communication channels	• Have the "Committee for the Prevention of Unlawful Workplace Infringements" convene every three months and prepare meeting minutes • Offer education and training on human rights protection	Ensure no sexual harassment complaints are received	Conduct Workplace Unlawful Infringement Prevention Courses.
Non-discrimination	Female employees Foreign workers	• Regulations for employment • Anti-discrimination Management Procedure	• Labor Risk Factor Identification and Assessment Form • Internal audits based on the RBA Standards	Provide communication and reporting channels	• · Offer education and training on human rights protection • Anti-sexual harassment courses	Ensure no discrimination complaints are received	Human Rights Protection and Sexual Harassment Prevention Training: 956 trainees, coverage rate of 98.2%.
Physical/mental health and work balance	All employees	Regular labor-management meetings	Employee activity participation rate	• Provide wide-ranging employee facilities • Offer various clubs and employee activities	Employee activity satisfaction surveys	Receive a satisfaction score of 4 or higher for ≧ 90% of the activities	Hold Quarterly Labor-Management Meetings for employees and foreign employees.
A work environment of safety and health	All employees	Environmental safety and health policies	• Identification and assessment of employees at high risk for abnormal workload • Annual medical check-ups • Annual employee musculoskeletal symptom questionnaire assessment	• Ask the employees to follow the "Management Procedure for the Identification and • Assessment of Safety and Health Hazards" •	• Pass the certification audit for the ISO45001 • Conduct regular follow-ups on groups with potential health risks	• Ensure zero occupational accidents • Make sure no occupational diseases occur	Obtain ISO 45001 Management System Certification.
Human rights protection by suppliers	Suppliers	Code of Conduct for Suppliers	• Supplier Social Responsibility Evaluation Questionnaire · On-site supplier audits	Conduct annual audits for the suppliers to prevent human rights risks from occurring to them	• Require improvement measures for their human rights risks • Develop "Suppliers Code of Conduct"	Ensure 100% dissemination	Supplier Code of Conduct Compliance Rate: 100%.
Responsible mineral sourcing	Suppliers	Declaration on the Prohibition of the Use of Conflict Minerals	Carry out surveys on the prohibition of the use of conflict minerals	Disclose the "Declaration on the Prohibition of the Use of Conflict Minerals"	Ask the suppliers to complete the "Survey on the Source of Metal Minerals"	MitraStar Technology: Complete the survey at the customers' request, Zyxel/ZNet product survey coverage> 90%	Survey Coverage Rate: Zyxel and Zyxel Networks >99.6%, MitraStar Technology conducted surveys of 154 component suppliers at the client's request.

D. Workplace Health and Safety

Our employees are our most important asset as well as the foundation of corporate sustainable development. Zyxel Group promises to offer the employees a workplace of well-being, health and safety. Through a diverse range of welfare measures and activities, every employee receives proper care. The physical and mental health of our employees are maintained with comprehensive health management and care in order for them to achieve work-life balance. In accordance with the ISO 45001 Occupational Health and Safety Management System, we provide our employees with a safe work environment and maintain the rights and interests as well as safety of the contractors, thereby building a workplace of well-being, health, and safety.

- Activities for happiness
- Work environments and facilities
- Heartwarming benefits
- Female-friendly workplace
- Freedom of association

Work-life Balance

- Health management
- Health promotion
- Medical services
- Health care services
- Pandemic prevention measures

Health Care for Employees

- Environmental safety and health policies
- Management system verification
- Safety and Health Risk Management
- Safety and Health Management for Contractors

Workplace Safety and Health

Goals and achievements

Sustainability goals	Issue	Operational Impact	Strategy	Performance Indicators	2023 goal	2023 achievement		Future goals			SDGs
								2024 short-term	2027 mid-term	2030 long-term	
Create shared value	Occupational safety and health	The Company can ensure continuous operations and steady growth in a work environment with safety as a priority	Promote safety culture	Occupational safety course coverage	>98%	99.6%	V	>98.5%	>99%	100%	
			Implement preventive management	Number of major occupational accidents	0	97.7%	V	0	0	0	

1. Workplace of Well-being: Work-Life Balance

LOHAS Diverse Activities

Employees are the most valuable assets of our company. Zyxel Group has established the 'Zyxel Group Welfare Committee' dedicated to creating a high-quality environment that best suits our employees. Through a variety of activities and measures that surpass legal requirements, we aim to ensure that our colleagues can balance their work and life, ultimately achieving their happiness. We have also set up a Welfare Committee website to provide various employee information and services.

- Company-wide events: Family Day and annual evening banquets etc. Over 3,300 employees and their family participated these events in 2023.
- Sports season event: In the 2023 Sports Season Event, there were approximately 330 participants.
- Art Music concert, installation art
- Clubs: Over 17 clubs such as ball sports, yoga, belly dancing, illustration and oil painting, etc. and have over 10,000 attendances.
- Travel Sponsorship for employee travel groups and activities
- Discounts in designated shops: Corporate agreements with stores all over Taiwan for colleagues to enjoy discounts for food, clothing, housing and travel.
- Others: Subsidies for holiday/birthday, assistance for emergency and EAP (Employee Assistant Program)

Family Day

Lunar New Year Event

Freedom of association

All employees are free to establish clubs or groups of common interest within Zyxel Group and we will even subsidize such activities organized by these groups. Currently, there are over 18 active clubs/groups in the company including:

- Ball Games: basketball, volleyball, badminton, table tennis, golf, softball
- Outside Activities: swimming
- Dancing: belly dancing, dance club
- Exercise: yoga, Chinese shadow boxing, physical training, Aerobic exercise
- Art: oil painting, table game
- Public service: charity
- Music: folk pop guitar

In addition to regular internal club interactions, we also encourage clubs to engage in external exchanges beyond the group, such as participating in various external friendly or official sports competitions. Clubs like the Oil Painting Club, Oriental Dance, Tai Chi, and Guitar Club are also actively involved in activities outside the company.

Working place

Zyxel Group aims to promote work-life balance among its employees. We have various welfare facilities, including a gymnasium, recreation room, convenience store, employee cafeteria, coffee bar relaxation area, a lactation room for nursing mothers, and on-site services such as banking and group insurance.

Gymnasium with badminton, volleyball, basketball, billiards, table tennis, aerobics and weight training rooms allow employees to enjoy their favorite sports for better physical and mental health. In 2022, over 20,000 people used the Gymnasium.

Employee Welfare

- Dining Delights: The company cafeteria offers six buffet lanes and two cafeterias with nearly 100 cuisines for employees to choose from.
- Dormitory: Visiting employees can reside in the dorm until they find a more suitable place to stay in the future.
- Parking Space: All employees who commute by car or motorcycle can enjoy free parking spaces. Aside from the motorcycle parking lot, a four-level, underground car park is also provided. Special parking space for pregnant, injure and honor employees.
- Group Insurance: Provide group insurance for colleagues and dependents, and arrange insurance company personnel to provide insurance consulting and claim application services for colleagues.

Female-friendly Workplace

Zyxel Group cares about the relationship between the employees and their children as well as the female workers' needs at work and values gender equality at work. Therefore, a work environment offering diversely comprehensive protection and assistance in terms of systems/regulations, welfare measures, and employee facilities is provided.

Discrimination and Harassment Management Standards and Regulations: The "Code of Conduct for Employees" stipulates that the employees must not be discriminated against, harassed or persecuted on the basis of gender, sexual orientation, pregnancy or marital status. The "Regulations for Sexual Harassment Prevention Measures, Reporting and Punishment" specify that the complaints made through the sexual harassment reporting channels and sexual harassment investigations shall be kept under wraps to protect the right to privacy and personality rights of the persons involved.

Flextime making juggling family and work possible: This system allows the employees to arrive or leave 0.5 hour early or late to meet their needs for picking up their young children, taking care of their families, or dealing with personal matters.

Unpaid Parental Leave and Resumption of Work: The employees may apply for "family leave" when they need to take care of their family members. If the employees have a need to take care of their newborn family members, they may apply for "unpaid parental leave" in accordance with the laws. We make plans for their resumption of work on our own initiative before the end of their unpaid parental leave.

Health Protection of Female Workers: Follow-ups are conducted using the "Maternal Health Protection Survey" to assist the Company and the employees in jointly assessing hazardous health risk factors and relevant protection measures.

Various Benefits for Female Workers: We set up breastfeeding rooms equipped with heartwarming amenities and facilities and provide car and motorcycle parking spaces for expectant mothers to create a work environment friendly to female workers.

Coffee shop

Yoga room

Gymnasium

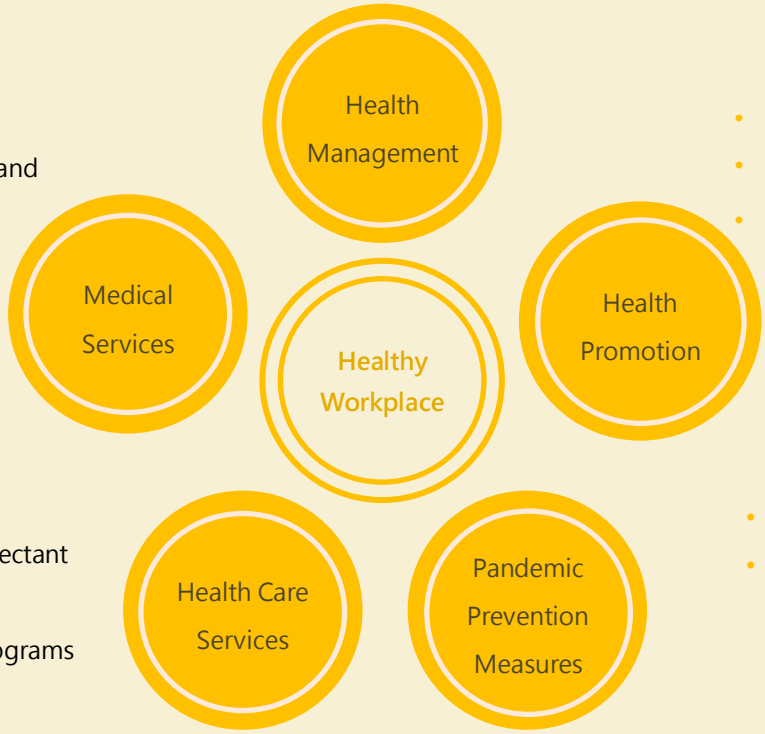
Sports court

2. Healthy Workplace: Health Care for Employees

Zyxel Group cares about the physical and mental health of the employees and aims to boost their performance in all fields and promote their health. In addition to driving the employees' productivity at work, we hope that they can have a better quality of life and achieve work-life balance.
Thanks to our efforts, we were certified as a "Sports Enterprise" and received the "Workplace Health Promotion Certificate" from the government, stiffening our positive stance on the importance of health management for the employees.

- Health management promotion
- Employee medical check-ups
- Health management form for follow-ups

- Occupational disease prevention
- Abnormal workload prevention
- Musculoskeletal injury detection and prevention



- Health lectures and newsletters
- Health maintenance services
- Physical activities

- ternal Health Protection Survey
- Breastfeeding room
- Car and motorcycle parking space for expectant mothers
- Employee assistance and consultation programs

- Establish a pandemic prevention team
- Dissemination of pandemic information

Health Management

For general employees, management, and new employees, medical check-ups superior to those required by the laws in terms of examination items and frequency are provided every year. Medical check-ups involving advanced health management and examination items are also available for the management. The production line employees at high risk receive lead ion and ionizing radiation tests and all the examination expenses are paid by the company.

Employee health check-ups: Every year, Zyxel Group Hsinchu site provides regular employee health check-ups that exceed government standards. Physical checkups: according to the result of checkups, follow-up targets are categorized into different levels for the highest level of employee wellbeing - A: Normal, B: recommended to improve with healthy diet and exercise, C: recommended for further physician evaluation. And D: Abnormal, recommended for further treatment.

Except for the arrangement for C and D for further treatment consultation, Zyxel Group also provide one- day sick off and medical subsidy.

Health Management Information Dissemination: We post health-related information on the bulletin board and offer scales and blood pressure monitors for the employees to understand their health status at any time.

Health check hierarchical management results

	A	B	C	D
Zyxel Group	3%	55%	29%	13%
MitraStar	3%	53%	29%	15%
Zyxel Communications	4%	55%	28%	13%
Zyxel Networks	4%	54%	31%	11%
Average	4%	54%	29%	13%

2023 Annual Health Checkup

	Zyxel Group	MitraStar	Zyxel Communications	Zyxel Networks
Number of people	81	622	427	382
Attendance rate	86%	74%	88%	92%

Occupational Disease Prevention

In addition to regular annual health check-ups, physical examinations are also arranged for employees to assess their physical health, which serves as a reference for work arrangements. To prevent occupational diseases, basic health data for workers are established. Examination items include general physical check-ups as well as specific occupational hazard checks (lead, ionizing radiation) conducted in conjunction with the annual health checks.

No records related to occupational diseases have been identified currently.

Abnormal Workload

Every year, processing the high-risk group identification and evaluation, keep tracking the abnormal working load employees and provide them with the health education.

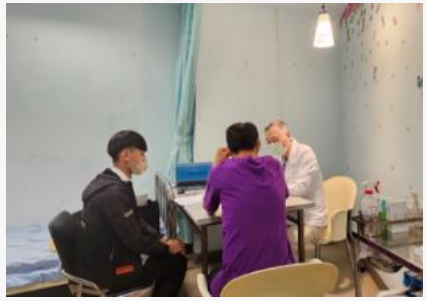
According to the advice of our occupational medicine physician, we conduct follow-ups on and take care of the employees who are identified as having abnormal workload classified as Level 2 or higher, have medium risk of cardiovascular comorbidity, and are under Level D health management according to the "Workload Scale".

Workload Assessment Items

Annual workplace health scale	Overload score	Work pattern
Personal overload score	Monthly overtime hours	-

Musculoskeletal Injuries

Each year, we initiate the 'Employee Musculoskeletal Symptom Survey' to ensure that employees are not suffering from musculoskeletal injuries caused by work-related factors. The questionnaire requires employees to rate their pain for different body parts, and for those who score above four, the cause of the pain is first identified. If the discomfort is determined to be work-related, an occupational specialist, nursing staff, department supervisor, and occupational safety and health management personnel will collaborate to assess the employee's working conditions and implement improvements, ensuring their safety and health in the workplace.



Health check

Multiple health promotion activities

We collaborate with government agencies to organize health promotion activities, such as stress-relieving massages, weight loss activities, cancer prevention seminars, blood -pressure checking, blood donations and vaccination service. The activities effectively help employees to become more conscious about their health. We also prepare the AED training classes to create a health working environment for employees.

Health Promotion Activities

Activity Type	Main Activity
Physical activities	• Body-moving activities • Fast-walking activities
Health maintenance	Massages for stress relief • Cancer prevention activities • Smoking cessation • Blood pressure measurement activities • Vaccination services • Health promotion activities at Mother' s Day (measurement of calcaneal bone density/eye pressure/BMI) • Away from Metabolic Syndrome: Health Promotion Series Events
Health resources	• Health lectures • AED training courses • Health information dissemination

Health lectures

Health lectures

Health care center

We have the nurse and doctor to provide the health consultation. Invite the blind masseuse to provide the stress relieving service for employee, and also taken care of disadvantaged people. In 2023, over 2,405 people used this free service and the satisfaction percentage is 95%.

service:

Medical professionals' consultation service	Medical transfer service
Prevention of professional diseases	Cooperate with the government's four major guidelines for management
Provide employee the consultation service in service hours	

Employee Assistant Program, EAP

An expert team consisting of lawyers and consultants in psychology, financial and health fields provide a round-the-clock counseling service under the Employee Assistant Program (EAP).These experts help employees to overcome physical and mental health issues, legal issues, marriage, education, career management, insurance, tax and finance difficulties, etc. All personal information and records are under strict protection and supervision.

Following the program, various seminars are including tax and living issues are provided. 90% employees are satisfied with the seminars according to the questionnaire. In 2023, a total of 34 cases sought counseling services through the use of the EAP (Employee Assistance Program) employee assistance service program.

Health Protection of Female Workers

Various Benefits for Female Workers

Zyxel Group cares about the relationship between employees and their children and values gender equality at work. Breastfeeding rooms equipped with heartwarming amenities and facilities, including breast milk bags, nursing pads, and emergency hotline phones, are set up and serve as comfortable spaces for our female employees. The employees are provided with satisfaction questionnaires to get their feedback and opinions.

Multiple welfare measures for female employees are also implemented, such as car and motorcycle parking spaces for expectant mothers, to offer a friendly and quality work environment.

Electronic Maternal Health Protection Survey

To effectively enhance the efficiency of health management for our female workers, we, through an online cloud management system, develop a "Female Worker Health Management Assessment Form" for follow-ups to manage the health of the workers in a real-time manner. The occupational health and safety personnel and medical personnel are then conduct job suitability assessments and classification management to smoothly assist the Company and the workers in jointly assessing hazardous health risk factors and relevant protection measures in accordance with the "Regulations of the Maternity Health Protection at the Workplace".

In 2023, all our female workers were under Level 1 risk management (meaning that their jobs or health issues did not cause harm to them as mothers and their fetuses or babies).

Assessment Procedure:

Starts		Generate a "Maternal Health Protection Assessment Form" through the online information system
Stage 1	Maternal Workers	Fills in the form with the basic information, perceived job limits, and identified risks at work
Stage 2	Department Supervisor	Conducts an assessment to see if work adjustments are required
Stage 3	Occupational Nurse	Issues a health check-up report
Stage 4	Occupational Safety and Health Personnel	Conducts an assessment to determine if the work continuations are to be changed or if control and management measures are to be adopted
Stage 5	Occupational Physician	Assigns a health management level based on the assessment result, gives comprehensive advice on job suitability, and sets a time for the next follow-up
Stage 6	Maternal Workers	Checks the assessment result with the physician

3. Safe Workplace: Workplace Safety and Health

3.1Environmental, Safety & Health Policy

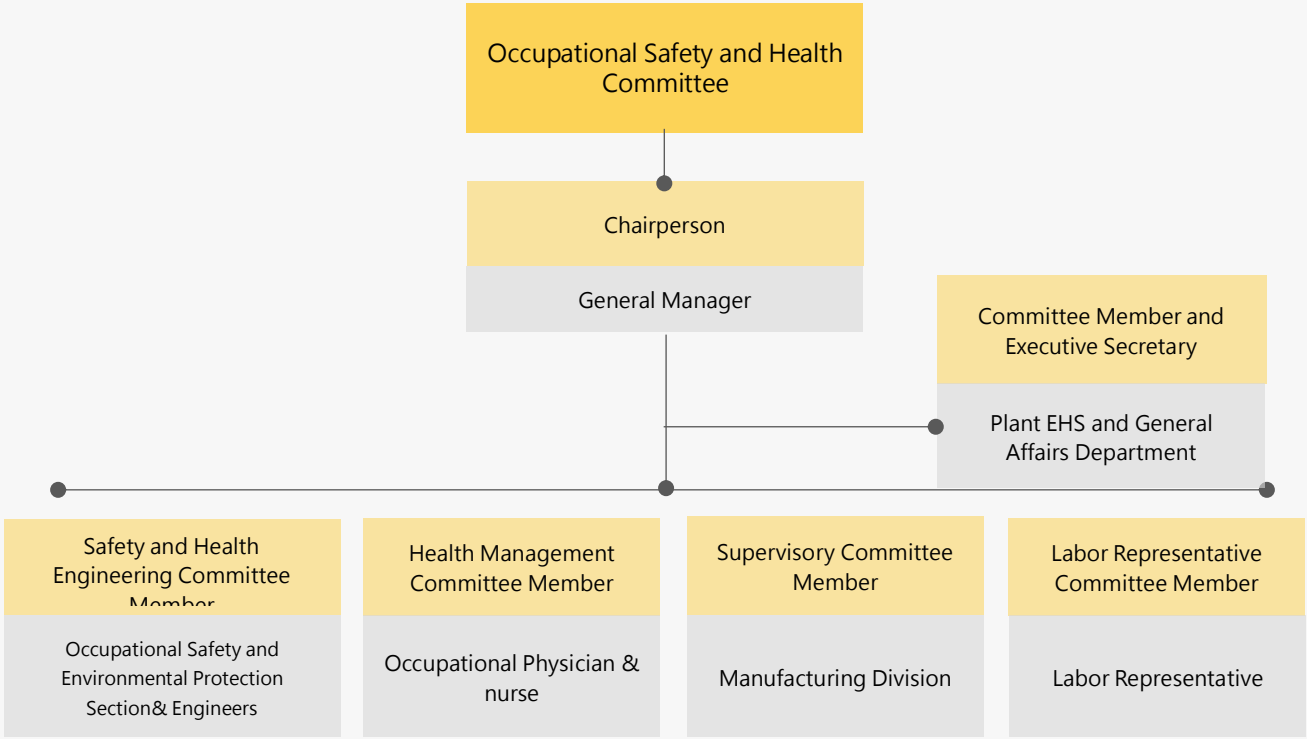
By way of defining and publicizing the environment and safety-related policies, Zyxel Group expresses its intention to take environment and safety issues into consideration in every aspect. It requires all employees to comply with the terms listed in the environment and HSF manual.

Protecting the health of its employees and the environment is Zyxel Group' s genuine commitment. It observes all government regulations and enforcing policies relevant to the environment, HSF and safety.

The Safety and Health Committee

The committee is formally composed of both labor and management representatives. It meets quarterly, and the meeting content is reviewed by the General Manager. Committee members include occupational health and safety personnel, department heads, supervisors, commanding officers, occupational health and safety-related engineering professionals, healthcare personnel involved in workers' health services, and labor representatives.

2023 'Safety and Health Committee' Major Meeting Follow-Up Control Items: No complaints, penalties, or accidents.



3.2 Safety and Health Management Procedure

Zyxel Group implements environmental safety management in accordance with the "ISO 45001 Occupational Health and Safety Management System", with the RBA Code of Conduct as well as the SA8000 Standard taken into account. Three sequential implementation guidelines, namely regulations and management, risk assessment, improvement and guidance, are developed to ensure the safety of our employees and contractors in the work environment and achieve the goal of zero incidents.

Regulations and Management

▼Comply with the ISO 45001 Occupational Health and Safety Management System

▼Take into account the RBA Code of Conduct and SA8000 Standard

▼ Set up relevant codes of practice and management procedure regulations

- ISO45001 Occupational Health and Safety Management System certificate
- Code of Practice for OSH
- Environmental Safety and Health Handbook
- Any other ISO45001 related regulations/procedures and guidelines/documents

Risk Prevention

▼Ask the employees to follow the "Management Procedure for the Identification and Assessment of Safety and Health Hazards"

▼ Perform regular preventive measures for the work environment, equipment, machinery and services to prevent potential risks

- Work environment monitoring
- Education and training for personnel
- Protection of equipment and machinery
- PPE
- Chemicals management
- Prevention of occupational diseases
- Fire safety equipment signs
- Work related accident investigation

Improvement Measures

▼Make improvements in the work environment and procedures

▼Disseminate information on occupational safety

▼ Provide education and training on occupational safety

- Work related accident investigation, analysis and record
- Work environment improvement
- Dissemination of the "Emergency Response Procedure"
- Dissemination of information to our foreign workers in their mother tongues
- Safety and health training for the employees/ management at all levels

Step 1: Regulations and Management

The subsidiaries of Zyxel Group, MitraStar, Zyxel and ZNet in Hsinchu Taiwan sites, currently passed the certification audit for the ISO45001 Occupational Health and Safety Management System. We continue to actively ensure their compliance with the latest standard in the country to sharpen their competitive edges.

ISO45001 certificate

Step 2: Risk Prevention

Environment, Safety, and Health Risk Management

In terms of the manufacturing processes, preventive guidelines, such as the safety design of machinery, operating procedures, training, automatic inspection, safety auditing, management of chemicals, environmental assessment, protective gears and management of high-precision operations are taken on a daily basis to ensure a comfortable, safe and worry-free working environment for employees.

Working environment inspection

- Physical environment factor: noise, Illumination.
- Chemical environment factors: carbon dioxide, organic solvents and lead metal

Improvement of working environments

Proactively implement the "6S" principles in the factories.

- The warehouses are kept bright and spacious and materials are stored in proper order.
- The airflow in factories along with the entire environment conditions is inspected and recorded every six months; all anomalies will be corrected immediately.

Machines risk protection

All machines and equipment with higher personnel risk (e.g., forklifts and high-pressure gas controllers) are inspected every year to ensure safety, and warning signs are clearly posted on such machines to remind the operators.

Personal protection

Employees who may come into contact with hazardous substances are required to use personal protective equipment, and the wearing instructions are clearly labeled and provided.

Temperature and humidity, noise, and vibration control

- The humidity of the job site and electronic warehouse is 35%~60%, and the temperature of the parts is controlled to 15~30 degrees.
- MitraStar entrusts a qualified testing agency to visit the factory to monitor the operating environment every six months. On-site operators issue earmuffs or disposable earplugs for hearing protection to people working in noise-producing areas.

Management of dangerous and harmful materials

- The electronic files of the latest Chemical Material Safety Datasheet, renewed every year, are provided for download.
- The "Management Procedures and Communications of Dangerous Materials" is enacted and updated annually for employees to follow during the storage, handling and disposal process of dangerous materials.

Firefighting equipment and signs

- The firefighting equipment is installed and labeled properly as required by the law. • Firefighting equipment and signs, such as evacuation lights, fire extinguishers and indoor/outdoor hydrants, are inspected quarterly; evacuation maps and emergency lightings are placed at appropriate locations such as safety ladder exits. In addition, backup power generators will provide the electricity for necessary lighting in emergency conditions.

Emergency response measures

We revise the "Safety and Health Hazard Identification and Assessment Management Procedure" and "Emergency Response Procedure" every year or regularly according to the current situation, and teach employees to follow them.

In addition to implementing emergency response training courses such as personnel firefighting, notification, and evacuation training every six months, we conduct emergency evacuation drills such as those for fire, earthquake, and chemical leakage regularly.

Day and night emergency response team

Site	Function Group	Total
MitraStar site	six functional groups such as Operation Center, Reporting, Fire Extinguishing, Evacuation Assistance, Safety Assurance and First Aid	36 people
Zyxel site	five functional groups such as Reporting, Fire Extinguishing, Evacuation Assistance, Safety Assurance and First Aid	33people

Investigation, analysis and record of occupational accidents

Should any undesired accident happen to our employees or contractors, internal first-aid unit will be dispatched to control the situation while the security unit investigates the possible causes. All department heads will assign engineers to assist the investigation in hope for future prevention and improvement guidelines.

- On the other hand, even false alarms should be elevated monthly through managers, seed personnel in departments and the security unit for the unit to generate reports and to prevent future occurrence.
- Zyxel Group generates monthly statistics of cases, types and causes of employee injury to report on the web for analysis and thus prevention guidelines of frequent accidents
- there' s no case of dispute, penalty or indemnification in recent years.
- As required by the law, Zyxel Group reveals its monthly report on occupational accidents.

2023 Occupational injury statistics

	Zyxel Group	MitraStar Hsinchu site	MitraStar Wuxi site	Zyxel Communications	Zyxel Networks
Total work hours(hours)	389,624	1,832,600	1,472,088	918,248	765,168
Number of fatalities caused by occupational injuries	0	0	0	0	0
Rate of Severe Occupational Injuries	0	0	0	0	0
Number of work-related injury incidents resulting in lost workdays	0	3	2	0	0
Lost Time Injury Frequency Rate (LTIFR)	0	1.64	1.3	0	0
Recordable Occupational Injury Cases	0	0	0	1	0
Recordable Occupational Injury Rate	0	0	0	1.09	0
False Alarm Incident Rate	0	0	0	0	0
Occupational Disease Fatality Rate	0	0	0	0	0
Recordable Occupational Disease Cases	0	0	0	0	0

Note 1: Statistics are limited to Taiwan and China regions.
Note 2: Total Work Hours = Number of employees in that category at the end of the year × Total working days × Daily working hours.
Note 3: Calculate the injury rate (IR) based on 200,000 working hours, where IR = (Total injury cases / Total working hours) ×1,000,000
Note 4: When calculating the quantity and rate of recordable occupational injuries, include the number of fatalities caused by occupational injuries.
Note 5: Only include injuries caused by commuting accidents involving transportation arranged by the organization.

Step 3: Improvement

Safety and Health Education Training for Employees and Managers

- Safety and health education and training is required for our employees and management at all levels. According to the regulations, every employee must spend at least three hours for on-the-job in-plant safety and health education and training courses every three years.
- New and transferred employees are required to take a series of pre-service training on environmental safety as well as the ISO45001 management system. For the new employees, the training helps them understand all the systems, regulations, and skills required at work. For the employees transferred to new positions, they may perform tasks only after undergoing relevant training.

2023 Courses	
Internal EHS Auditor Training	New Hire/On-the-Job Training for Sales Supervisors
EHS Training for Indirect/Direct Personnel	First Aid Training
EHS Training for Contractors/New Contractors	Organic Solvent Operations Supervisor Training
Firefighting and Emergency Response Training	Respiratory Protection Education Training
Emergency Evacuation Drill	Ionizing Radiation Operator Training
EHS Regulatory Seminar	Energy Management Personnel Training
In-Service Training for Nurses	On-the-Job Training for Waste Cleanup Technicians
Occupational Safety and Health Administrator Training	-

Occupational Safety Education Courses	Number of Trainees	Training Hours	Coverage Rate
General Employees	3,604	2,691	99.55%
New Hires	5,757	135,932	100%
Non-Employee Workers	598	3,614	100%
Total	9,361	138,623	100%

Dissemination of Information to Foreign Workers in Their Mother Tongues and Education and Training

For our migrant workers, we design occupational health and safety slogans and posters in their mother tongues and provide education and training on the work environment and procedures.

3.3 Contractor Management

Zyxel Group's health and safety policy also covers the activities of contractors in the company, including contract workers, security personnel, catering, and cleaning staff. All contractors are required to observe our "Regulations for Security, Environment, and Hygiene of Contractors". Annual safety and health education and training are provided to contractors, in compliance with human rights-related regulations. Additionally, health care and management are extended to non-employee workers.

Regulations for contractors

- Contractor personnel must receive courses on environment, safety and hygiene topics.
- All on-site operations must be applied first, and contractors will be informed of the possible hazards before entering the work site.
- Supervisors will stay on-site and perform inspections before, during and after the working sessions.
- Application forms must be returned to the safety unit to confirm the completion of jobs.
- Any contractor violating the factory regulations will be penalized and ordered to stop until the condition is corrected.

Contractor training on safety, hygiene, and human rights issues

Each year, contractors receive safety and health education and training to help them understand the risks and hazards in the company's environment and reduce the occurrence of accidents. All security personnel are contracted from reputable professional security companies, selected through rigorous screening and relevant certification training, ensuring the proper execution of security-related tasks. Their education and training for contractors comply with human rights-related regulations.

	Number of required training participants	Number of trainees	Training hours	Coverage rate
contractor	598	598	3614	100%

Health follow-ups for contractors

We review our subcontractors' health reports on an annual basis and keep track of and care about the contractors ' health status. During the pandemic, our subcontractors and employees have been asked to complete a health management form for daily health management. Multiple food options ranging from healthy meals to vegetarian meals are also available to the subcontractors.

Occupational injury statistics for contractors

Number of Deaths Due to Occupational Injuries	0
Number of Severe Occupational Injuries	0
Number of Recordable Occupational Injuries	0
False Alarm Incident Rate	0
Number of Deaths Due to Occupational Diseases	0
Number of Recordable Occupational Disease Cases	0

Community Contribution

A. Cultivation of Talent

B. Care for the Community

C. Environmental Protection

Community Contribution

Upholding the philosophy of giving back to society, Zyxel Group encourages and supports employees to participate in various public welfare activities in response to social needs, internalizing these efforts as part of the company's corporate social responsibility culture.

In addition, to promote environmental awareness, Zyxel Group has long-term commitments to donating to and supporting social organizations, as well as collaborating with government agencies to hold activities focused on ecological conservation, environmental greening, and resource recycling, in order to fulfill corporate responsibility and create a better society and environment.

Strategy: Fulfill civic responsibility

Major Issues: Community contribution

Stakeholders: Community

SDGs

Performance highlights

Shun-I Chu Zyxel Group Scholarship			
Established 25 years Donated over NT$163 million Benefiting a total of 5,594 students	2023 Donated NT$ 8.95 million Benefiting a total of 384 students	Sponsored 8 Talent training activities	Hosted 8 Social care campaigns

Philosophies

"Innovation" is the core value of Zyxel Group. We are constantly committed to reflecting the value and approach of innovation in our social welfare activities.

The senior managers of Zyxel Group take their own actions and encourage employees to participate in community care and give back to society. Zyxel Group emphasizes that enterprises should form a network that influences society and the environment, and expand their influence to achieve the effect of attracting others.

In terms of giving to society, we uphold the following philosophies:

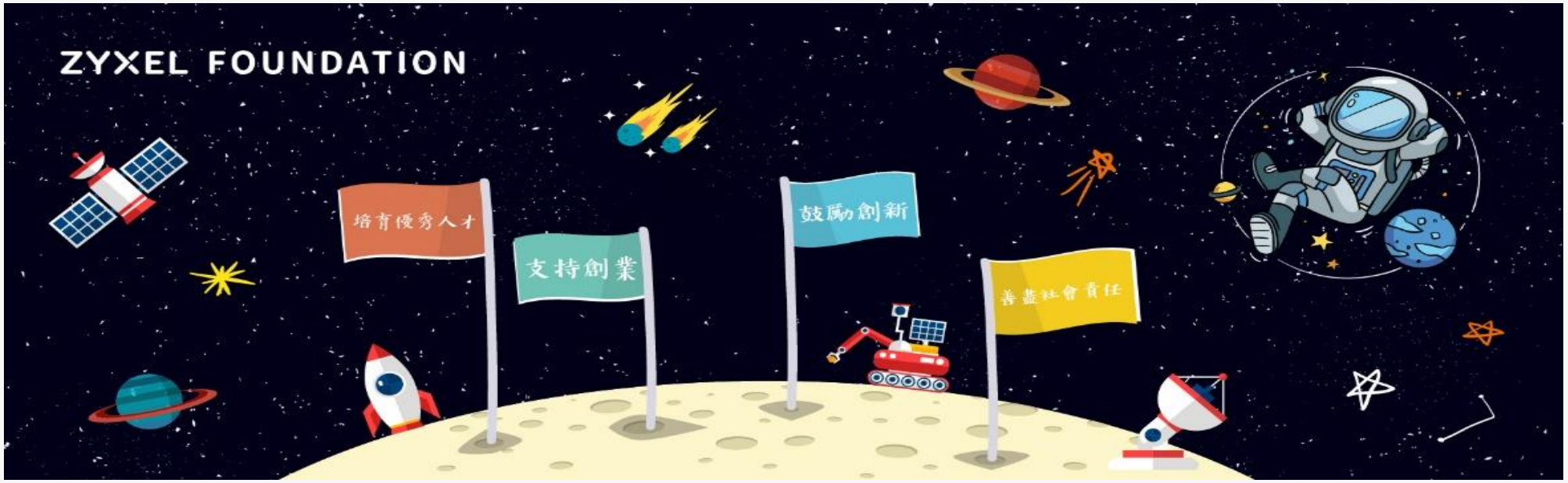
Zyxel Group' s "Corporate Social Responsibility Best Practice Principles" explicitly state that the Company shall fulfill social responsibility: The Company shall assess the impacts of the operations on the community and hire manpower in the area where the Company operates, if appropriate, to boost community recognition.

To facilitate community development, the Company shall participate in the activities organized by civil organizations, charity and social welfare groups, and local government agencies, which are engaged in community development and education, through commercial activities, physical donations, corporate volunteer services or other social welfare professional services.

The Company understands the needs of the schools, institutions, groups and relevant organizations in the area where the headquarters is located by getting into direct contact with them. After conducting internal capacity assessments and formulating plans, we started to engage in community care and aim for long-term delivery.

Goals and Achievements

<table>
<tr><th>Topic</th><th>Operational impact</th><th>Strategic initiatives</th><th>Performance Indicators</th><th>2023 goal</th><th colspan="2">2023 achievement</th><th>2024 goal</th><th>2027 mid-term goals</th><th>2030 long-term goals</th><th>SDGs</th></tr>
<tr><td>Scholarship donations</td><td rowspan="4">Build good relationships with local communities and enhance their corporate images</td><td rowspan="2">Provision of scholarships, investment in industry-academia cooperation, and organization and sponsorship of activities related to talent training</td><td rowspan="3">Held Every year</td><td rowspan="3">Donated every year</td><td>Donated NT$8.95 million. Benefiting a total of 384 students</td><td>V</td><td>Donated every year</td><td colspan="2" rowspan="2">Annual charitable donations to support talent development programs.</td><td rowspan="3"></td></tr>
<tr><td>Talent training activities</td><td>Sponsored or held 8 activities</td><td>V</td><td colspan="3" rowspan="2">Continuously sponsor or co-host related activities annually</td></tr>
<tr><td>Social care campaigns</td><td rowspan="2">Organization and sponsorship of social welfare activities related to environmental protection or carbon reduction in the Company or community</td><td rowspan="2">Number of participants per year</td><td>Sponsored or held 8 activities</td><td>V</td></tr>
<tr><td>Environmental protection activities</td><td rowspan="2">Held or sponsored every year</td><td>Held 1 activity</td><td>V</td><td colspan="2">Impacting over 2,000 participants within the company and community</td><td>Impacting over 5,000 participants within the company and community</td><td></td></tr>
</table>



ZYXEL Foundation

Starting from carrying forward the common philosophies of Zyxel Group and the subsidiaries thereof, Zyxel Communications, Zyxel Networks, MitraStar Technology, namely "promoting innovation and start-ups" and "being engaged in social welfare", Our ZYXEL Foundation actively expands and develops its scope on a continuous basis. With its focus on "encouraging innovation and supporting start-ups", "training excellent talent", and "fulfilling social responsibility", the foundation hopes to serve as the "kindling" to demonstrate the Company's corporate philosophy of giving back to society to other companies.

More information: https://foundation.zyxelgroup.com/

- Nurture talent
- Encourage innovation
- Support entrepreneurship
- Implement Social Responsibility

A. Cultivation of Talent

| The Progressive Foundation of Education

Different from non-benefit organizations and foundations carrying corporate names for publicity, the "Progressive Foundation of Education" and "Shun-I Chu and Zyxel Scholarship" were founded privately by Dr. Shun-I Chu, chairman of Zyxel Group, in 1999 for public benefits.

The objectives of Progressive Foundation of Education are public policy research, facilitation of community improvement, and equal education opportunities. Based upon on this groundwork, the Foundation clearly defines its tasks and therefore the plans to sponsor the development of talented people.

- Research consultation and data services related to public affairs, commissioned, or receiving commissions or subsidies for research and promotion of public affairs, policies, and reform-related matters.
- Exchange with relevant domestic and international educational institutions and individuals, enhance international cooperation, and promote research and development of public policies.
- Publish publications related to research and education, public affairs, and policies.
- Establish scholarships to encourage students' pursuit of education.
- Sponsor educational and cultural-related public welfare activities or clubs.
- Sponsor, promote, and organize various activities in natural sciences, humanities and arts, and technology education.
- Reward those who participate in education, culture, science, creative competitions, and excel.
- Other public welfare education matters related to the founding purpose.

| Shun-I Chu Zyxel Group Scholarship

Founded in 1999, the "Shun-I Chu Zyxel Group Scholarship" has supported students for 25 years as of 2023. About 50 students with outstanding academic performances from National Tsing Hua University, National Yang Ming Chiao Tung University, and National Central University benefit from the scholarships every year. It is estimated that the high school scholarships provided for National Chutung Senior High School, National Chunan Senior High School, National Hsinchu Girl's Senior High School, and National Hsinchu Senior High School benefit around 300 students a year.

Since its foundation, the "Shun-I Chu Zyxel Group Scholarship" has awarded over NT$163 million of scholarships to nearly 5,594 students. In 2023, a total of about NT$8.95 million of scholarships were awarded to 384 students.

Chairman Shun-I Chu has supported and made a yearly scholarship donation of NT$200,000 in sponsorship to the Rising Sun Program of National Tsing Hua University since 2016. In 2023, he also sponsored the Spring Foundation Scholarship of National Yang Ming Chiao Tung University to encourage students who are outstanding but economically disadvantaged, which was awarded 1 student.

| Encouraging Innovation and Supporting Start-ups

ZYXEL Foundation hopes to start from schools to encourage students to actively take part in a variety of activities when they are at school. By offering its resources and assistance in support of on-campus lectures and campaigns related to innovation and start-ups, the foundation expects to be the foundation for young students, help them to unlock more of their potential and find their own path.

Industry-academia Cooperation

In an attempt to facilitate industry-academia cooperation, enhance the skills and practical capabilities of young talent, and foster corporate R&D potential and talent, the foundation has sponsored and supported the industry-academia cooperation programs about networking and information security to bridge the gap between academia and the industry.

School	Research Project	Period
National Cheng Kung University	FireWallWiz: Scaling Security Smarts	2023-2024
National Central University	AI Log-Based Anomaly Detection Framework	2022
	Machine learning applied to malicious/non-malicious file filtering systems	2022-2023

| Fulfillment of Social Responsibility

As a starting point, the foundation fulfills corporate social responsibility by supporting and taking part in public forums, environmental protection activities, and charity and social welfare events in any form. It also encourages putting philosophies with regard to humanistic care, land care, and environmental protection into practice in the hope of using its resources to give back to the society and contribute to social care and development.

Networking Equipment Donation Event

Zyxel Networks has donated more than 40,000 baht of network equipment to the "GTC: CiraCoreCamp#2" hosted by the Center for Lifelong Learning of King Mongkut's Institute of Technology (KMITL) to teach children and guide them to the world of artificial intelligence" project. The purpose of this project is not only to improve programming skills through the students' teamwork and problem-solving abilities, but also to hope that the innovative results of various small projects can be applied to different enterprises in Thailand to promote the development of technology.

B. Care for the Community

We follow the philosophy and footsteps of Dr. Shun-I Chu, our chairman, in giving back to the society. We encourage and support our colleagues to participate in various charitable activities, aligning with social needs, and internalize this as part of our corporate social responsibility culture to effectively contribute to the society.

Donation of Network Equipment

Continuing the donation in 2022, Zyxel Networks Technology will once again join hands with Zyxel Foundation in 2023 to launch the "2023 Action to Deliver Love, Love is Constant!" public welfare project, donating to public welfare organizations across Taiwan including the Lixin Foundation, Eden Foundation, Creation Foundation, Huashan Foundation, and other public welfare organizations. In the past two years, it has donated to 63 organizations and 800 network equipment to disadvantaged groups, providing continuous support and bringing hope to the community.

Charity Mountain Climbing

In order to help raise funds for the Children's Hospital of Birmingham in the UK, Zyxel Networks joined hands with local agent Intec Micros in the UK and a total of 11 colleagues participated in a six-hour hiking activity on Mount Snowdon. This charity mountaineering event not only deepened the close cooperative relationship between Zyxel Networks and its agent partners, but also demonstrated Zyxel Networks' commitment to social responsibility, generating positive energy to raise funds in actions. The event's original target of raising £1,000 was successfully met in the end, with a total of £1,827 raised.

Children's Wish Adoption Event

Zyxel Foundation has entered into its third year of adopting Christmas wishes with love.

The foundation Invited colleagues to be Santa Clauses and help to fulfill the Christmas wishes of 52 children from Tainan Olive Garden Care Association and Yu-shan Elementary School in Hsinchu County.

By bringing blessings and encouragement, we enjoyed the warm and happy Christmas holiday with the children.

Educational Activities for Children in Rural Areas

Hsinchu Guanxi Yu-shan Elementary School has only 44 students. Yu-shan, a land that once prospered due to cement mining, does not have many economic production opportunities due to the suspension of mining and its remote location, and the younger generation has migrated elsewhere. The Zyxel Foundation provides the resources needed for badminton and baking courses at Guanxi Yu-shan Elementary School in Hsinchu County to enrich the learning experience of the students. It hopes to cultivate students' diverse skills in addition to subject learning, while improving their abilities. (video)

Volunteer Service Club

Zyxel Group' s employees formed the "Zyxel Group Volunteer Service Club" on their initiatives. Over the years, the club has participated in social welfare or community events in Hsinchu, Taiwan, where Zyxel Group is based. As one of our employee clubs, the "Volunteer Service Club", has been engaged in the following community care activities for a long period of time:

- Encourage employees to donate invoices to organizations in need of help.
- Provide places for social welfare groups to hold direct charity sales in the company.

Production and sales of yearly calendars from Renai Social Welfare Foundation for three consecutive years since 2021. By 2023, the number of calendars sold has reached 395.

C. Environmental Protection

The 8th Year of "Day of Giving": Beach Cleanup Activities

Zyxel Networks US office colleagues hold community charity activities regularly every year. This activity is based on "Save Our Beach". We work together to clean up garbage in the nearby Seal Beach. In the spirit of continuous giving back, we hope to have a positive influence on the community. Zyxel Networks is committed to creating a positive and cheerful work environment and emphasizing community involvement. From cleaning beaches to preparing food packages for disadvantaged families, Zyxel Networks' Day of Giving activities will continue in the future.

Appendix

Appendix I: Index of GRI Standard Indicators

Statement of Use	Zyxel Group reports information referenced in the GRI Content Index in accordance with GRI Standards for the period from January 1, 2023, to December 31, 2023.
GRI 1	GRI 1: Foundation 2021
Applicable GRI Sector	N/A

GRI Sustainability Reporting Standards 2021

Code	Disclosure	Chapter in the Report	Page	Description
1. The Organization and its Reporting Practices				
2-1.	Organizational details	About Zyxel Group	6	For details, please refer to the company's 2023 annual report
2-2.	Entities included in the organization's sustainability reporting	About this Report Corporate Governance: B. Financial Performance	3 34	
2-3	Reporting period, frequency and contact point	About this Report	3	from Jan. 1, 2023 to Dec. 31, 2023.
2-4	Restatements of information	About this Report	6	No significant changes
2-5	External assurance	About this Report	3	
2. Activities and Workers				
2-6	Activities, value chain and other business relationships	About Zyxel Group Value Chain: B. Supplier Sustainability Management	6 57	
2-7	Employees	Friendly Workplace: A. Diversity and inclusion Recruitment	108	The number of employees did not fluctuate significantly from the previous reporting period.
2-8	Workers who are not employees	Friendly Workplace: A. Diversity and inclusion Recruitment	108	No significant changes from the previous reporting period.
3. Governance				
2-9	Governance structure and composition	Corporate Governance: A. Governance Structure	29	
2-10	Nomination and selection of the highest governance body	Corporate Governance: A. Governance Structure	29	
2-11	Chair of the highest governance body	Corporate Governance: A. Governance Structure	29	
2-12	Role of the highest governance body in overseeing impact management	Corporate Governance: A. Governance Structure	29	
2-13	Delegation of responsibility for impact management	Corporate Governance: A. Governance Structure	29	
2-14	Role of the highest governance body in sustainability reporting	Sustainable Management: B. Sustainability Committee	16	
2-15	Conflicts of interest	Corporate Governance: C. Business Ethics	37	
2-16	Communication of critical concerns	Corporate Governance: A. Governance Structure	29	

Code	Disclosure	Chapter in the Report	Page	Description
2-17	Collective knowledge of the highest governance body	Corporate Governance: A. Governance Structure	29	
2-18	Evaluation of the performance of the highest governance body	Corporate Governance: A. Governance Structure	29	
2-19	Remuneration policies	Friendly Workplace: A. Diversity and inclusion Recruitment	108	
2-20	Process to determine remuneration	Corporate Governance: A. Governance Structure	29	
2-21	Annual total compensation ratio	-	108	not disclosed
4. Strategy, Policies and Practices				
2-22	Statement on sustainable development strategy	Sustainable Management: A. Sustainability Management Framework	15	
2-23	Policy commitments	Sustainable Management: A. Sustainability Management Framework	15	The policy commitments are also published on the Zyxel group website: link
2-24	Embedding policy commitments	Corporate Governance: C. Business Ethics	37	
2-25	Processes to remediate negative impacts	Corporate Governance: C. Business Ethics	37	
2-26	Mechanisms for seeking advice and raising concerns	Corporate Governance: C. Business Ethics Sustainable Management: D. Stakeholder Communication	18 37	
2-27	Compliance with laws and regulations	Corporate Governance: C. Business Ethics	37	
2-28	Membership associations	Corporate Governance: B. Financial Performance	34	
5. Stakeholder Engagement				
2-29	Approach to stakeholder engagement	Sustainable Management: D. Stakeholder Communication	18	
2-30	Collective bargaining agreements			The relationship between the company and labor is harmonious, and there is no need to organize a labor union, but the company attaches great importance to labor rights and holds regular labor-management meetings
GRI 3：Material Topics 2021				
3-1	Process to determine material topics	Sustainable Management: D. Stakeholder Communication	18	
3-2	List of material topics	Sustainable Management: D. Stakeholder Communication	18	
3-3	Management of material topics	Sustainable Management: D. Stakeholder Communication	18	

Specific Topics Disclosures

Code	Disclosure	Major Issue	Chapter in the Report	Page	Description
Economic					
GRI 201: Economic Performance					
201-1	Direct economic value generated and distributed	Corporate Governance Talent attraction & retention	Corporate Governance: B. Financial Performance Friendly Workplace: A. Diversity and inclusion Recruitment	34 108	
201-2	Financial implications and other risks and opportunities due to climate change	Climate Strategy	Environment Protection: A. Climate Change Appendix: TCFD Index	74 160	
201-3	Defined benefit plan obligations and other retirement plans	Talent attraction & retention	Friendly Workplace: A. Diversity and inclusion Recruitment	108	
GRI 203：Indirect Economic Impacts					
203-1	Infrastructure investments and services supported	Social Participation	Community Contribution: A. Cultivation of Talent	149	
203-2	Significant indirect economic impacts	Social Participation	-	-	no significant events
GRI 204: Procurement Practices					
204-1	Proportion of spending on local suppliers	Sustainable supplier	-	-	not revealed
GRI 205：Anti-corruption					
205-1	Operations assessed for risks related to corruption	Business Ethics	Corporate Governance: C. Business Ethics	37	
205-2	Communication and training about anti-corruption policies and procedures	Business Ethics	Corporate Governance: C. Business Ethics	37	
205-3	Confirmed incidents of corruption and actions taken	Business Ethics	Corporate Governance: C. Business Ethics	37	There were no reported cases of corruption during the year.
GRI 206：Anti-competitive Behavior					
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Business Ethics	Corporate Governance: C. Business Ethics	37	no events occurred
GRI 207：Tax					
207-1	Approach to tax	Corporate Governance	Corporate Governance: B. Financial Performance	34	
207-2	Tax governance, control, and risk management	Corporate Governance	Corporate Governance: B. Financial Performance	34	
Environmental					
GRI 302：Energy					
302-1	Energy consumption within the organization	Energy Management	Environment Protection: B. Energy Management	85	The MitraStar and Zyxel sites did not use renewable energy, so the consumption was not disclosed this year.
302-3	Energy intensity	Energy Management	Environment Protection: B. Energy Management	85	
302-4	Reduction of energy consumption	Energy Management	Environment Protection: B. Energy Management	85	
GRI 303：Water and Effluents (2018)					
303-3	Water withdrawal		Environment Protection: C. Water Management	87	
303-4	Water discharge		Environment Protection: C. Water Management	87	
303-5	Water consumption		Environment Protection: C. Water Management	87	
GRI 304：Biodiversity					
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas				none
304-2	Significant impacts of activities, products, and services on biodiversity				none
304-3	Habitats protected or restored				none

Code	Disclosure	Major Issue	Chapter in the Report	Page	Description
GRI 305：Emissions					
305-1	Direct (Scope 1) GHG emissions	Climate strategy	Environment Protection: A. Climate Change	74	
305-2	Energy indirect (Scope 2) GHG emissions	Climate strategy	Environment Protection: A. Climate Change	74	
305-3	Other indirect (Scope 3) GHG emissions	Climate strategy	Environment Protection: A. Climate Change	74	
305-4	GHG emissions intensity	Climate strategy	Environment Protection: A. Climate Change	74	
305-6	Emissions of ozone-depleting substances (ODS)	Climate strategy	Environment Protection: F. Ecological Preservation	91	
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant emissions	Climate strategy	Environment Protection: F. Ecological Preservation	91	
GRI 306：Waste (2020)					
306-1	Waste generation and significant waste-related impacts		Environment Protection: D. Waste Management	89	
306-2	Management of significant waste-related impacts		Environment Protection: D. Waste Management	89	
306-3	Waste generated		Environment Protection: D. Waste Management	89	
GRI 308：Supplier Environmental Assessment					
308-2	Negative environmental impacts in the supply chain and actions taken	Sustainable supplier	Value Chain: B. Supplier Sustainability Management	57	
Social					
GRI 401：Employment					
401-1	New employee hires and employee turnover	Talent attraction & retention	Friendly Workplace: A. Diversity and inclusion Recruitment	108	
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Talent attraction & retention Occupational Safety & Health	Friendly Workplace: A. Diversity and inclusion Recruitment Friendly Workplace: B. Human Capital Development	108 132	
401-3	Parental leave	Talent attraction & retention	Friendly Workplace: A. Diversity and inclusion Recruitment	108	
GRI 402：Labor/Management Relations					
402-1	Minimum notice periods regarding operational changes	Human Rights Management	Friendly Workplace: C. Human Rights Management	123	
GRI 403：Occupational Health and Safety					
403-1	Occupational health and safety management system	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
403-2	Hazard identification, risk assessment, and incident investigation	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
403-3	Occupational health services	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
403-4	Worker participation, consultation, and communication on occupational health and safety	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
403-5	Worker training on occupational health and safety	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
403-6	Promotion of worker health	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
403-8	Workers covered by an occupational health and safety management system	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
403-9	Work-related injuries	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
403-10	Work-related injuries	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	

Code	Disclosure	Major Issue	Chapter in the Report	Page	Description
GRI 404：Training and Education					
404-1	Average hours of training per year per employee	Talent cultivation & development	Friendly Workplace: B. Human Capital Development	116	
404-2	Programs for upgrading employee skills and transition assistance programs	Talent cultivation & development	Friendly Workplace: B. Human Capital Development	116	
404-3	Programs for upgrading employee skills and transition assistance programs	Talent cultivation & development	Friendly Workplace: B. Human Capital Development	116	
GRI 405：Diversity and Equal Opportunity					
405-1	Diversity of governance bodies and employees	Corporate Governance Talent cultivation & development	Corporate Governance: A. Governance Structure Friendly Workplace: A. Diversity and inclusion Recruitment	29 108	
GRI 406：Non-discrimination					
406-1	Incidents of discrimination and corrective actions taken	Human Rights Management	Friendly Workplace: C. Human Rights Management	123	
GRI 407：Freedom of Association and Collective Bargaining					
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Human Rights Management	Friendly Workplace: C. Human Rights Management	123	
GRI 408：Child Labor					
408-1	Operations and suppliers at significant risk for incidents of child labor	Sustainable supplier Human Rights Management	Value Chain: B. Supplier Sustainability Management Friendly Workplace: C. Human Rights Management	57 123	no events occurred
GRI 409：Forced or Compulsory Labor					
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Human Rights Management	Value Chain: B. Supplier Sustainability Management Friendly Workplace: C. Human Rights Management	57 123	no events occurred
GRI 410: Security Practices					
410-1	Security personnel trained in human rights policies or procedures	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
GRI 414：Supplier Social Assessment					
414-2	Negative social impacts in the supply chain and actions taken	Sustainable supplier	Value Chain: B. Supplier Sustainability Management	57	no events occurred
GRI 415: Public Policy					
415-1	Political contributions	Corporate Governance	-	34	No political contributions
GRI 416：Customer Health and Safety					
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Green Product	-	-	no events occurred
GRI 418：Customer Privacy					
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Information Security Management Customer Relations	Corporate Governance: E. Information Security Management Value Chain: A. Customer Relations	47 55	no events occurred

Appendix II: SASB Standards Index

Electronic Manufacturing Services & Original Design Manufacturing (MitraStar Technology)

Topic/ Code	Accounting Metric	Category	Major Issue	Chapter	Page	Summary
Accounting Metrics						
Water Management						
TC-ES140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Quantitative		Environment Protection: C. Water Management	87	According to the assessment of the Water Aqueduct developed by the World Resources Institute (WRI), MitraStar is located in a low-pressure area (<10%).
Waste Management						
TC-ES150a.1	Amount of hazardous waste from manufacturing, percentage recycled	Quantitative		Environment protection D. Waste Management	89	
Labor Practices						
TC-ES310a.1	(1) Number of work stoppages and (2) total days idle	Quantitative	Human rights management	-	-	In 2022, Zyxel Group did not cause any shutdowns
Labor Conditions						
TC-ES-320a.1	(1) Total recordable incident rate (TRIR) and (2) near miss frequency rate (NMFR) for (a) direct employees and (b) contract employees	Quantitative	Occupational Safety & Health	Friendly Workplace: D. Workplace Health & Safety	132	
TC-ES-320a.2	Percentage of (1) entity' s facilities and (2) Tier 1 supplier facilities audited in the RBA Validated Audit Process (VAP) or equivalent, by (a) all facilities and (b) high-risk facilities	Quantitative	Sustainable supplier	Value Chain: B. Supplier Sustainability Management	57	
TC-ES-320a.3	(1) Non-conformance rate with the RBA Validated Audit Process (VAP) or equivalent and (2) associated corrective action rate for (a) priority non-conformances and (b) other non-conformances, broken down for (i) the entity' s facilities and (ii) the entity' s Tier 1 supplier facilities	Quantitative	Sustainable supplier	Value Chain: B. Supplier Sustainability Management	57	
Product Lifecycle Management						
TC-ES-410a.1	Weight of end-of-life products and e-waste recovered, percentage recycled	Quantitative	Green product	-	-	Not applicable, MitraStar products belong to ODM, product recycling is handled by customers, so it is no statistical data.
Materials Sourcing						
TC-ES440a.1	Description of the management of risks associated with the use of critical materials	Discussion and Analysis	Sustainable supplier	Value Chain: B. Supplier Sustainability Management	57	Because MitraStar is a ODM manufacturer, the materials used are mainly based on customer requirements, and the substances that will be used cannot be confirmed, so it is impossible to fully define and manage our key substances.
TC-ES-000.A	Number of manufacturing facilities	Quantitative		About Zyxel Group	6	There are two manufacturing sites, one is Hsinchu factory in Taiwan and the other is Wuxi factory in China.
TC-ES-000.B	Area of manufacturing facilities	Quantitative		-	-	Hsinchu: 8,950 square meters, Wuxi: 37,196 square meters
TC-ES-000.C	Number of employees	Quantitative		About Zyxel Group	6	2,510 employees

Hardware Standard (Zyxel Communication, Zyxel Networks)

Topic/Code	Accounting Metric	Category	Major Issue	Chapter	Page	Summary
Product Security						
TC-HW-230a.1	Description of approach to identifying and addressing data security risks in products	Discussion and Analysis	Information Security	Corporate Governance: E. Information Security	47	
Employee Diversity & Inclusion						
TC-HW-330a.1	Percentage of gender representation for (1) management, (2) technical staff, and (3) all other employees	Quantitative	Talent attraction & retention	Friendly Workplace: A. Diversity and Inclusion Recruitment	108	
Product Lifecycle Management						
TC-HW-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	Quantitative	Green product	-	-	The regulations on the control of environmentally hazardous substances are regularly updated. This standard has covered the list of declarable controlled substances listed in IEC 62474, but is limited by the fact that some materials cannot be replaced by current industrial technology or a trace number of residues remains in it. product, so it will not be disclosed for the time being.
TC-HW-410a.2	Percentage of eligible products, by revenue, meeting the requirements for EPEAT registration or equivalent	Quantitative	Green product	-	-	Investigation will be carried out according to customer requirements
TC-HW-410a.3	Percentage of eligible products, by revenue, meeting ENERGY STAR® criteria	Quantitative	Green product	-	-	Investigation will be carried out according to customer requirements
TC-HW-410a.4	Weight of end-of-life products and e-waste recovered, percentage recycled	Quantitative	Green product	-	-	Weight of end-of-life products and e-waste recovered: 4557.51 tonnes; Percentage recycled: 3.35%
Supply Chain Management						
TC-HW-430a.1	Percentage of Tier 1 supplier facilities audited in the RBA Validated Audit Process (VAP) or equivalent, by (a) all facilities and (b) high-risk facilities	Quantitative	Sustainable supplier	Value Chain: B. Supplier Sustainability Management	57	In 2023, Zyxel Communications and Zyxel Networks' suppliers imply RBA audit rate (a) 100% for all suppliers (b) 100% for high-risk suppliers
TC-HW-430a.2	Tier 1 suppliers' (1) non-conformance rate with the RBA Validated Audit Process (VAP) or equivalent, and (2) associated corrective action rate for (a) priority non-conformances and (b) other non-conformances	Quantitative	Sustainable supplier	Value Chain: B. Supplier Sustainability Management	57	In 2023, Zyxel Communications and Zyxel Networks suppliers will achieve 100% pass rate of RBA audit
Materials Sourcing						
TC-HW-440a.1	Description of the management of risks associated with the use of critical materials	Discussion and Analysis		Value Chain: B. Supplier Sustainability Management	57	Follow the analysis of the top ten key materials issued by the competent authority in Taiwan, conflict minerals are defined as the company's key substances, and conflict mineral management methods are formulated for risk control.
Activity Metrics						
TC-HW-000.A	Number of units produced by product category	Quantitative		-	-	Business secrets not disclosed
TC-HW-000.B	Area of manufacturing facilities	Quantitative		-	-	Two companies have no manufacturing facilities
TC-HW-000.C	Percentage of production from owned facilities	Quantitative		-	-	The company is a brand owner and does not operate its own factories.

Appendix III: TCFD Index

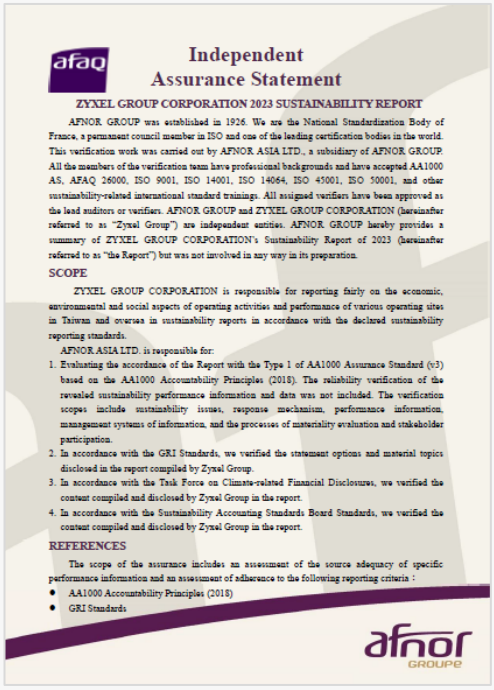
Aspect/Disclosures	Major issue	Chapter	Page
Governance			29 74
The board's oversight of climate-related risks and opportunities	Corporate Governance Climate Strategy	Corporate Governance: A. Governance Structure Environment Protection: A. Climate Change	16 40 74
Management's role in assessing and managing climate-related risks and opportunities	Corporate Governance Climate Strategy	Sustainable Management: B. Sustainable Committee Corporate Governance: D. Risk Management Environment Protection: A. Climate Change	
Strategy			40 74
The climate-related risks and opportunities the organization has identified over the short, medium, and long term	Climate Strategy	Corporate Governance: D. Risk Management Environment Protection: A. Climate Change	40 74
The impact of climate related risks and opportunities on the organization's businesses, strategy, and financial planning.	Climate Strategy	Corporate Governance: D. Risk Management Environment Protection: A. Climate Change	40 74
The resilience of the organization's strategy, taking into consideration different climate-related scenarios	Climate Strategy	Corporate Governance: D. Risk Management Environment Protection: A. Climate Change	
Risk Management			40 74
The organization's processes for identifying and assessing climate-related risks.	Climate Strategy	Corporate Governance: D. Risk Management Environment Protection: A. Climate Change	40 74
The organization's processes for managing climate-related risks.	Climate Strategy	Corporate Governance: D. Risk Management Environment Protection: A. Climate Change	40 74
How processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	Climate Strategy	Corporate Governance: D. Risk Management Environment Protection: A. Climate Change	
Metrics and Targets			74
Metrics used by the organization to assess climate related risks and opportunities in line with its strategy and risk management process.	Climate Strategy	Environment Protection: A. Climate Change	74 85
Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Climate Strategy Energy Management	Environment Protection: A. Climate Change Environment Protection: B. Energy Management	87
Targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Climate Strategy Energy Management	Environment Protection: C. Water Management	29 74

Appendix IV: Taiwan Stock Exchange Sustainable Disclosure Index - Telecommunications Network Industry

Code	Accounting Metric	Category	Annual disclosure status	Unit	Notes
1	Total energy consumption, percentage of purchased power and renewable energy utilization rate	Quantitative	Total energy consumption: 98,409 GJ percentage of purchased power: 100% Renewable energy utilization rate: 0	Gigajoule (GJ), Percentage (%)	Plan to implement renewable energy in 2025
2	Total water withdrawn and total water consumed	Quantitative	Total water withdrawn: 146,690 m³ total water consumed: 38,930 m³	Cubic meters (m³)	
3	Amount of hazardous waste from manufacturing, percentage recycled	Quantitative	227.23 Tonnes Percentage recycled: 80.08%	Tonnes (t) Percentage (%)	
4	Types, number and rates of occupational injuries	Quantitative	Types of occupational injuries: Lost time injury (LTI) + Recordable occupational Number of occupational injuries:: 14 Rates of occupational injuries: 0.3%	Percentage (%), Number	Occupational injury rate: Number of occupational injuries / Total number of employees
5	Product Lifecycle Management: Weight of end-of-life products and e-waste recovered, percentage recycled	Quantitative	Weight of end-of-life products and e-waste recovered: 4557.51 tonnes；Percentage recycled: 3.35%	Percentage (%), Number	
6	Product Lifecycle Management: Weight of end-of-life products and e-waste recovered, percentage recycled	Qualitative description	Please refer to the sustainability report on P101, Sustainable Raw Materials	Not applicable	
7	Total monetary losses incurred due to legal proceedings related to anti-competitive behavior regulations	Quantitative	0	NT$	
8	Major product output by product category	Quantitative	Broadband equipment: 17,998,000	Differs by product category	

Appendix IV: Third Party Assurance Statement

GRI Standards & AA1000, SASB, TCFD Standard



Independent Assurance Statement

ZYXEL GROUP CORPORATION 2023 SUSTAINABILITY REPORT

AFNOR GROUP was established in 1926. We are the National Standardization Body of France, a permanent council member in ISO and one of the leading certification bodies in the world. This verification work was carried out by AFNOR ASIA LTD., a subsidiary of AFNOR GROUP. All the members of the verification team have professional backgrounds and have accepted AA1000 AS, AFAQ 26000, ISO 9001, ISO 14001, ISO 14064, ISO 45001, ISO 50001, and other sustainability-related international standard trainings. All assigned verifiers have been approved as the lead auditors or verifiers. AFNOR GROUP and ZYXEL GROUP CORPORATION (hereinafter referred to as "Zyxel Group") are independent entities. AFNOR GROUP hereby provides a summary of ZYXEL GROUP CORPORATION's Sustainability Report of 2023 (hereinafter referred to as "the Report") but was not involved in any way in its preparation.

SCOPE

ZYXEL GROUP CORPORATION is responsible for reporting fairly on the economic, environmental and social aspects of operating activities and performance of various operating sites in Taiwan and oversea in sustainability reports in accordance with the declared sustainability reporting standards.

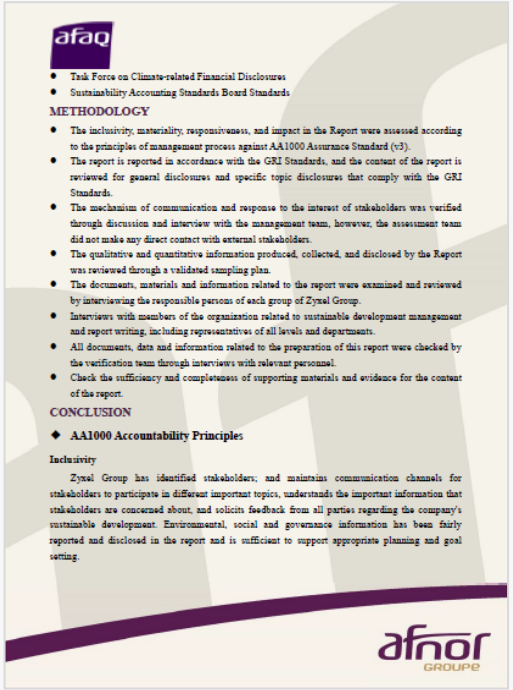
AFNOR ASIA LTD. is responsible for:

1. Evaluating the accordance of the Report with the Type 1 of AA1000 Assurance Standard (v3) based on the AA1000 Accountability Principles (2018). The reliability verification of the revealed sustainability performance information and data was not included. The verification scopes include sustainability issues, response mechanism, performance information, management systems of information, and the processes of materiality evaluation and stakeholder participation.
2. In accordance with the GRI Standards, we verified the statement options and material topics disclosed in the report compiled by Zyxel Group.
3. In accordance with the Task Force on Climate-related Financial Disclosures, we verified the content compiled and disclosed by Zyxel Group in the report.
4. In accordance with the Sustainability Accounting Standards Board Standards, we verified the content compiled and disclosed by Zyxel Group in the report.

REFERENCES

The scope of the assurance includes an assessment of the source adequacy of specific performance information and an assessment of adherence to the following reporting criteria :

- AA1000 Accountability Principles (2018)
- GRI Standards



- Task Force on Climate-related Financial Disclosures
- Sustainability Accounting Standards Board Standards

METHODOLOGY

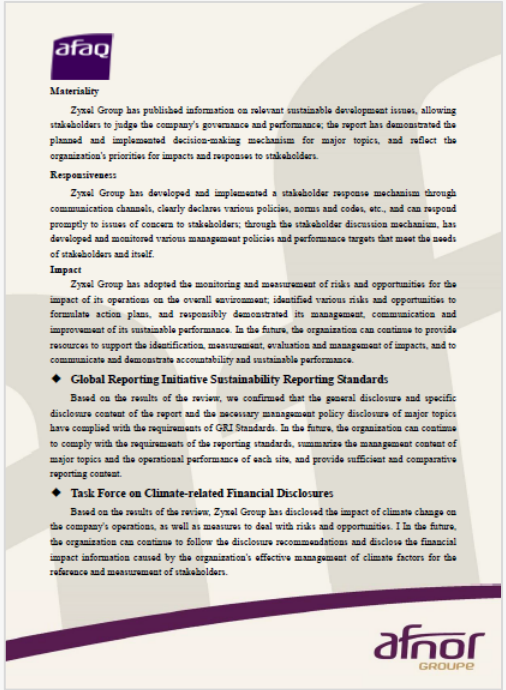
- The inclusivity, materiality, responsiveness, and impact in the Report were assessed according to the principles of management process against AA1000 Assurance Standard (v3).
- The report is reported in accordance with the GRI Standards, and the content of the report is reviewed for general disclosures and specific topic disclosures that comply with the GRI Standards.
- The mechanism of communication and response to the interest of stakeholders was verified through discussion and interview with the management team, however, the assessment team did not make any direct contact with external stakeholders.
- The qualitative and quantitative information produced, collected, and disclosed by the Report was reviewed through a validated sampling plan.
- The documents, materials and information related to the report were examined and reviewed by interviewing the responsible persons of each group of Zyxel Group.
- Interviews with members of the organization related to sustainable development management and report writing, including representatives of all levels and departments.
- All documents, data and information related to the preparation of this report were checked by the verification team through interviews with relevant personnel.
- Check the sufficiency and completeness of supporting materials and evidence for the content of the report.

CONCLUSION

◆ **AA1000 Accountability Principles**

Inclusivity

Zyxel Group has identified stakeholders; and maintains communication channels for stakeholders to participate in different important topics, understands the important information that stakeholders are concerned about, and solicits feedback from all parties regarding the company's sustainable development. Environmental, social and governance information has been fairly reported and disclosed in the report and is sufficient to support appropriate planning and goal setting.



Materiality

Zyxel Group has published information on relevant sustainable development issues, allowing stakeholders to judge the company's governance and performance; the report has demonstrated the planned and implemented decision-making mechanism for major topics, and reflect the organization's priorities for impacts and responses to stakeholders.

Responsiveness

Zyxel Group has developed and implemented a stakeholder response mechanism through communication channels, clearly declares various policies, norms and codes, etc., and can respond promptly to issues of concern to stakeholders; through the stakeholder discussion mechanism, has developed and monitored various management policies and performance targets that meet the needs of stakeholders and itself.

Impact

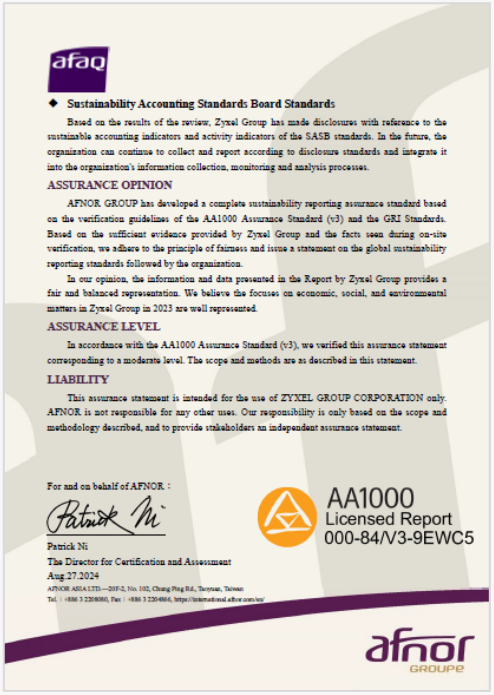
Zyxel Group has adopted the monitoring and measurement of risks and opportunities for the impact of its operations on the overall environment; identified various risks and opportunities to formulate action plans, and responsibly demonstrated its management, communication and improvement of its sustainable performance. In the future, the organization can continue to provide resources to support the identification, measurement, evaluation and management of impacts, and to communicate and demonstrate accountability and sustainable performance.

◆ **Global Reporting Initiative Sustainability Reporting Standards**

Based on the results of the review, we confirmed that the general disclosure and specific disclosure content of the report and the necessary management policy disclosure of major topics have complied with the requirements of GRI Standards. In the future, the organization can continue to comply with the requirements of the reporting standards, summarize the management content of major topics and the operational performance of each site, and provide sufficient and comparative reporting content.

◆ **Task Force on Climate-related Financial Disclosures**

Based on the results of the review, Zyxel Group has disclosed the impact of climate change on the company's operations, as well as measures to deal with risks and opportunities. I In the future, the organization can continue to follow the disclosure recommendations and disclose the financial impact information caused by the organization's effective management of climate factors for the reference and measurement of stakeholders.



◆ **Sustainability Accounting Standards Board Standards**

Based on the results of the review, Zyxel Group has made disclosures with reference to the sustainable accounting indicators and activity indicators of the SASB standards. In the future, the organization can continue to collect and report according to disclosure standards and integrate it into the organization's information collection, monitoring and analysis processes.

ASSURANCE OPINION

AFNOR GROUP has developed a complete sustainability reporting assurance standard based on the verification guidelines of the AA1000 Assurance Standard (v3) and the GRI Standards. Based on the sufficient evidence provided by Zyxel Group and the facts seen during on-site verification, we adhere to the principle of fairness and issue a statement on the global sustainability reporting standards followed by the organization.

In our opinion, the information and data presented in the Report by Zyxel Group provides a fair and balanced representation. We believe the focuses on economic, social, and environmental matters in Zyxel Group in 2023 are well represented.

ASSURANCE LEVEL

In accordance with the AA1000 Assurance Standard (v3), we verified this assurance statement corresponding to a moderate level. The scope and methods are as described in this statement.

LIABILITY

This assurance statement is intended for the use of ZYXEL GROUP CORPORATION only. AFNOR is not responsible for any other uses. Our responsibility is only based on the scope and methodology described, and to provide stakeholders an independent assurance statement.

For and on behalf of AFNOR :

Patrick Ni

The Director for Certification and Assessment

Aug.27.2024

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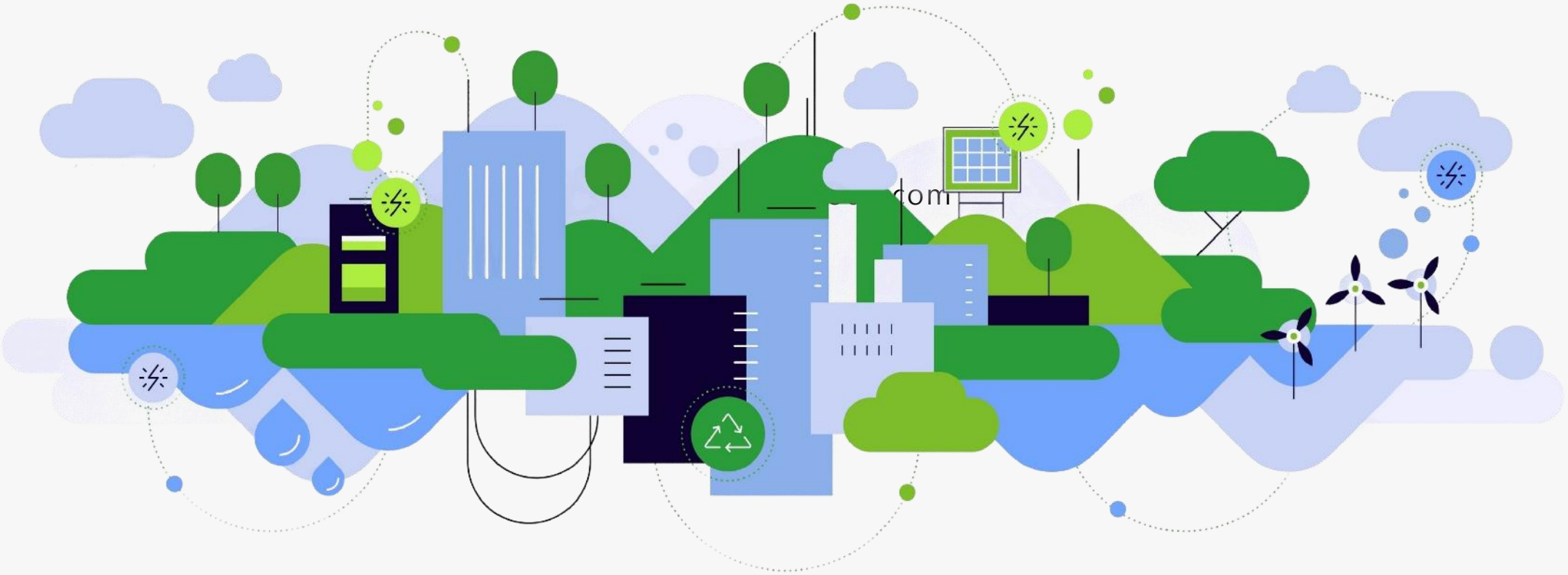

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