

Sustainability Report

2021



ZYXEL
COMMUNICATIONS

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A message from our President



At Zyxel Communications, sustainability is more than a buzzword. It's a daily practice and corporate initiative tied to concrete, measurable goals. With this philosophy, our promise in fighting climate change is more than a pledge. It's a plan-based approach to reach net-zero emissions, adopt renewable energy, and sharpen R&D focused on green product development.

Our global environmental, social and governance (ESG) initiatives cover six areas: corporate governance, environmental protection, green products, responsible supply chain, inclusive workplace and community contributions.

We strive to reduce carbon footprints through proactive optimization in energy and water conservation, carbon emission reduction and waste management. We're making measurable progress in this area. From 2019 to 2021, these figures trended downward.

In 2021, Zyxel received the EcoVadis Silver Award, ranking the company in the top 25% of sustainable businesses across companies in all industries. It is our ambition to achieve an EcoVadis Platinum rating, and we will continuously strive to reach this goal.

This year, we will join the global science-based target initiatives (SBTi) in which, Zyxel commits to reaching net-zero greenhouse gas emissions by 2050.

We constantly look for innovative ways to reduce carbon emissions in logistics. We've successfully shrunk packaging volumes by up to 36.7% for our Customer Premises

Equipment (CPE) product line, resulting in an up to 47.7% increase in product numbers per pallet and a proportionate reduction in logistics carbon footprint. In 2023, our green product launch will include shipping goods in 100% plastic-free packaging, using post-consumer recycled (PCR) housing and other sustainable components.

Also in our corporate facilities, we strive to make a difference. In 2019, our North American headquarters installed a 200kW solar power system at the Anaheim, Calif.-based facilities, providing nearly 90% of its power. Our sustainability plan will continue as we adopt renewable energy in our Taiwan Worldwide Headquarters facilities.

While I'm incredibly proud of Zyxel's progress made in contributing to a greener planet, there's more work to do. We remain committed to working closely with you, our customers, to continue this momentum and achieve a more sustainable future.

It's up to us – every Zyxel employee – to make positive change. With our customers' support and partnership, we will succeed in this effort.

Sincerely,

Karsten Gewecke
President of Zyxel Communications

A handwritten signature in black ink, appearing to read 'Karsten Gewecke'. The signature is fluid and cursive, with a large initial 'K'.

A message from our CSO

Zyxel Communications is always searching for ways to make a positive impact on people and our planet – it's part of our 20-year sustainability initiatives. These efforts start at home with our most important asset, our employees and continue throughout our entire value chain.

We understand business success starts with each and every employee feeling valued and understanding the impact their respective individuality brings to the table. We guarantee a diverse, equal, and inclusive workplace where gender equality, multicultural integration, and cross-generational diversity are all brought into account. In 2021, female makes up 34% of Zyxel's total workforce and 25% of management positions. The same year, our North American Headquarters was among the Orange County (California) Top Workplaces, and we boast a global average tenure of 9 years.

We also understand the importance of planning for our future. We're not just investing in current employees. We're strongly nurturing next-generation talent in technology and telecommunications. We sponsor curriculum and programs to inspire today's youth – the talent of tomorrow – to become interested in Science, Technology, Engineering, and Mathematics (STEM) education.

And since 1999, the Dr. Shun-I Chu Scholarship has granted more than US\$5 million to support thousands of Taiwan college and high school students showing outstanding academic or from socially disadvantaged families. Investing in our people is more than lip service - which is why we commit to continuing donations in support of talent cultivation, currently an annual spending of US\$270 thousand.

Achieving a true sustainable future requires all our employees and business partners to work closely together. Zyxel commits to sustainable procurement, requiring all of our suppliers to follow requirements and sign our Statement of Supplier Code of Conduct – and expect 95% of key suppliers to receive ISO 14064-1 in 2022 and RBA/EcoVadis/CDP-equivalent sustainability certifications by 2024.

For decades, Zyxel has used our expertise in broadband access solutions to shorten the digital divide and bring quality connectivity to anyone – and everywhere. In our recent collaborations with Solutions 30 and Broadband-for-the-Rural North (B4RN), we're bringing free quality internet connections to students in rural areas in support of their digital curriculum.

Sustainability is a hot topic – and at Zyxel is so much more than a buzzword. None of us can do this alone. By investing in people – our suppliers, our employees, our upcoming workforces and our communities – together, we can make an agile and resilient business when marching toward a connected and sustainable future.

Sincerely,

Denise Lin
CSO of Unizyx Group



Our goals and strategies



Environment

Reach net zero greenhouse gas emissions by 2050

Join the process of SBTi in 2022 and commit to eliminating greenhouse gas emissions by 2050

Adopt renewable energy

Use renewable energy to support operations in Taiwan Worldwide Headquarters facilities

Launch a green product by 2023

- Adopt 100% plastic-free packaging
- Use PCR plastics for product housing
- Consider recyclability in mechanical design
- Fully disclose product carbon footprint
- Incorporate energy efficiency mechanisms
- Adopt easy refurbishment design
- Use sustainable components



Society

Support talent cultivation

Commit annual donations to support talent cultivation events and activities

Promote environmental protection through public education

Achieve annual 5,000+ people involving in Zyxel hosted environmental protection events and lectures

Guarantee gender equity in all aspects



Governance

Receive EcoVadis Platinum rating by 2030

Fully disclose TCFD Financial Impact Estimation by 2023

Commit to a sustainable value chain

- 95% of key suppliers receive ISO 14064-1 by 2022
- 95% of key suppliers receive satisfactory ratings in RBA/EcoVadis/CDP equivalent sustainability certifications by 2024

About the report

Zyxel Communications (hereafter referred to as "Zyxel"), a subsidiary of Unizyx Group, shares the same company governance principles and ESG management strategy as its parent company. Zyxel is committed to using technology-enabled solutions to bring positive influences to the community we work in and with and take conscious actions to minimize environmental impacts while seeking mutual benefits with all stakeholders. Based on the material topics concern the most to our stakeholders, Zyxel follows the Group-wide ESG guidelines and delivers our sustainability commitment in six areas – corporate governance, environmental protection, green products, responsible supply chain, inclusive workplace, and community contribution.

Since 2019, Zyxel has published an annual sustainability report to truthfully and transparently disclose the implementation of our sustainability commitments.

The Zyxel 2021 Sustainability Report was drafted in accordance with GRI standards "Core" option. The Report also explains Zyxel's approaches to integrating 11 out of the 17 Sustainable Development Goals.

Reporting scope

The reporting scope of the Report mainly covers measures set by the Unizyx ESG Steering Committee and results achieved by the Zyxel ESG Committee in the Taiwan-based Worldwide Headquarters facilities. Overseas office-related statistics disclose in this report are only about finance, human resources, renewable energy adoption, and community contributions.

Reporting period

The reporting period of the Report is from January 1, 2021 to December 31, 2021. During the reporting period, there were no significant changes in organizational structure, size, ownership, and supply chain.

Internal measurements

The content of the Report is provided and verified first by each department which executes the sustainability plans and then approved by the Chief Sustainability Officer of the Unizyx Group.

External measurements

All financial statistics disclosed in the Report are calculated in US dollars. Zyxel is also accredited through the following certifications:

- ISO 9001 Quality Management
- TL 9000 Telecommunications Quality Management System

- ISO 14001 Environmental Management
- ISO 45001 Occupational Health and Safety
- ISO 27001 Information Security Management

External assurance

Our third-party assurance provider, DNV GL Business Assurance Co., Ltd., has undertaken independent assurance of this report, following the criteria of the GRI Standards "Core" option, DNV VeriSustain™ Protocol Moderate Assurance, and AA1000 Assurance Standard V3.

The Independent Assurance Statement has been provided as an appendix to this report

Reporting cycle

The Report is released on an annual basis. The previous publication was in 2021 and the next publication will be in 2023.

Contact information

Zyxel Worldwide Headquarters Address

No.2 Industry East RD. IX, Hsinchu Science Park, East District 30076, Taiwan

Zyxel Communications ESG committee:

esg@zyxel.com.tw

The report can be downloaded from the Zyxel Communications website:

<https://service-provider.zyxel.com/global/en/csr-overview>

Company governance



About us

1.1 Company profile

Zyxel, a subsidiary of the Unizyx Group, is dedicated to developing comprehensive, reliable, and cutting-edge broadband access solutions. As a leading global telecommunications brand, Zyxel contributes to its customers' competitive edge while helping them maintain high levels of customer satisfaction.

Over the past 30 years, Zyxel has extended its reach to 150 global markets with more than 500 passionate employees worldwide. With a comprehensive array of fixed-line and mobile solutions, Zyxel innovates next-generation broadband connections and reveals new opportunities with truly convergent services.

Based in Hsinchu Science Park, Taiwan, Zyxel operates two research centers, four regional headquarters, and 35 branch offices around the world to support service providers in different regions with real-time local sales and technical expertise. Through decades of steadfast effort and continual innovation, Zyxel has established an internationally recognized brand with over 20 million broadband access devices shipped and annual revenues of US\$363 million.

Zyxel Communications facts	
Worldwide Headquarters	Hsinchu, Taiwan
Global consolidated revenue in 2021	US\$ 363 million (NT\$ 10,176 million) 2021 average currency exchange rate: 0.0358 USD
Total number of employees in 2021	570
Global presence	2 research centers, 4 regional headquarters, and 35 branch offices around the world



1.2 History





In 1987, Dr. Shun-I Chu, a former Bell Labs researcher, established his first Taiwanese lab in Longtan District, Taoyuan City dedicated to the research and development of high-speed analog modems. Two years later, Zyxel was founded in the Hsinchu Science Park. The first Zyxel branded high-speed modem series was unveiled in 1991 and rapidly gained appreciation in the American and European markets for its unique features and excellent performance.

Since then, Zyxel has become a well-known telecommunications and networking brand offering complete solutions for worldwide service providers, businesses, and homes.

In 2019, Zyxel spun off its channel business to form Zyxel Networks. Since then, Zyxel has dedicated to delivering reliable, feature-rich, and scalable broadband solutions for worldwide service providers.

1.3 Business activities

Innovation is Zyxel's core competence. We offer a complete portfolio of mobile and fixed-line broadband access products and solutions.

Technologies	Solution benefits
 <p>Fiber access</p>	Offer end-to-end and ONT portfolio supporting new passive and active fiber technologies for tailored deployment plans.
 <p>5G NR/4G LTE FWA</p>	Simplify indoor/outdoor deployment by taking advantage of 5G NR/4G LTE technologies.
 <p>Copper access</p>	Cover VDSL2 and G.fast deployment scenarios to provide speed, stability, flexibility, and scalability.
 <p>In-building coverage</p>	Extend and distribute cellular signals within mid-sized buildings.

1.4 Competitive advantages

Hand in hand with the steady growth of the Internet of Things (IoT) applications and connected household appliances, Zyxel's broad range of sophisticated solutions helps service providers satisfy subscriber expectations for seamless, reliable, and fast internet connectivity.

Zyxel actively develops solutions that help service providers upgrade existing network infrastructure, including 5G/LTE, 10G active and passive fiber, VDSL2, and G.fast.

In addition to offering faster internet speeds, Zyxel also leveraged its excellent software capabilities to develop WiFi 6/6E and EasyMesh standards-compliant MPro Mesh® Solutions. With powerful built-in remote management features and an in-house developed intuitive mobile app, Zyxel's Mesh WiFi 6 solutions allow service providers to deliver self-adaptive home networks so end-users can enjoy WiFi everywhere in the house without dead zones.

5G enables new applications and unlocks added business potential with quantum leaps in capacity and data rates. Worldwide service providers can actively increase 5G service coverage as consumer devices supporting 5G standards become available across the market. In response to the soaring demands, Zyxel launched complete 5G NR Fixed Wireless Access (FWA) Solutions, beating the competition by leveraging research momentum accumulated for the latest cellular broadband technology.

Both our Mesh WiFi 6 and 5G Solutions have been adopted by leading service providers in Europe, such as Telenor, Telia, and DIGI Spain. Through continuous investments in innovative technologies and optimization of business operations, Zyxel expects new opportunities for future growth.

1.5 Business development

Short-term plan

In 2019, after Zyxel spun off its channel business to form Zyxel Networks, we have dedicated our energy to delivering comprehensive, reliable, and future-proof broadband access solutions for worldwide service providers.

In addition to the mature European and North American markets, Zyxel is also actively expanding our business reach to South America and APAC.

Long-term plan

Zyxel's brand promise is to keep service providers ahead of the competition. We work closely with global service providers to unlock the full potential of the internet with our technology-enabled, dependable, and scalable broadband access solutions.

1.6 Recent milestones

2021

- Ranking in the 21-35 percent range of the TWSE Index among 954 companies
- EcoVadis Silver Rating (an improvement from 55 points in 2020 to 60 points in 2021)
- CDP scores improved from D to C level
- Zyxel North America headquarters awarded the Top Workplaces 2021 honor by Orange County Register Top Workplaces

2020

- EcoVadis Silver Rating
- CDP D score
- Zyxel is the only telecommunications company named among the Best Taiwan Global Brands 2020
- Zyxel is the Taiwan Excellence Awards' biggest winner in the telecommunications industry

2019

- Zyxel North American headquarters transitioned to a solar power system to provide nearly 90 percent of the power consumed by the facility

2018

- EcoVadis Bronze Rating

2017

- Dr. Shun-I Chu was recognized with the ERSO Award for his outstanding contributions to the telecommunications industry of Taiwan.

1.7 Membership in associations

Zyxel actively participates in industry associations or non-government organizations.

Industry development

- Taiwan Electrical and Electronic Manufacturers' Association
- Taiwan Science Park Association of Science and Industry
- Taiwan Association of Information and Communication Standards
- Asia Silicon Valley Development Agency
- Taiwan Defense Industry Development Association, TW-DIDA
- The Institute for Information Industry
- Taiwan External Trade Development Council

Technology and innovations

- Wi-Fi Alliance
- The Broadband Forum
- Digital Content Protection LLC
- CBRS Alliance
- Global Certification Forum
- Open Networking Foundation
- Open Connectivity Foundation
- Telecom Infra Project
- Telecommunications Industry Association

Corporate sustainability

- EcoVadis SAS
- Taiwan Institute for Sustainable Energy
- Taiwan Business Council for Sustainable Development
- Chinese Professional Management Association of Hsinchu



ESG management

2.1 Mission statements

As a subsidiary of the Unizyx Group, Zyxel shares the Group-wide unified company governance principles and ESG management strategy while continuing to observe the principles of the Global Compact defined by the United Nations and following the guiding principles of OECD. Building on ethical and profitable business practices, we focus on using technology-enabled solutions to bring positive influences to the community we work in and with and take conscious actions to minimize environmental impacts while seeking mutual benefits with all stakeholders.

2.2 ESG Committee

To ensure the Group-wide ESG management strategy is aligned and carried out throughout its subsidiary companies, Unizyx established the ESG Steering Committee (hereafter referred to as "the Steering Committee"). Supervised by Unizyx Broad of Directors and chaired by the Chairman of the Unizyx Group, the Steering Committee comprises the Chief Sustainability Officer and senior executives from three subsidiary companies -- Zyxel Communications, Zyxel Networks, and MitraStar Technology. Serving as the highest ESG governing body of Unizyx Group and its subsidiaries, the Steering Committee provides guidance, defines mid- and long-term goals, and tasks Zyxel ESG Committee (hereafter referred to as "the Committee") to form actionable plans, drive executions, and optimize results.

Chaired by the CSO of Unizyx Group, the Committee comprises senior managers from each functional department. The Committee members report weekly to the Committee Chairman and monthly to the ESG Steering Committee to track performance, smooth implementations, and propel continuous improvements. The ESG Steering Committee Chairman quarterly reports achievements, critical decisions, and work plans to the Unizyx Board of Directors.

Unizyx Board of Directors

Unizyx ESG Steering Committee

Chairman

- **Dr. Shun-I Chu**
Chairman of Unizyx Group

Chief Sustainability Officer

- **Denise Lin**
CSO of Unizyx Group

Committee members

- **Gordon Yang**
CEO of Unizyx Group
- **Karsten Gewecke**
President of Zyxel Communications
- **Wayne Huang**
President of MitraStar

Zyxel ESG Committee

Planning and communication group

- Corporate governance group
- Supply chain management group
- Information security group
- Green products group
- Safety, health, and environment group
- Labor right group
- Community contribution group

Corporate governance

3.1 Governance structure

Our accomplishments today would not be possible without the contributions of outstanding employees who observe the five core corporate values of Zyxel. The values — customer focus, innovation, speed, integrity, and sharing — bond all our employees as a team as we work together toward our goals.

Zyxel has established a comprehensive governance structure to achieve lasting business prosperity and bring maximum benefits to all stakeholders. As a subsidiary of the Unizyx Group, we combine our financial and operational performance with that of other subsidiaries of the Group and disclose this information transparently, thoroughly, and

in a timely manner in the quarter and annual financial statements. All significant changes in company governance are accurately announced via Zyxel Communications global websites. In 2021, Unizyx Group's ranking on the TWSE index rose from 36-50 percent to 21-35 percent, among 954 companies.

Board of Directors

The Zyxel Board of Directors comprises three directors, appointed by the Unizyx Board of Directors. The tenure of the Zyxel Board of Directors is three years, the current directors are eligible for re-elected.

The Zyxel Board of Directors plays a significant role in ensuring a smooth implementation

of the Group-wide ESG strategy. To ensure effective management, the Unizyx ESG Committee arranges regular courses and information briefings to keep Board members connected with the latest trends and regulations in sustainability.

Board diversity

All Zyxel board members are industry professionals with diverse experience and backgrounds — legal, accounting, finance, marketing, and engineering. Zyxel also emphasizes gender equality. All board members included one female director, accounting for 33 percent of all directors. 67 percent of directors were under 65 years of age, and 33 percent were over 70 years old.

	Gender	Job title	Academic degree	Ability to make judgments about operations	Accounting and financial analysis ability	Business management ability	Industry knowledge	International market perspectives	Leadership ability	Decision-making ability
Shun-I Chu	Male	Chairman	Electronics Engineering	-	-	-	-	-	-	-
Gorden Yang	Male	Director	Management	-	-	-	-	-	-	-
Denise Lin	Female	Director	Finance	-	-	-	-	-	-	-

3.2 Customer relationship

Zyxel strives to maximize its technological expertise, satisfying customer needs by providing the highest quality of products and services. We develop technology-enabled solutions based on a customer-centric mindset while providing responsive technical support to customers scattered around the world.

To ensure all customer support inquiries are handled within a reasonable timeframe, Zyxel prioritizes customer support tasks based on issue severity and defines the required resolution time. All customer support task progress can be tracked and managed via our eITS system. In 2021, 98 percent of customer support inquiries were solved within the required time.

3.3 Business ethics and integrity

Business ethics, integrity, and compliance with international and local laws and regulations form the foundation of our corporate culture. Zyxel shares the same business ethics and integrity policy with Unizyx Group, and we have developed a corporate governance and risk control mechanism based on these virtues to ensure a sustainable business environment. Through this mechanism, we establish internal procedures, training programs, evaluations, and declarations.

Zyxel requires all stakeholders to adhere to integrity and ethics and abide by the Code of Conduct regarding the following topics — regulation compliance, anti-corruption, fair trade, Intellectual property, information security, and conflicts of interest.

Severity	Critical	High	Medium	Low
Definition	An error causes a system crash or compromises the security of the products.	An error causes major functionality failure or disruption of the products.	An error causes certain functionality failure or disruption of the products but could be circumvented.	An error causes no significant functionality disruption.
Resolution time	Within 5 working days	Within 15 working days	Within 25 working days	Within 35 working days

• Regulation compliance

Require employees and business partners to conduct business in compliance with local laws and regulations.

• Anti-corruption

Prohibit all employees and suppliers from directly or indirectly engaging in bribery, kickbacks, or any other practices that could be construed as a bribe in their dealings with government agencies, customers, or distributors.

• Anti-competition

Act in accordance with fair standards regarding business, marketing, and advertising activities. Ensure the safety and quality of our products or services with a fair, open, and honest attitude.

• Intellectual property

Protect intellectual property rights through proper documentation and trademark, patent, and copyright application.

• Information security

Take full responsibility to maintain the confidentiality of sensitive information belonging to the company, suppliers, and customers.

• Conflict of interest

Strictly prohibit soliciting business from customers by offering improper benefits.

Ethics and integrity training

Zyxel has not only published its compliance with Unizyx Group's Code of Conduct on its global websites, but also communicated its expectations and commitments through mandatory employee training programs covering the following topics: regulation compliance, conflict of interest, information security, intellectual property protection, and human rights. In 2021, Zyxel achieved 99 percent coverage for anti-corruption and overall training among headquarters personnel.

Ethics and integrity violation reporting channel

All business integrity violation reporting will be managed by the Unizyx Group audit department and reported to the supervisors of responsible departments. We form a designated task force for each violation reporting incident and protects external parties through reporting channels and witness protection.

• Internal reporting channel:

care@unizyx.com.tw

• External reporting channel:

audit@unizyx.com.tw

• Sexual harassment reporting channel:

care@unizyx.com.tw

3.4 Information security

In 2014, Unizyx Group formed a dedicated information security task force led by our Chief Information Security Officer. Comprises employees from each subsidiary, the task force ensures the Group's agility while facing the ever-changing security landscape. The primary responsibilities of the task force include strategy development, annual goal settings, project implementation and monitoring, and training and education. The task force regularly reports to the Unizyx Board of Directors on the progress of each security information optimization milestone.

Our information security management focuses on three main aspects — intellectual property protection, sensitive data protection, and product security.

Intellectual property protection

Intellectual property demonstrates the innovative R&D capability of a company. It is also a powerful tool for companies to continue exploring business opportunities. We specifically define our intellectual property management objectives, implements policies thoroughly, and maintains property through its standardized intellectual property management procedures. Through employee training and education and rewards programs, Zyxel strengthens its management procedures and competitiveness.

- **Employee training and education:** Intellectual property knowledge is a compulsory course for all Unizyx Group employees. The course

covers the introduction of a patent system and prevention of infringement as well as the responsibility and obligation of employees to protect intellectual property.

- **Rewards programs:** The rewards program for employee proposals of creation and invention encourages employees to proactively engage in innovation and research. We offer bonuses for creative proposals, patent application proposals, and patent inventions to continuously accumulate intellectual assets, including patents, copyrights, trademarks, trade secrets, and professional technologies.

Sensitive data protection

We take the protection and control of confidential business information seriously. As outlined in the Group's Confidential Document Classification and Management Regulations, we specify the appropriate storage methods and protection measures for sensitive documents to facilitate the management of trade secrets and internal confidential records.

Product security

While information security plays a critical role in maintaining operational efficiency, product security is key to establishing a company's reputation and building customer trust. With vulnerabilities increasing yearly, no company can be completely free from the threat they pose. In 2017, Unizyx Group formed a dedicated Product Security Incident Response Team (PSIRT) focused on identifying, assessing, and remediating risks associated with product-related vulnerabilities.

In addition to in-time assessment and remediation of product vulnerabilities, we also implement Security by Design through clear guidelines in secure structure design, programming codes review and testing, post-production assessment, and verification. In 2021, Zyxel was named a Common Vulnerability and Exposure Numbering Authority (CNA), allowing Zyxel to directly establish new CVEs and streamline its vulnerability reporting process. This demonstrates our commitment and dedication to addressing product security.

Security policy

Our information security policies are designed to eliminate internal and external threats, whether intentional or accidental, for maximum protection. We review effectiveness of the system on a regular basis as all related policies are formulated in accordance with the ISO 27001 international standard.

The policies include network security management, software asset management, personal computer equipment service and management, data backup and restoration, mobile device communication and operation security, remote access security, information asset classification and administration, equipment and workspace security, system development and maintenance security, response to and handling of security incidents, and operation and supplier management.

Security management mechanism

We have established a database for security information. The database combines user and device behavior analysis and machine learning

capability to conduct multi-dimensional correlation analyses that detect information security incidents or abnormal connections to form a real-time warning mechanism. The system enables us to maintain a constant vigil for internal and external security threats and respond to any incident immediately to minimize potential damage.

In addition to establishing security policies and practices, weekly vulnerability scanning is conducted to protect the organization from any internal and external breaches and the exposure of sensitive data. Aiming to fortify our performance effectiveness, Unizyx Group plans to complete the Cyber Security Maturity Assessment by 2022.

Security training

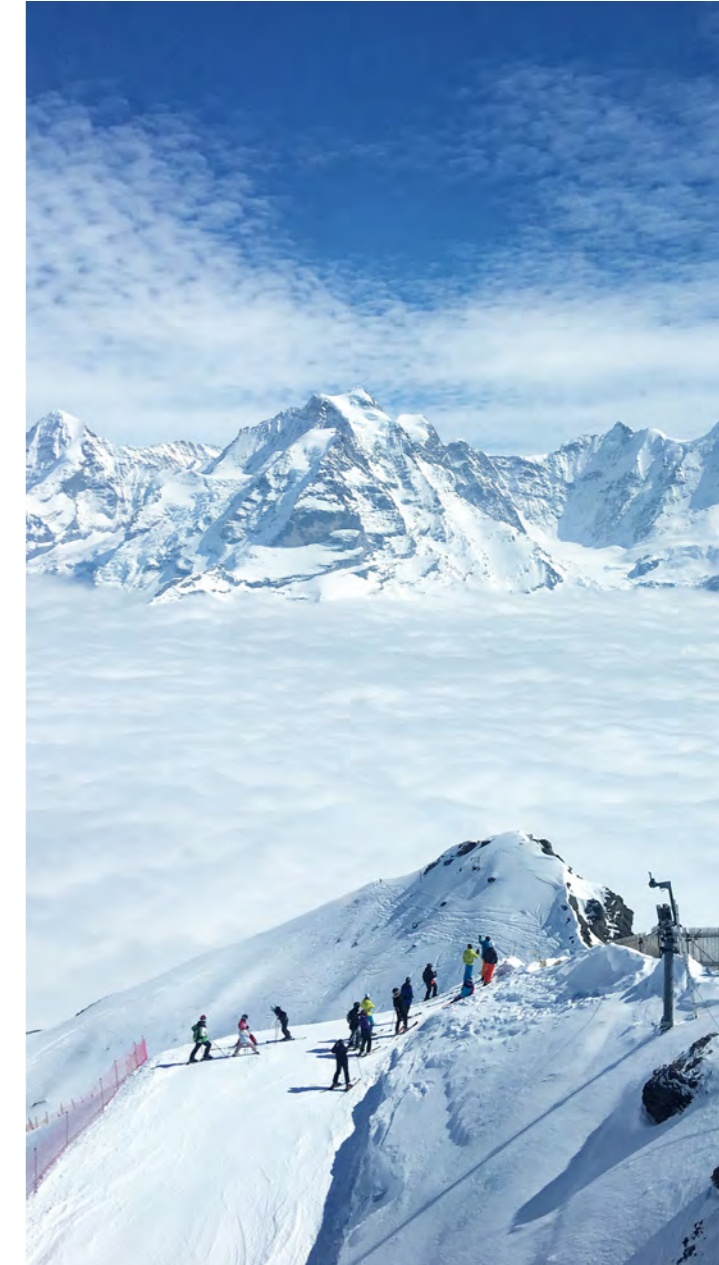
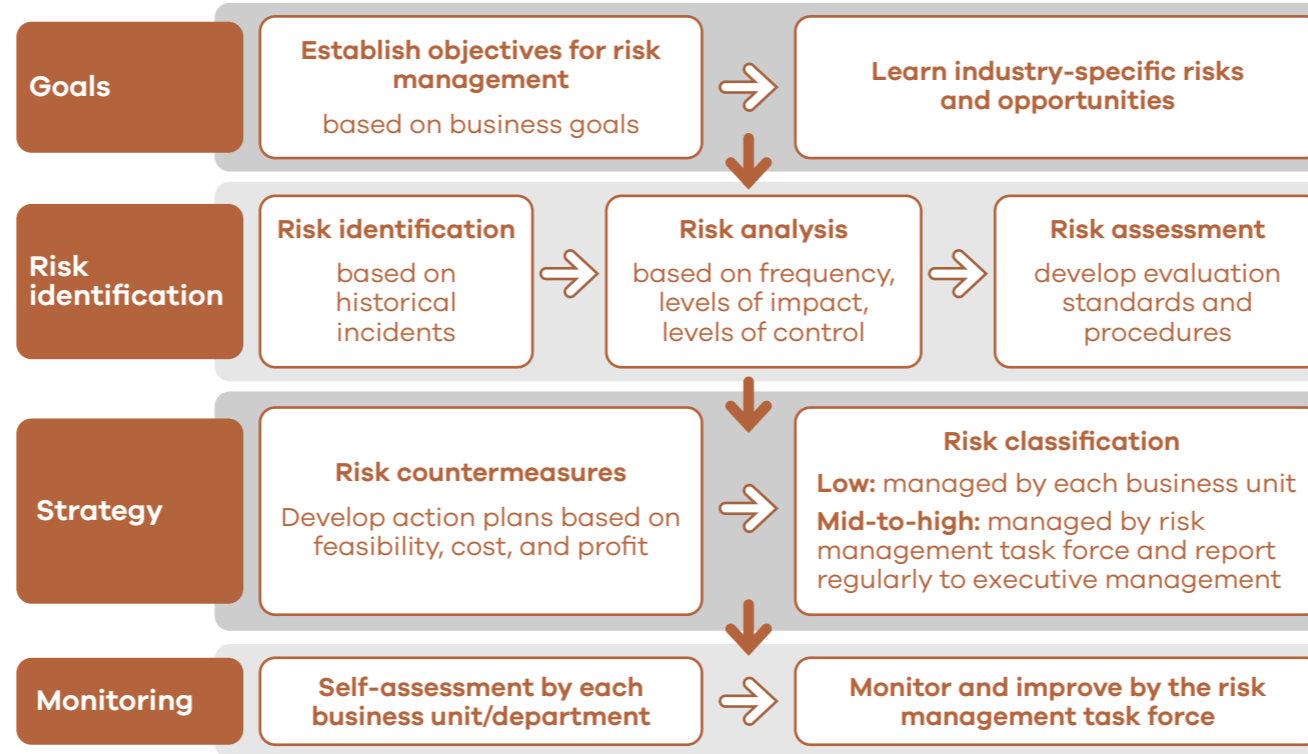
The changing security landscape requires constant updates to security knowledge. To efficiently mitigate information vulnerabilities and raise overall awareness, all Unizyx Group employees are required to take phishing simulation training and participate in various programs covering information security introduction, malware prevention, and e-mail and social platform security. In addition, information regarding cybersecurity and corresponding regulations is regularly communicated to our employees through announcements to optimize the employees' awareness and knowledge of this perspective. The training programs are implemented by the human resource department in each subsidiary. In 2021, Zyxel achieved a 100 percent information security training rate within the company's headquarters.

3.5 Risk management

Risk identification and response capacity are imperative to sustained healthy business operation. Zyxel's risk management policy is aligned with the Group's and carried out by the risk management task force under the Unizyx ESG Committee. The risk management task force identifies risk for nine categories — operations, finance, information security, supply chain, technology, business, disaster, climate change, and human resources.

Following ISO 31000 Risk Management Guidelines, the risk management task force clearly defines risk management procedures. These procedures are designed to understand risks through industry trends and socio-economic development, identify the level of influence on our business, evaluate the possibility of recurrence, and develop response strategies and actions.

Risk management procedures



Risk management procedures

Perspectives	Risks	Impacts	Mitigation measures	Corresponding sections of this report
Governance	Operational risks	<ul style="list-style-type: none"> • Accomplishment of business goals 	<ul style="list-style-type: none"> • Each business unit regularly reports strategic issues to the Board of Directors to reduce operational risks through the participation, advice, and supervision of board members. • Manage annual goals and accomplishments through management performance meetings. • Strengthen the risk management mechanism, keeping stakeholder communications transparent and smooth. • Establish the Operation management procedures to ensure product quality, market competitiveness, customer satisfaction, and financial performance. 	<ul style="list-style-type: none"> • Company governance
	Financial risks	<ul style="list-style-type: none"> • Exchange rate fluctuations 	<ul style="list-style-type: none"> • As export is the core business model, Zyxel keeps abreast of macro and microeconomics to avoid the risk of rate fluctuation by taking timely hedging actions to minimize the adverse impact on operations. 	<ul style="list-style-type: none"> • The 2021 Unizyx Group Annual Report: Chapter 7 - review and analysis of financial condition and results of operations and risk-related issues
	Information security risks	<ul style="list-style-type: none"> • Data system abnormalities • Cyber attacks • Confidential information breaches 	<ul style="list-style-type: none"> • Establish a cross-department information security task force. • Enhance the information security awareness and professional knowledge of employees. • Strengthen information security management to ensure the confidentiality, integrity, and availability of information assets. • Through evaluation of assets as well as identification of threats and vulnerabilities, management is made fully aware of where the risks lie and able to reduce them to an acceptable level. • Obtain the ISO 27001:2013 international standard certification. 	<ul style="list-style-type: none"> • Company governance - 2.4 Information security
	Supply chain risks	<ul style="list-style-type: none"> • Price fluctuations of raw materials • Short supply of materials 	<ul style="list-style-type: none"> • Build sustainable supply chain partnerships. • Establish a raw material price risk management mechanism. • Carefully evaluate and actively develop new material sources to avoid monopoly by a few suppliers. • Maintain a secure inventory level. • Understand the market situation and respond proactively in advance by collecting business information and conducting market research. 	<ul style="list-style-type: none"> • Responsible supply chain

Perspective	Risk	Impact	Mitigation measures	Corresponding sections of this report
Governance	Technology risks	<ul style="list-style-type: none"> Fast-growing market demands for high-capacity, fast-speed connections. Lack of differentiation from competitors due to the nature of broadband technologies 	<ul style="list-style-type: none"> Keep up with market trends, understand customer needs, and develop new products and core technology strategies in advance Devote to R&D of related technologies as well as increase R&D capacity and investments Establish the "Project Risk Management System" to conduct risk management during new product planning and development. 	<ul style="list-style-type: none"> The 2021 Unizyx Group Annual Report: Chapter 7 - review and analysis of the financial condition and results of operations and risk-related issues
	Business risks	<ul style="list-style-type: none"> Constant changing market landscapes impact operations 	<ul style="list-style-type: none"> Understand the macro and micro market situation and respond proactively in advance by collecting business information and conducting market research. Respond to international socio-economic changes, optimize capacity allocation, and strengthen cooperation with customers and suppliers. 	<ul style="list-style-type: none"> The 2021 Unizyx Group Annual Report: Chapter 7 - review and analysis of the financial condition and results of operations and risk-related issues
Environmental	Climate change risks	<ul style="list-style-type: none"> Impact of climate change on business operations Reduction of greenhouse gas emissions Regulations and other requirements on greenhouse gas emissions 	<ul style="list-style-type: none"> Identify the risks and opportunities from climate change, develop risk response measures, evaluate operational and financial impacts, and faithfully disclose information. Activate carbon emission management by performing greenhouse gas accounting and verification and taking energy-saving measures. 	<ul style="list-style-type: none"> Company governance – 2.5 Risk management Environmental protection
Social	Human resource risks	<ul style="list-style-type: none"> Talent acquisition difficulties Loss of key talent 	<ul style="list-style-type: none"> Optimize HR management procedures and introduce the performance evaluation process. Enhance talent recruitment and training channels. Legal compliance of HR management procedures and practices. 	<ul style="list-style-type: none"> Inclusive workplace

Climate change risk management

Climate change is one of the major risks to sustainable business operations. Following the Task Force on Climate-related Financial Disclosures (TCFD) framework issued by the International Financial Stability Board, Unizyx Group truthfully disclose information on climate governance, strategy, risk management as well as related metrics and targets. Based on the categories of climate risks and opportunities defined by TCFD, Unizyx Group oversees operational strategies and financial planning from the highest level of corporate governance to reduce the fiscal impact of climate risks on operations and further analyze opportunities related to climate change.

The Safety, Health, and Environment (S.H.E) Group under the Unizyx ESG Committee takes full responsibility for climate change issues. Under the supervision of the Board of Directors and the leadership of senior executives, the S.H.E Group collects and

analyzes international trends related to climate change and CDP questionnaire feedback. Based on these observations, the Group then establishes a TCFD management framework, defines the impact of climate-related risk issues on the company's operations, and identifies and prioritizes climate-related risks and opportunities according to the degree of impacts.

Following the Group's climate strategy and targets, Zyxel closely monitors annual carbon emissions and energy consumption and takes proactive actions in consumption reduction. In addition, we annually participate in the international carbon disclosure initiatives every year, replies to questionnaires on the CDP platform, and sets self-assessment and improvement targets based on the evaluation results. In 2021, Zyxel received a C score, an improvement from the D score received in 2020. We continue working toward achieving better CDP evaluation results.

TCFD management framework

	Disclosure	Corresponding management strategies and actions
Governance	The supervision role of Board of Directors	<ul style="list-style-type: none"> As the highest governance of Zyxel's sustainability efforts, the Committee is supervised by the Board of Directors and comprises senior management across departments. The Committee forms plans, oversees the implementation of sustainability initiatives, and directly reports to the Board of Directors.
	The management role of Safety, Health, and Environment (S.H.E) Group	<ul style="list-style-type: none"> The S.H.E Group under the Committee is responsible for assessing the impact of climate change on operation efficiency and profitability, planning corresponding actions, and monitoring results.
Strategy	Identify climate risks and opportunities	<ul style="list-style-type: none"> Identify short-, medium- and long-term climate risks and opportunities through cross- department discussions
	Impact of climate-related risks and opportunities on operations, strategies, and financial planning	<ul style="list-style-type: none"> Assess the existing and potential impact of significant climate risks and opportunities on the company's business strategy and financial planning.
	Consider the resilience of organizational strategies in different climate scenarios	<ul style="list-style-type: none"> Develop corresponding actions in alignment with SDGs.
Risk management	Process for identifying and assessing climate-related risks	<ul style="list-style-type: none"> Establish a climate risk identification and evaluation procedure based on the TCFD framework. Develop a climate risk matrix based on the level of severity.
	Process for managing climate-related risks	<ul style="list-style-type: none"> Develop corresponding management practices based on the results of the risk identification and evaluation.

	Disclosure	Corresponding management strategies and actions
Risk management	Integrate the process of identifying, assessing, and managing climate-related risks into the overall risk management of the organization	<ul style="list-style-type: none"> Integrate the climate risk identification, evaluation, and management process into Zyxel's Enterprise Risk Management (ERM) System.
Metrics and objectives	Strategies and metrics to assess climate risks and opportunities	<ul style="list-style-type: none"> Set clear short- and long-term goals in greenhouse gas emission reduction, energy conservation, and water management. Monitor and fully disclose the carbon footprint of each product throughout the product lifecycle.
	Greenhouse gas emissions and related risks in all areas	<ul style="list-style-type: none"> Conduct annual greenhouse gas emission accounting and verification and evaluate impacts based on the results. Define low-carbon emission indicators for green product development, including reducing plastic, using recycled plastics, incorporating energy conservation mechanisms, adopting easy refurbishment design, and more.
	Targets for managing climate-related risks and opportunities, and the performance of corresponding targets	<ul style="list-style-type: none"> 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 Establish technical standards for the use of recycled plastics and carbon reduction assessment methods

Climate-related risks identification

Identification	Perspectives	Major climate risks	General climate risks
Transition risks	Policy and legal risks	<ul style="list-style-type: none"> Fuel energy related tax acts Environmental protection related regulations Regulations for greenhouse gas emission control 	<ul style="list-style-type: none"> Reinforcement of emissions reporting New requirements and regulations on the existing products and services Risk of lawsuits Limits on air pollution emission Industry stigmatization Rise of average sea level
	Technology risk	<ul style="list-style-type: none"> Costs on low carbon, high-performance technology improvements 	
	Market risk	<ul style="list-style-type: none"> Changing supply and demand landscape Increasing costs in obtaining raw materials 	
	Reputation risk	<ul style="list-style-type: none"> Concerns and negative feedback from stakeholders 	
Physical risks	Acute risk	<ul style="list-style-type: none"> Extreme weather events, such as floods and typhoons 	
	Chronic risk	<ul style="list-style-type: none"> Chronic climate changes, such as rising temperatures 	

Climate-related opportunities identification

Types	Major climate opportunities	General climate opportunities
Resource efficiency	<ul style="list-style-type: none"> Optimize efficiency of production and distribution 	<ul style="list-style-type: none"> Recycling and reuse Water consumption and waste reduction Increase facility efficiency Adoption of non-centralized energy Energy alternatives and diversification
Energy sources	<ul style="list-style-type: none"> Adopt new technologies 	
Products and services	<ul style="list-style-type: none"> Increase R&D investments in energy-efficient products Business diversification Rising sustainability awareness affects consumer preferences 	
Markets	<ul style="list-style-type: none"> Enter new markets Take advantage of the government's incentive programs 	
Resilience	<ul style="list-style-type: none"> Increase investors' willingness to invest in the long term Increase resilience in facing natural disasters 	

COVID-19 prevention measures

In response to the threats and uncertainties the COVID-19 pandemic brought, Zyxel established the pandemic prevention task force upon the first confirmed case in Taiwan. Led by the COO, the task force dedicated its efforts to guaranteeing employee safety while ensuring business continuity.

Zyxel took various measures to protect employees from exposure to and infection with COVID-19. At the beginning of the pandemic outbreaks, Zyxel formed a designated workforce to implement a series of pandemic prevention policies and plans, including a temporary staggered shift policy and remote work options, especially for employees with young children. In alignment with the Taiwan

Government's pandemic prevention policy of increasing the vaccination coverage rate, Zyxel provided paid leave to encourage vaccination. As data cut-off on Dec 13, 2021, 97.26 percent of Zyxel headquarters employees had received at least one dose of the COVID-19 vaccine, and 91.27 percent did two doses, significantly higher than Taiwan's overall vaccination coverage. Other actions Zyxel took in preventing the spread of the COVID-19 are specified in the Inclusive Workplace chapter.

In addition, Zyxel remained transparent in communications with our customers and proactively tracked the supply status of raw materials and components to mitigate potential operational risks.



Stakeholder communication

4

The expectations and demands of external and internal stakeholders have been an essential part of Zyxel's continuous efforts in operational optimization. Not only does Zyxel establish efficient communication channels for stakeholders but also continues to conduct materiality analysis to ensure our sustainability strategy and action plans are on the same track as stakeholders' concerns. As a subsidiary of Unizyx Group, Zyxel adopts the same measures in stakeholders and materiality management. Zyxel ESG Committee assists the Unizyx ESG Committee in carrying out the Group's stakeholder communication strategy.



4.1 Stakeholder identification

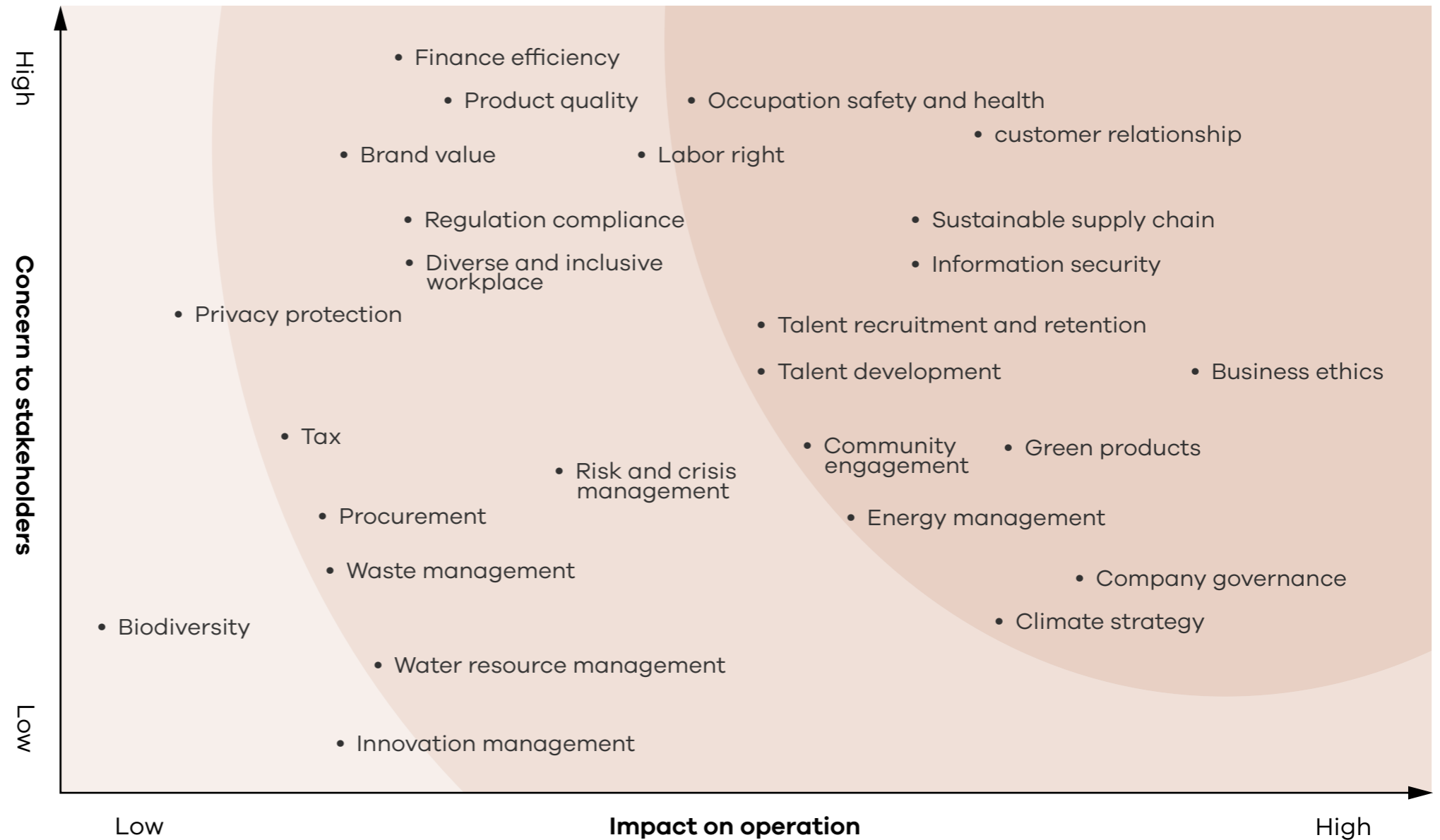
The Unizyx ESG Committee identified stakeholders and decided the environmental, economic, and social material topics of concern to our stakeholders, in accordance with the AA1000 Stakeholder Engagement Standards (AA1000SES).

Based on the accountability principles declared by AA1000 SES —inclusivity, materiality, and responsiveness— the Unizyx ESG Committee collects feedback from department representatives in finance, investor relations, marketing, human resources, legal, administrative, information technology, procurement, and supply chain management to identify six categories of stakeholders. These include investors, employees, customers, suppliers, governments, and communities.

Based on SDGs, GRI and SASB standards, and topics of concern included in the CDP and DSJI survey, the 52 properly trained Unizyx ESG Committee members defined 26 sustainability topics that could impact business operations or concern stakeholders and developed two questionnaires for topic prioritization.

In 2021, the Committee members distributed 286 questionnaires to company management to understand how the predefined sustainability topics affect revenue, customer satisfaction, employee loyalty, and operational risk and received 200 effective responses. We also sent out 790 questionnaires to understand the level of concern on the predefined sustainability to stakeholders, and 535 responded. The Unizyx Committee identified 13 material topics of concern for all subsidiaries of the Unizyx Group based on the survey results.

Material Issue Identification Matrix



4.2 Material topics identification and analysis

In 2021, the Unizyx ESG Committee identified the following 13 material topics and evaluated their relevance to impacts on operations and value chain.

Materiality impact on operation and value chain

ESG aspect	Material topic	GRI guidelines compliance	Impact on operation				Impact on value chain			Disclosure in the report
			Revenue	Customer satisfaction	Employee loyalty	Operational risk	Suppliers	Business operation	Customers	
Economic	Company governance	GRI 405-1, GRI 415-1	x	x	x	x		x	Company governance	
	Business ethics	GRI 205-1~3, GRI 206-1, GRI 419-1				x		x		
	Information security	GRI 418-1		x		x		x		
	Customer relationship	GRI 418-1	x	x		x		x		
	Sustainable supply chain	GRI 308-2, GRI 408-1, GRI 414-2	x	x		x	x	x		Responsible supply chain
Environmental	Climate strategy	GRI 305-1~4		x		x	x	x	Environmental protection	
	Energy management	GRI 302-1		x		x		x		
	Green products	GRI 416-2	x	x		x		x	Green products	
Social	Talent recruitment and retention	GRI 201-1, GRI 201-3, GRI 401-1~3, GRI 405-1			x	x		x	Inclusive workplace	
	Talent development	GRI 404-1~3			x	x		x		
	Labor rights	GRI 402-1, GRI 406-1, GRI 408-1, GRI 409-1			x	x	x	x		
	Occupational safety and health	GRI 401-2, GRI 403-1~10			x	x	x	x		
	Community engagement	GRI 203-1		x				x	Community contribution	

Materiality and topic boundaries

ESG aspect	Material topic	GRI guidelines compliance	Internal boundaries			External boundaries		
			Unizyx Group	Zyxel Communications	Oversea subsidiaries	Customers	Suppliers	Government/community
Economic	Company governance	GRI 405-1, GRI 415-1	x	x	x			
	Business ethics	GRI 205-1~3, GRI 206-1, GRI 419-1	x	x	x			
	Information security	GRI 418-1	x	x				
	Customer relationship	GRI 418-1	x	x	x	x		
	Sustainable supply chain	GRI 308-2, GRI 408-1, GRI 414-2		x			x	
Environmental	Climate strategy	GRI 305-1~4	x	x				x
	Energy management	GRI 302-1	x	x				
	Green products	GRI 416-2		x	x	x	x	
Social	Talent recruitment and retention	GRI 201-1, GRI 201-3, GRI 401-1~3, GRI 405-1	x	x	x			
	Talent development	GRI 404-1~3	x	x	x			
	Labor rights	GRI 402-1, GRI 406-1, GRI 408-1, GRI 409-1	x	x	x		x	
	Occupational safety and health	GRI 401-2, GRI 403-1~10	x	x	x			
	Community engagement	GRI 203-1	x	x	x			x

4.3 Stakeholder communication channels

Following Unizyx Group’s stakeholder communication strategy, Zyxel has established versatile communication channels for ongoing stakeholder engagement. We encourage all stakeholders to provide feedback or report a violation via our stakeholder communication mailbox: esg@zyxel.com.tw.

Stakeholders	Issues of concern	Communication channel and frequency
Economic	<ul style="list-style-type: none"> • Company governance • Business ethics 	<ul style="list-style-type: none"> • Company websites • Sustainability report (annually) • Unizyx Group institutional investors’ conference (quarterly) • Unizyx Group shareholders’ meeting (annually) • Unizyx Group financial statements (annually, quarterly) • Press release
Employees	<ul style="list-style-type: none"> • Talent recruitment and retention • Talent development • Labor rights • Occupational safety and health • Community contribution 	<ul style="list-style-type: none"> • Employee welfare website • Employee training platform • Employee evaluation (semi-annually) • Corporate announcement • Employee feedback mailbox • Town hall meeting (semi-annually) • Labor-management meeting
Customers	<ul style="list-style-type: none"> • Information security • Customer relationship • Sustainable supply chain • Green product design 	<ul style="list-style-type: none"> • Company website • Sustainability report (annually) • Customer portal • Customer audit (annually) • Customer-sales meeting (quarterly)
Suppliers	<ul style="list-style-type: none"> • Business ethics • Sustainable supply chain • Occupational safety and health 	<ul style="list-style-type: none"> • Supplier online survey (annually) • Supplier onsite audit (annually) • Supplier training • Green product management system
Government	<ul style="list-style-type: none"> • Company governance • Business ethics • Labor rights • Occupational safety and health 	<ul style="list-style-type: none"> • Taiwan Science Park Association • Government-hosted seminar and public hearing (irregular basis)
Community	<ul style="list-style-type: none"> • Community contribution 	<ul style="list-style-type: none"> • Zyxel Foundation • Sustainability report (annually) • Company websites • Employee groups • Press release



SDG compliance

In 2015, the United Nations set up 17 Sustainable Development Goals (SDGs) as a blueprint to achieve a better and more sustainable future for all. The Committee has identified 11 SDGs that guide the company's path to sustainable development.



Zyxel's sustainability initiatives are aligned to Sustainable Development Goals

5.1 Company governance



Decent work and economic growth

- Zyxel has established a well-structured corporate governance and risk control mechanism. The TWSE index ranking of its parent company—Unizyx Group raises from 36%-50% to 21%-35% among 957 companies.
- Zyxel operates based on business ethics, integrity, and compliance with local laws and regulations. The completion rate of employee ethics and integrity training was 99% in 2021.
- Zyxel develops a dedicated information security task force and policies based on ISO 27001 while raising awareness among employees. The completion rate of employee information security training was 100% in 2021.



Climate action

- Zyxel proactively creates growth momentum through investment in new technologies and continuous optimization of business operations.
- Zyxel aims to disclose TCFD Financial Impact Estimation by 2023.

5.2 Environmental protection



Clean water and sanitation

- Zyxel regularly adopts proactive measures to optimize its water consumption. In 2021, the annual water consumption was 11% decreased from the previous year.
- Zyxel entrusts a government-owned sewage treatment plant to ensure the quality and quantity of its discharged water meets the standards set by local environmental protection laws and regulations.



Affordable and clean energy

- In 2019, Zyxel North American headquarters installed a solar power system to support the daily operations in its Anaheim-based facilities. The system has generated 154,650 kWh of electricity in 2021.
- Zyxel is currently evaluating renewable energy adoption in our Taiwan-based Worldwide Headquarters facilities.



Climate action

- Zyxel sets the year 2021 as the base year and aims to reduce 4.2% in annual greenhouse gas emissions.
- By replacing obsolete heat sinks in its air conditioning system, Zyxel improved the heat dissipation efficiency from 32% to 88%.
- Zyxel sets the year 2021 as the base year and aims to save 6,000 kWh in annual electricity consumption.
- Zyxel annually holds employee events for internal promotion and education on environmental protection. In 2021, the Walk from Heart Walkathon accumulated over 147 million steps.

5.3 Green products



Responsible consumption and production

- Zyxel develops the Green Product Management System to standardize procedures for managing and monitoring the entire product life cycle.
- In 2021, the European Rapid Alert System for dangerous products (RAPEX) reported zero Zyxel products as unsafe.
- Zyxel implements green packaging approaches to ensure minimal environmental impacts, including adoption of FCS-certified materials, minimized printing with single-color, halogen-free soy inks, and 100% plastic-free packaging. We adopt sustainable brown box packaging for 95% of our generic products.



Climate action

- Zyxel implements energy-efficient features in its broadband access products, including wireless scheduling, wake on demand, power-saving mode, etc.
- Zyxel CPE products adopt foldable stands and ultra-thin exterior case designs to reduce product volume. This improvement reduces logistics carbon footprint with 47.7% increase in number of products per pallet.
- Zyxel uses a carbon footprint calculation platform to optimize product specifications and ensure environmental friendliness. In addition, we place a carbon footprint label on products or packaging to transparently disclose carbon footprint information. We aim to fully disclose product carbon footprints by 2023.

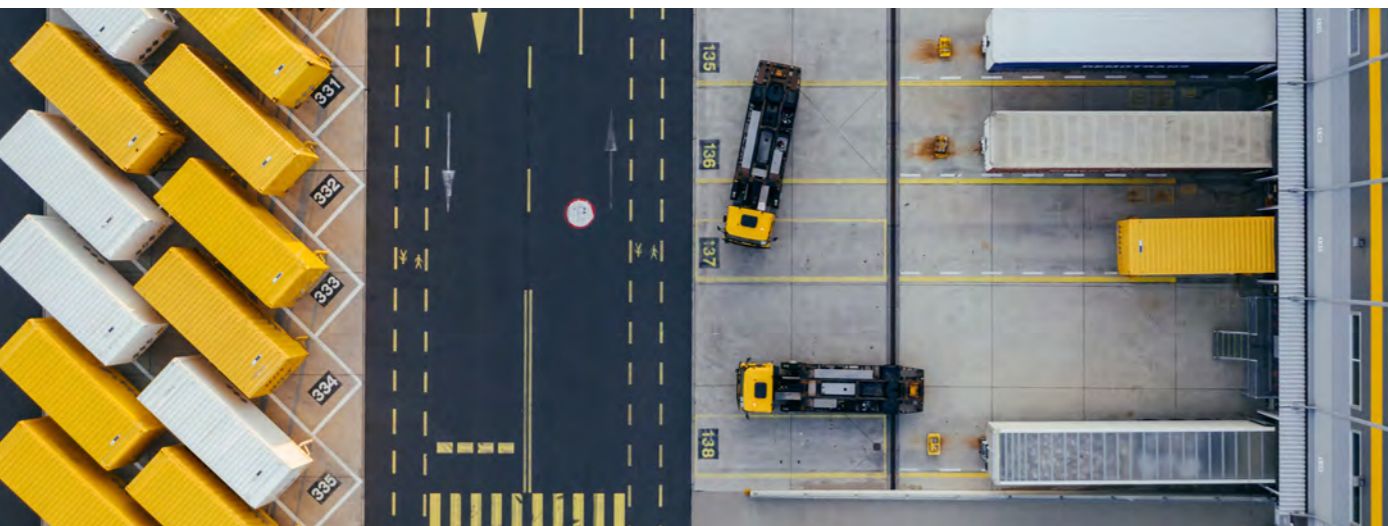
5.4 Responsible supply chain



Partnerships for the goals

- 93% of Zyxel suppliers have signed the statement of Supplier Code of Conduct agreeing to perform sustainable business.
- Zyxel requires both new and existing suppliers to undergo regular audits on criteria based on RBA Validated Audit Process (VAP) Zyxel completed one onsite audit and four vendor audit reports with all audited suppliers qualified.

- Zyxel conducts an annual survey to trace the source of conflict minerals for its products. In 2021, the conflict minerals disclosure rate of Zyxel products was 99.53%.
- Aiming to achieve a sustainable value chain, Zyxel requires 95% of its key suppliers to receive ISO 14064-1 certification by 2022 and RBA/EcoVadis/CDP equivalent sustainability certifications by 2024.



5.5 Inclusive workplace



Good health and well-being

- Zyxel provides annual health checkups, a designated health center with a company nurse onsite, and regular doctor consultation services to ensure employee health.
- Zyxel is committed to providing a safe workplace and maintaining employee health. In 2021, there were zero occupational injuries and work-related ill health incidence.
- Zyxel implemented a series of pandemic prevention measures to ensure employee health.

- Zyxel ensures a friendly work environment for employees during pregnancy, maternity, and the postpartum period. In 2021, seven employees applied for unpaid parental leaves, and the return rate was 80%.



Decent work and economic growth

- Zyxel establishes a well-structured career development system and on-job training programs to keep employees satisfied and motivated. In 2021, the global turnover rate was 12.6%. The average tenure of global employees was 8.45 year.
- Zyxel encourages its employees to acquire professional skills and knowledge to advance competencies associated with their current roles and responsibilities. In 2021, Zyxel Taiwan Worldwide Headquarters coordinated 90 training sessions totaling 1,596.8 training hours, a 28 percent growth from the previous year.



Gender equity

- Zyxel guarantees gender equity in all aspects. In 2021, its female employees accounted for 34% of all workforce and 24% of management positions.

5.6 Community contribution



Quality education

- Zyxel Foundation annually collaborates with universities to host and organize a series of talent, innovation, and entrepreneurship lectures to help students broaden visions and develop critical thinking skills.
- Zyxel Foundation annually sponsors a series of curriculums and programs to inspire more young talents to develop interests in Science, Technology, Engineering and Mathematics (STEM).
- The Shun-I Chu Zyxel Scholarship has granted nearly US\$5 million in support of over 5,000 Taiwanese college and high school students.



Sustainable cities and communities

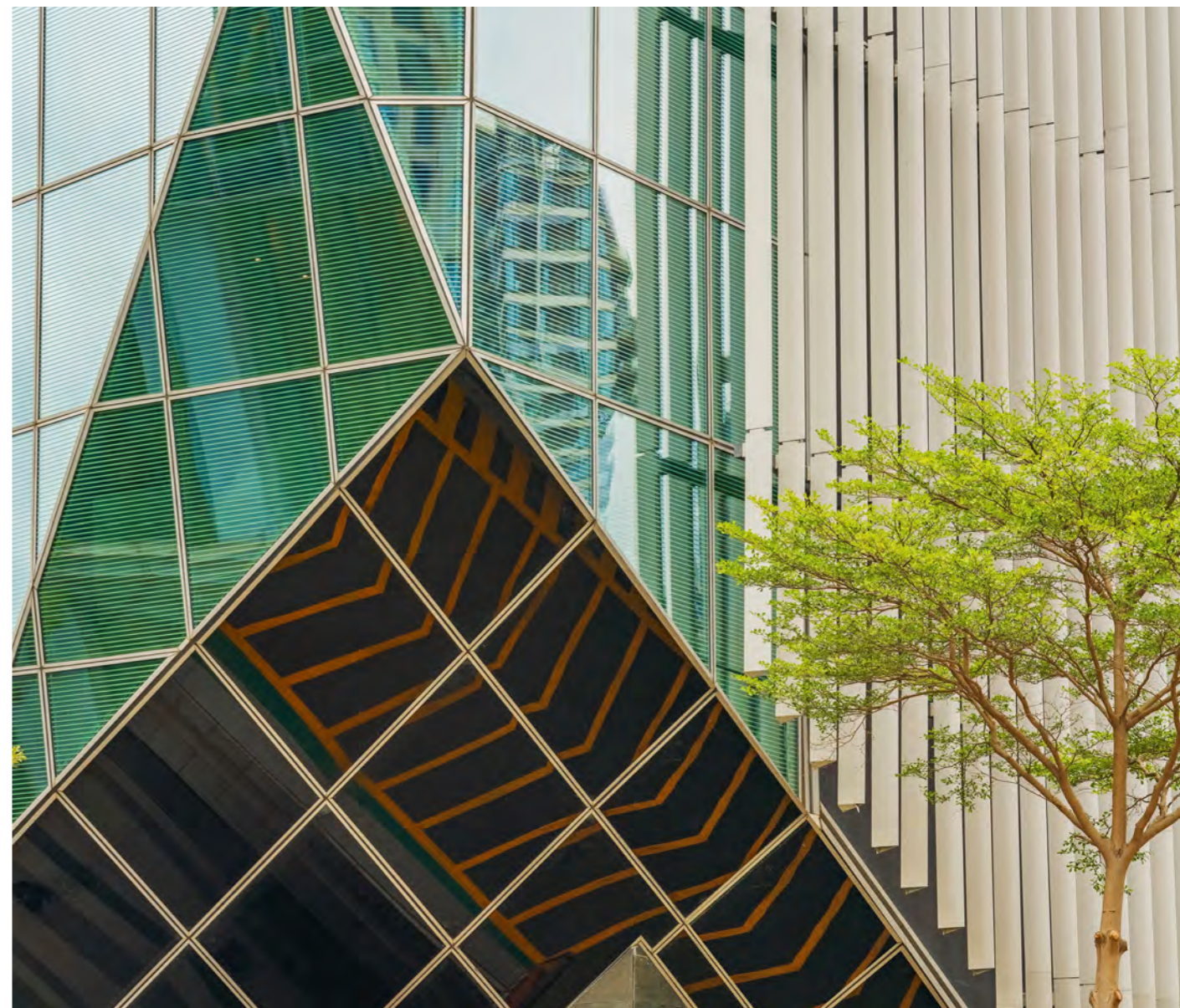
- Zyxel partnered with eifel-net, a Germany-based operator to restore internet service amidst West Germany floods.

- Zyxel partnered with Solution 30, a European leader in solutions for new technologies, to provide Spanish students with high-speed internet and continue their everyday school activities during the COVID-19 lockdown.
- Zyxel partnered with B4RN, a non-profit fiber optic broadband network operator to fully equip 21 rural UK primary schools with high-speed internet access.



No poverty

- The Day of Giving program annually partnered with a local non-profit organization in Los Angeles to provide food and other critical supplies to children and families in need.
- The Love in a shoebox program annually calls all Zyxel headquarters employees to send stationery, books, toys, sports goods, and daily necessities to students in rural elementary schools in Taiwan.



Environmental protection



Our achievements

Climate change impacts every aspect of daily life. The public and private sectors must take urgent action to mitigate the negative impacts of human activity on the environment. As more governments, companies, and institutions pledge to reduce carbon emissions to achieve the net-zero emissions objective by 2050, Zyxel is not an exception. We strive to reduce carbon footprints through proactive optimization of energy and water conservation, carbon emission reduction, and waste management.

Zyxel will join the process of SBTi in 2022 and commit to eliminating greenhouse gas emissions by 2050.



EcoVadis

2021 Silver Rating

11%
water
consumption
reduction in 2021

6,000 kWh
Target for electricity
consumption reduction
in 2022

4.2%
Target for greenhouse
gas emissions
reduction in 2022

Greenhouse gas management

Zyxel's greenhouse gas emissions management policy is based on the ISO 14064 standard. Our current greenhouse gas inventory includes direct (scope 1) and energy indirect (scope 2) sources. The former covers operation-related direct emissions, including stationary and mobile combustion and fugitive emissions. The latter covers the purchase of electricity from Taiwan Power Company. Zyxel proactively measures and reports greenhouse gas emissions across daily business operations. We kicked off the greenhouse gas emission accounting and verification at the end of 2021 and aim to complete ISO 14064-1:2018 certification in 2022. In 2021, Zyxel reported 76.84 tonnes of scope 1 and 486.5 tonnes of scope 2. Our total greenhouse gas emissions were 563.34 tonnes of CO₂ equivalent.

The Zyxel Worldwide Headquarters facilities are shared by several subsidiaries of the Unizyx Group. Prior to 2021, all activities took place in the facilities were taken into account. In 2021, we redefined boundary for greenhouse gas emissions to include emissions directly related to Zyxel business operations. Due to this significant organizational boundary change, greenhouse gas emissions in 2019 and 2020 is incomparable to that in 2021. Zyxel commits to aligning with limiting the global temperature rise to 1.5°C and adopting the Absolute Emissions Contraction approach defined by SBTi. Using the greenhouse gas emissions in 2021 as a baseline, we set a target to reduce 4.2 percent in annual greenhouse gas emissions and eventually reach net zero emissions by 2050.

Scope 1 Greenhouse Gas Emissions of 2021*

Types	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃	Total
Emission equivalents (tons CO₂e/year)	7.7684	38.0157	0.2102	30.8492	-	-	-	76.8434
Percentage (%)	10.11%	49.47%	0.27%	40.15%	0.00%	0.00%	0.00%	100%

* Emission coefficients are based on the latest publicized edition of the "Greenhouse Gas Emission Coefficients Management Table" (version 6.0.4) by the Taiwan Environmental Protection Administration. The electricity coefficients are based on the closest-year carbon emission coefficients from electricity generation announced by the Bureau of Energy, Ministry of Economic Affairs of Taiwan. By default, the Global Warming Potential (GWP) uses the various greenhouse gas GWPs from the IPCC's Fifth Assessment Report (2014).

* The approach to greenhouse gas emissions is "operational control."



Energy consumption management

As no manufacturing takes place at Zyxel Worldwide Headquarters, its energy consumption source is primarily purchased electricity, supporting office operations, such as air conditioning and lighting. Fossil fuels are used for emergency generator, grass mower, and company cars.

Zyxel Worldwide Headquarters non-renewable energy consumption distribution

Energy source*	Consumption
Purchased electricity (GJ)	3,502
Diesel (GJ)	9.8
Gasoline (GJ)	101.5
Total	3613.3

* Source from the heat value of energy by Bureau of Energy, Ministry of Economic Affairs, R.O.C.

1. Gasoline (L) : heat value (kcal) 7800*4.184 (kj)
 3110.14 (L)*7800*4.184=101,500,040.928 (kj)=
 101.500041 (GJ)

2. Diesel (L) : heat value (kcal) 8400*4.184 (kj)
 280 (L)*8400*4.184=9,840,768 (kj)= 9.840768 (GJ)

Besides upgrading the overall office lighting system with LED fixtures in 2020, Zyxel regularly takes the following actions to ensure the optimal efficiency of its air conditioning system:

- Monitor the functionality of cooling controllers, cooling load, input water quality, output water temperature, and differential pressure of air filters

- Conduct annual check-ups and maintenance and adjust frequency based on operational hours
- Replace air filters semi-annually
- Clean cooling towers annually

In addition, Zyxel implements other measures to optimize energy consumption from air conditioning systems, including installing different sizes of air conditioners based on usage hours and room humidity, setting the indoor temperature at 26 degrees Celsius, and improving building insulation. In 2021, Zyxel replaced obsolete heat sinks in its cooling towers to improve heat dissipation from 32 percent to 88 percent.

The Zyxel Worldwide Headquarters facilities are shared by several subsidiaries of the Unizyx Group. Prior to 2021, all activities took place in the facilities were taken into account. In 2021, we redefined boundary for energy consumption to include energy usage directly related to Zyxel business operations. Using the electricity consumption in 2021 as a baseline, we set a target to save 6,000 kWh in electricity consumption annually.

Renewable energy

In 2019, Zyxel North American headquarters installed a 200kW solar power system at its Anaheim-based facilities. The solar system has generated 154,650 kWh of electricity in 2021. Zyxel is committed to adopting renewable energy at its Worldwide Headquarters facilities by 2023.



Water resource management

Climate change is disrupting weather patterns, leading to unpredictable water availability. Water stress has been flagged as a severe issue that causes wide-reaching damage to public health, economic development, and global trade. In some cases, water scarcity even drives conflicts and mass migrations, motivating countries to implement more sustainable and innovative practices to prevent freshwater shortages and develop conservation strategies.

Despite abundant precipitation and a strong network of reservoirs, water shortages remain one of the most challenging crises Taiwan faces. Zyxel sees water resource management as a vital element in achieving sustainability. As Zyxel is not involved in any manufacturing activities, its entire water footprint stems from employees' daily water usage and air conditioning. In 2021, Zyxel's water withdrawal is from third-party water. Based on the Water Aqueduct developed by World Resources Institute, Zyxel's Worldwide Headquarters facilities are located in low-stress (<10 percent) area.

In addition to replacing all restroom faucets with water-efficient sensor faucets in 2021, Zyxel regularly adopts a series of measures to reduce its water consumption.

- Water plants and gardens with collected rainwater and adjust watering frequency according to the weather conditions.
- Adjust the height of the floating ball of the cooling towers of the air conditioning system to improve efficiency.
- Shut down the ice machine in the cafeteria during holidays.

Wastewater treatment is another significant component of our water resource management strategy. Zyxel Worldwide Headquarters is located in the Hsinchu Science Park, where a government-owned sewage treatment plant is available. Zyxel entrusts the sewage treatment plant to process its wastewater. The water treatment charge is based on the wastewater quantity and quality. Not only has Zyxel taken proactive measures to ensure the quality and quantity of its discharged water complies with environmental protection laws and regulations, but we have maintained wastewater treatment fees at a minimum level.

Zyxel's water withdraw rate is trending downward. In 2021, annual water withdraw was 5,451 metric tons, an approximately 10.5 percent reduction from 510 metric tons in 2020. Annual water discharge increased in 2021 due to water tower cleaning.

Zyxel Worldwide Headquarters water usage*

Megaliters/year	2019	2020	2021
Water withdraw	5,451	4,831	4,321
Water discharge	2,520	1,970	2,840
Water consumption	2,931	2,861	1,481

* The statistics are slightly different from that disclosed in 2020 report due to change of measurement.

Sustainable living

4

Zyxel and Zyxel Foundation initiate a series of events and activities annually to increase environmental awareness among employees.

4.1 Support local farmers

Zyxel Foundation supported an organic agriculture program initiated by a local farmers' association — The Society of Wilderness Hsinchu Branch. Aimed at achieving true environmental sustainability, the program educates Zyxel employees on the benefits of organic farming, urging them to make conscious decisions during food purchases.

4.2 Green education radio program

Zyxel Foundation supported a local radio program that shares knowledge of environmental sustainability and tips for people to practice a green lifestyle in their daily lives. In addition, the program also shares information on the latest cybersecurity threats, raising public awareness. The one-month program was broadcast over 60 times.

4.3 Walk from Heart

Zyxel Foundation annually organizes the Walk from Heart Walkathon event to promote walking and cycling as an alternative to using cars. In 2021, 351 Zyxel Worldwide Headquarters employees took part in the event, and over 147 million steps were accumulated in just eight weeks.

4.4 Green Thumb, Green Life

Zyxel Foundation organized a gardening course for employees to experience the joy of planting, while at the same time promoting awareness of carbon reduction and environmental sustainability.



Green products



Our achievements

Striking a balance between innovation and sustainability, Zyxel devotes itself to developing broadband access solutions that empower service providers to deliver cutting-edge services while minimizing environmental impacts. We carry out a series of initiatives that reduce hazardous substance emissions, incorporate energy-efficient features, prolong product lifespan, and increase product recycling rate.

up to

47.7%

increase in product numbers per pallet and proportionately decrease in logistics carbon footprint.

95%

of Zyxel generic products adopt sustainable brown box packaging.



Objectives and statements

1.1 Green product objectives

In response to a growing coalition of countries, municipalities, and businesses striving to achieve net-zero emissions, Zyxel kicked off its greenhouse gas accounting and verification plan in the end of 2021, establishing a pathway to net-zero emissions. Zyxel will launch the first green product meeting criteria, including plastic-free packaging, PCR plastic housing design, energy efficiency monitoring mechanism, carbon footprint disclosure, recyclable mechanical design, and easy refurbishment design.

1.2 Green product statements

At Zyxel, we collaborate with employees, suppliers, and customers to manage our carbon footprint and fight climate change. Zyxel affirms our commitment to minimizing environmental impacts through the following actions:

- Abide by international environmental regulations and guidelines
- Ensure thorough implementation of Zyxel Green Product Management System through ongoing employee education
- Incorporate lifecycle thinking in the product design to minimize product carbon footprint, including responsible sources of raw materials and components, green manufacturing, product energy efficiency, easy refurbishment, and recyclability.

- Specify hazardous substance restrictions and rules
- Require all suppliers to conduct due diligence and deliver accurate information based on the Conflict Minerals Reporting Template (CMRT)

- Require suppliers to strictly implement the procedures of environment, health, and safety management during product production to prevent pollution or occupational disasters
- Perform accurate lifecycle inventory to manage greenhouse gas emissions

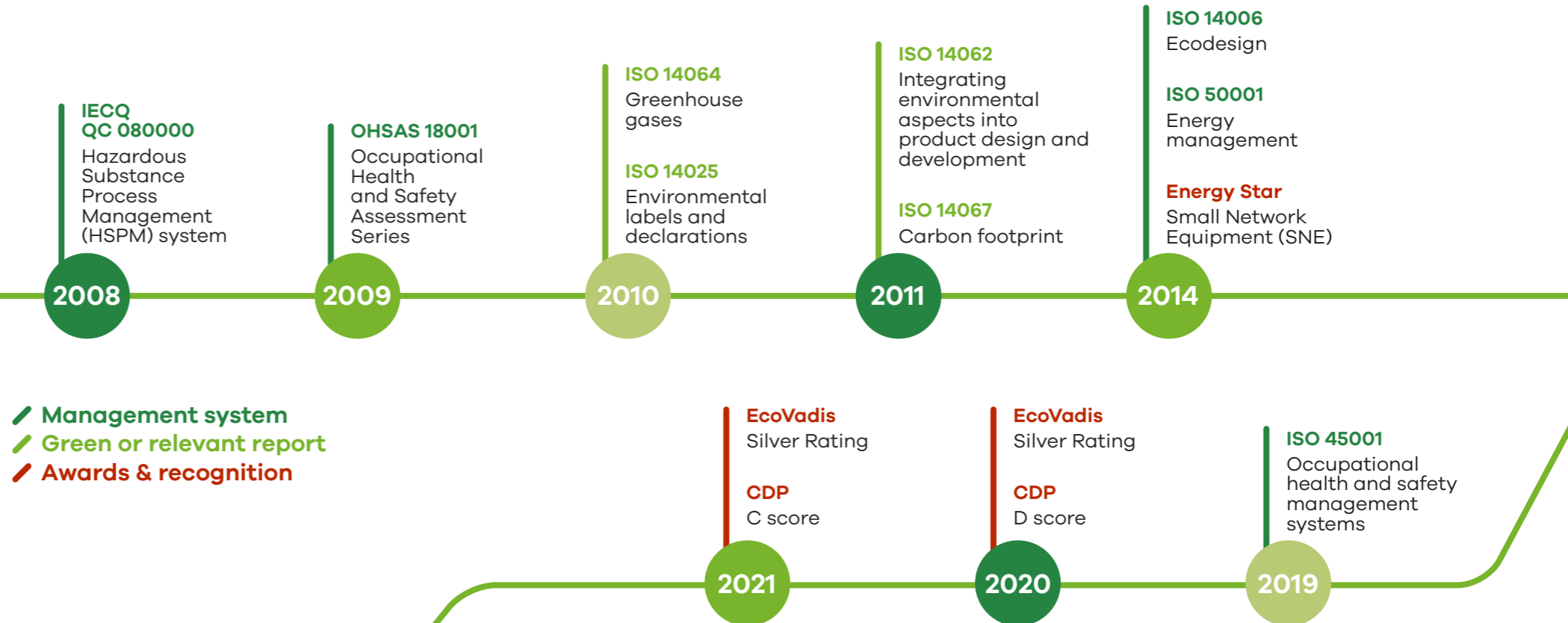


Milestones and achievements

As a pioneer in implementing sustainability concepts in product design, Zyxel was first awarded the Energy Star Label under the scope of Small Network Equipment in Europe in 2014. The accredited products were twice as energy efficient as required by label standard specifications. In the same year, our Green Product Management System was

also accredited with ISO 14006 Environmental Management Systems - Guidelines for incorporating Eco-design and ISO 50001 Energy Management Systems.

In 2021, Zyxel received the EcoVadis Silver Rating and scored C in CDP.



Green product management

3.1 Compliance

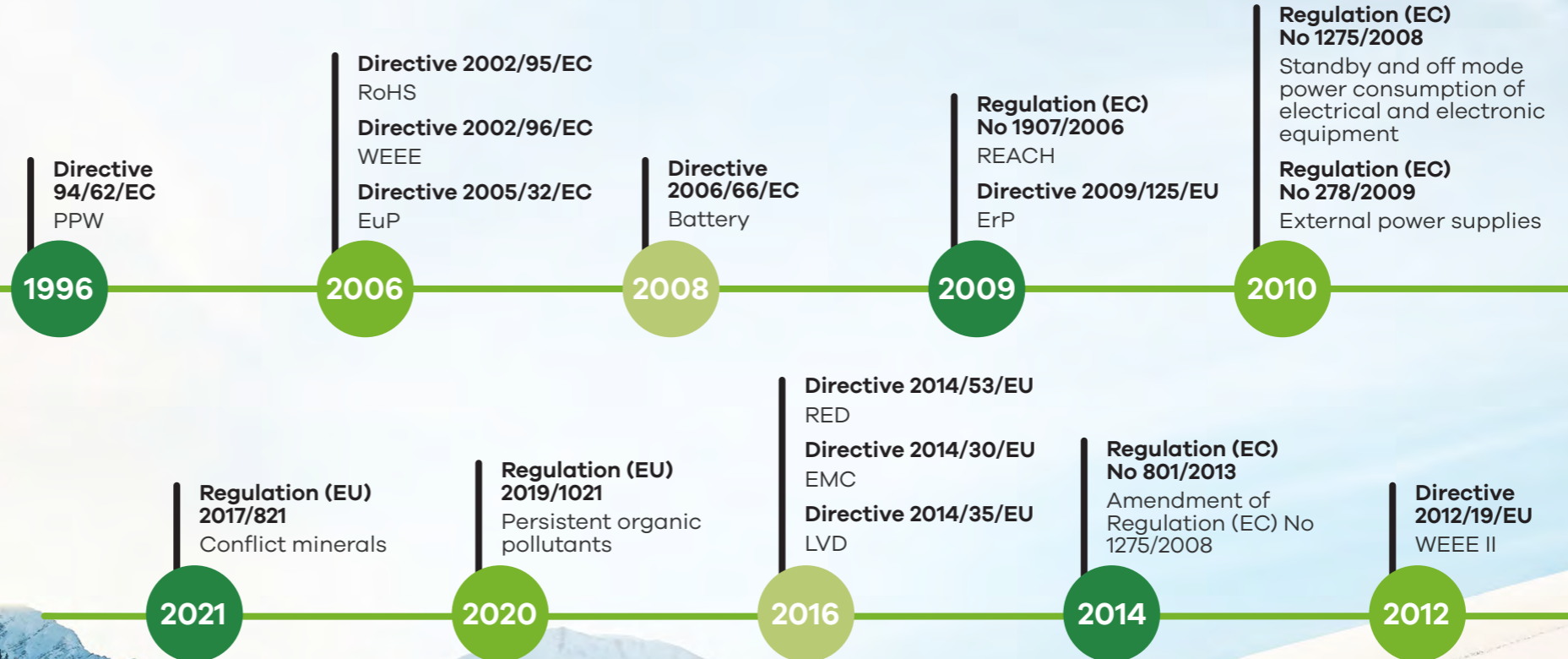
Zyxel and its suppliers comply with the latest international environmental policies and directives to develop non-toxic, easy to assemble/disassemble, and long-lifespan products. The directives with which Zyxel and its suppliers comply cover three main aspects of eco-design, including hazardous substances, recycling management, and ecological design.

Aspect	Regulation & Directive
Hazardous substances	<ul style="list-style-type: none"> • Restriction of Hazardous Substances (RoHS) • Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) • Batteries and Accumulators and Waste Batteries and Accumulators (Battery) • Packaging and Packaging Waste (PPW)
Recycling management	Waste Electrical and Electronic Equipment (WEEE)
Ecological design	Energy-related Products (ErP)



Zyxel's products have obtained numerous environmental or safety-related certifications. The following illustration shows the regulations and directives with which Zyxel products comply.

Regulations & directives



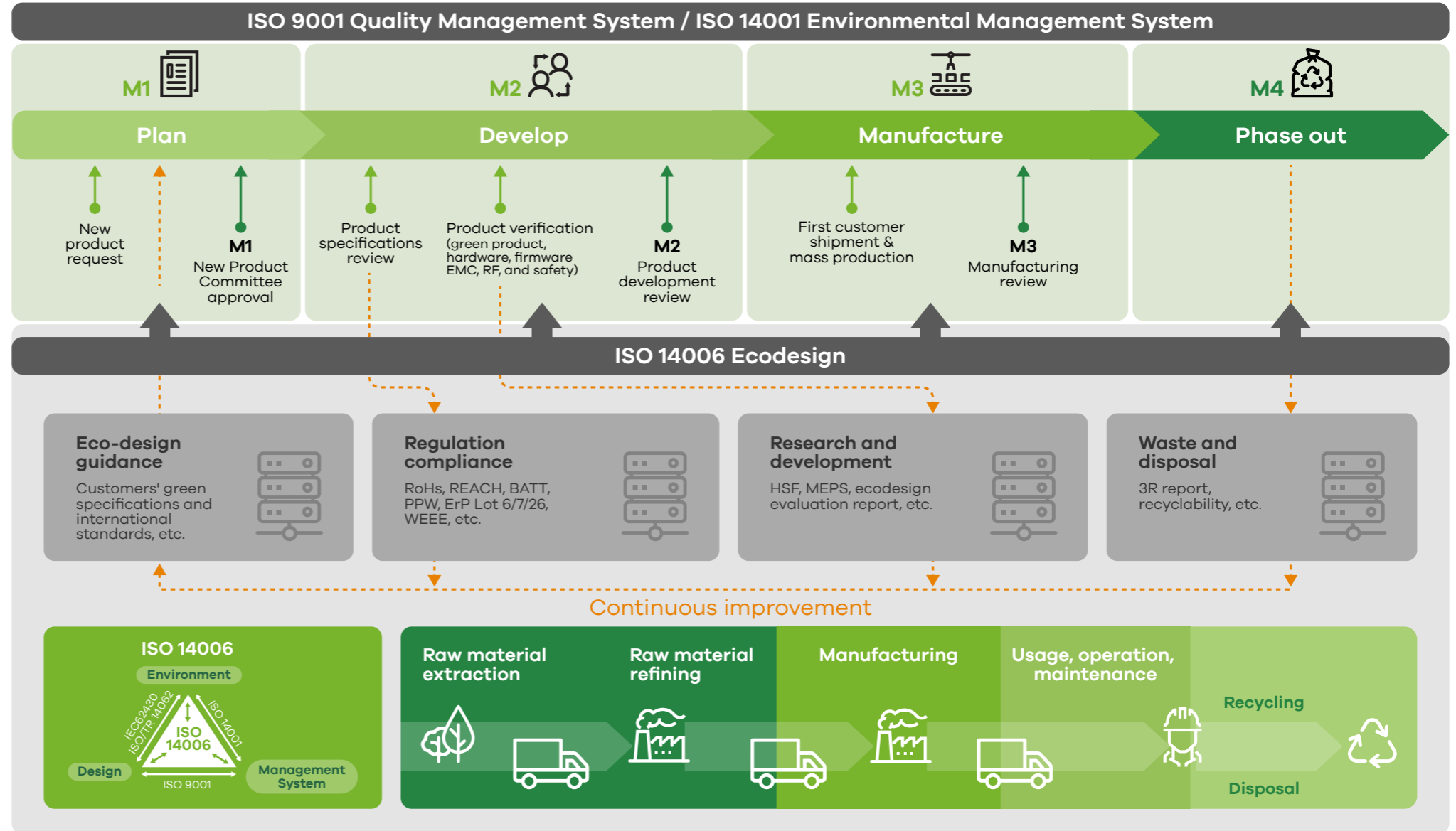
3.2 Green product management procedure

Zyxel develops the Zyxel Green Product Management System to standardize procedures for managing and monitoring the consecutive and interlinked stages of its products — from materials acquisition to design and development, as well as manufacturing, delivery and installation, use, maintenance, repair, upgrading, end-of-life treatment, and disposal.

The Zyxel Green Product Management System is based on the ISO 9001 Quality Management System, ISO 14001 Environmental Management, and ISO 14006 Environmental Management Standard. The system empowers Zyxel to ensure decarbonization, energy conservation, and responsible consumption are always considered during the product life cycle. Through its systematic and well-structured management procedures, Zyxel asserts its commitment to developing technology-oriented products while preserving the environment.

Zyxel's greenhouse gas emissions accounting and verification plan kicked off in the end of 2021. From receiving ISO 14064-1 certification to establishing a carbon footprint calculation platform, developing carbon footprint labels, and promoting product lifecycle thinking, Zyxel introduces the green concept in the early stage of product design and reduces carbon footprint during product manufacturing and transportation. Zyxel also optimizes product life spans and recyclability to gradually minimize the direct and indirect environmental impacts throughout the lifecycle of Zyxel products.

Ecosystem procedure



Carbon footprint calculation platform

Based on SimaPro (Version 9.3) life cycle evaluation software from PRé Sustainability in the Netherlands and the ecoinvent database (Version 3.8) from the Swiss Centre for Life Cycle Inventories, Zyxel establishes its carbon footprint and environmental footprint calculation platform. This platform helps us understand each product's environmental impact during its life cycle and further optimize the product specifications to be environmentally friendly.

Carbon footprint label

Based on the statistics generated from the carbon footprint platform, Zyxel develops a carbon footprint label to disclose the carbon footprint on its products or packaging. Providing customers with open, transparent information manifests the company's determination to develop green products. Moreover, Zyxel held a design contest for its carbon footprint label, encouraging employees' involvement in sustainability and fortifying our sustainable corporate culture.

3.3 Hazardous substance management

Consumer safety and health is the most essential consideration Zyxel applies to product design and development. Zyxel follows the standards regulated by RoHS, WEEE, and ErP to ensure the detoxification, dematerialization, and decarbonization of our products. In 2021, the European Rapid Alert System for dangerous products (RAPEX) reported zero Zyxel products as unsafe.



Green product strategy

4.1 Green products design

Zyxel has conducted numerous initiatives at the product design stage to minimize the carbon footprint of its products. All energy efficiency related design initiatives comply with Level VI requirements introduced in 2016.

Ongoing optimization of product energy efficiency is one of the primary elements of Zyxel's commitment to fighting climate change. Zyxel voluntarily complies with the international regulations and requirements, including but not limited to Energy-related Products Directive 2009/125/EC and amending Regulation (EC) No 1275/2008, ENERGY STAR Small Network Equipment, and EU Code of Conduct (CoC).

In addition to the above energy efficiency related product features, Zyxel also selects external power supplies with low power consumption for its networking products to reduce energy loss during product operations. All external power supplies selected by Zyxel comply with Level VI energy efficiency requirements and regional requirements such as ErP Regulation (EC) No. 278/2009 in the EU, US CEC in the US, and CSA C381.1-08 in Canada.

Green product solution	Description
Energy efficiency	
Wireless on/off button & power on/off button	Switches for wireless access and power allow users to consciously control the connection status of Zyxel routers. This feature saves unnecessary energy consumption.
Power-saving mode	Zyxel products automatically enter power-saving mode when the Ethernet links become inactive.
Wireless scheduling*	To save power consumption and reduce wireless radiation when the wireless network is not in use, Zyxel WiFi devices can be configured to turn on or off automatically, according to the user's wireless usage patterns. * This feature is available upon customer request.
Wake on demand	Zyxel devices reduce power consumption by constantly remaining in power-saving mode until network activities resume.
Product longevity	
IP68 standard compliance	Zyxel high-end outdoor routers are compliant with IP68. This feature protects products operating in extreme environments and prolongs product lifespan.
Built-in SFP/SFP+ cage	Zyxel products feature a built-in SFP/SFP+ cage to support multiple network architectures. This helps service providers use the same products for service upgrades without creating waste during migrations from one internet technology to another.
Eco-design	
Cloud-based CAD tool	Zyxel has adopted a computer-aided design (CAD) tool for product housing design. Embedded cloud computing capabilities help Zyxel select the product ID design with the least plastic usage.
Compact design	Zyxel CPE products adopt foldable/detachable stands and ultra-thin exterior case designs to reduce package volume. This yields an up to 47.7 percent increase in product numbers per pallet and proportionately reduces logistics carbon footprint.



4.2 Green packaging

Following Directives 94/62/EC and REACH, Zyxel implements purposeful and actionable green packaging approaches to ensure environmental protection is accounted for during package design and production, including the following:

- Ensure material recyclability and biodegradability
- Eliminate plastic packaging
- Use FSC-certified materials
- Prohibit toxic or hazardous substances
- Adopt post consumer recycled pulp while reducing paper printouts
- Optimize product-to-package ratio while minimizing packaging volumes and weights

Packaging recyclability and biodegradability

Zyxel's single-recyclable brown box packaging avoids plastic laminating or coating, uses FSC-certified materials, and is printed with single-color, halogen-free soy inks in limited areas. Zyxel has adopted sustainable brown box packaging for 95 percent of its generic products.

Packaging size optimization competition

In alignment with our commitments to fighting climate change, Zyxel initiated an internal contest to encourage each product development team to rethink their green packaging strategy. Through such efforts

in product housing and packaging layout redesign, Zyxel successfully shrunk the packaging volumes up to 36.7 percent for the Zyxel CPE product line in 2021. This yields an up to 47.7 percent increase in product numbers per pallet and proportionately reduces logistics carbon footprint.

4.3 Responsible disposal and recycling

To ensure conscientious waste reduction, Zyxel designs products that support easy repair, upgrade, reuse, disassembly, and recycling. Compliant directly with the National WEEE Registry or the approved collective Compliance Scheme for WEEE of each country, Zyxel labels its products with the appropriate WEEE logo and relevant information to remind our customers about responsible disposal or recycling of end-of-life products to prevent negative impacts on the environment and human health.

Zyxel green packaging design



Mark Rein Identification Code (RIC) symbol



Use FSC-certified materials*



Eliminate PE bags for products and accessories



Print with 100% halogen-free soy inks within minimized area

* By customer request

In accordance with Directive 94/62/EC, Zyxel labels its products and states clear recycling information on packaging, user guides, and quick start guides to ensure proper handling during the product termination stage.

Following ISO 11469, Zyxel ensures products composed of 25g or more of plastic materials are recyclable. These products are marked with a standard symbol or an abbreviated term for the plastics. For example, "PC" for polycarbonate, "ABS" for acrylonitrile butadiene styrene, and "HDPE" for high-density polyethylene.

4.4 Hazardous substance management

Consumer safety and health is the most essential consideration Zyxel applies to product design and development. Zyxel follows the standards regulated by RoHS, WEEE, and ErP to ensure the detoxification, dematerialization, and decarbonization of our products. In 2021, we have not incidents of non-compliance with regulations resulting in a fine or penalty and incidents of non-compliance with regulations resulting in a warning and incidents of non-compliance with voluntary codes, it based on EU RAPEX Alert System. Please refer to the web site :

<https://ec.europa.eu/safety-gate-alerts/screen/webReport#recentAlerts>



Responsible supply chain



Our achievements

Achieving our overall sustainable commitments require all our employees and business partners to work closely together. Zyxel develops a solid supply chain management framework that clearly defines guiding principles and short and long-term plans.

* Key suppliers: Suppliers with the top 80 percent of annual purchases.

93%

of Zyxel suppliers signed a statement to comply with Zyxel sustainability commitment

100%

of Zyxel key suppliers* received ESG related certifications

99.53%

Zyxel products disclose conflict mineral sources



Commitments and goals

Zyxel outlines clear short- and long-term plans to ensure the seamless implementation of our initiatives for a sustainable value chain.

In the short term, we will conduct regular and thorough audits based on standardized audit procedures and risk control mechanisms.

In the long term, we will continue working closely with our suppliers, aiming to help 95 percent of Zyxel key suppliers receive ISO 14064-1 in 2022 and RBA/EcoVadis/CDP-equivalent sustainability certifications by 2024.



Supplier management

Supply chain management is a complex segment of the business, yet a critical contributor to our success. Based in Taiwan, Zyxel implements local procurement to increase operating efficiency with a shorter delivery period, reduce environmental footprint, and increase local employment. In 2021, we worked with 15 finished goods suppliers located in Taiwan, China, and Thailand, and the transaction amount of the top three suppliers accounted for 90 percent of total procurement. The finished goods Zyxel purchased include but are not limited to customer premise equipment, central office equipment, and fixed or mobile broadband access equipment.

Zyxel defines our supplier management efforts in three areas – supplier qualifications, supplier risk management, and conflict minerals disclosure.

Supplier qualification

To achieve our goal of maintaining a sustainable supply chain, Zyxel specifies “Sustainable Procurement Policies and Guidelines,” “Statement of Zyxel Supplier Corporate Social Responsibility Commitment,” “Zyxel Supplier Integrity Commitment,” and a “Supplier Code of Conduct,” which requires all Zyxel global suppliers to sign and to maintain compliance. Both new and existing suppliers are subject to regular audits.

Supplier risk management

Through regular audits and on-going education, Zyxel ensures operating efficiency while minimizing potential threats to company assets.

Conflict minerals disclosure

Zyxel conducts annual surveys to ensure materials and components of Zyxel products come from responsible sources. These sources must not only comply with international regulations but also consider environmental sustainability standards.



Supplier qualification

3.1. Supplier Code of Conduct

Zyxel requires all Zyxel suppliers to follow the requirements and sign the Statement of Supplier Code of Conduct. In 2021, 93 percent of the Zyxel suppliers made a declaration of intent to follow the statement.

The Zyxel Supplier Code of Conduct comprises the following six sectors and 50 corresponding criteria.

General conditions sector specifies the purpose, scope, compliance, report, audit, and amendment of the Code of Conduct.

Labor and human rights sector enumerates equity and justice for laborers, including freely chosen employment, young workers, working hours, wages and benefits, humane treatment, non-discrimination, and freedom of association. In 2021, there were zero abuse incidents of child labor and forced or compulsory labor reported.

Work health and safety sector highlights concerns for workplace safety and health including occupational safety, emergency handling, occupational injury and illness, industrial hygiene, physically demanding jobs, machine safeguarding, sanitation, food and housing, and safety and health communication.

Environmental protection sector addresses pollution and 3R issues, including environmental permits and reporting, pollution prevention and resource reduction, hazardous substances, solid waste, air emissions, materials restrictions, water management, energy consumption and greenhouse gas emissions, and carbon footprint management.

Business ethics sector underlines business integrity, including improper advantages, information disclosure, intellectual property, fair business, advertising and competition, protection of identity and non-retaliation, responsible sourcing of minerals, and privacy protection.

Zyxel supplier code of conduct

General conditions	Labor and human rights	Health and safety
<ul style="list-style-type: none"> • Purpose • Scope • Compliance • Report • Audit • Amendment 	<ul style="list-style-type: none"> • Freely chosen employment • Young workers • Working hours • Wages and benefits • Humane treatment • Non-discrimination • Freedom of association 	<ul style="list-style-type: none"> • Occupational safety • Emergency preparedness • Occupational injury and illness • Industrial hygiene • Physically demanding work • Machine safeguarding • Sanitation, food, and housing • Health and safety communication
Environment	Ethics	Management systems
<ul style="list-style-type: none"> • Environmental permits and reporting • Pollution prevention and resource reduction • Hazardous substances • Solid waste • Air emissions • Materials restrictions • Water management • Energy consumption and greenhouse gas emissions • Carbon footprint management 	<ul style="list-style-type: none"> • Business integrity • No improper advantage • Disclosure of information • Intellectual property • Fair business, advertising and competition • Protection of identity and non-retaliation • Responsible sourcing of minerals • Privacy protection 	<ul style="list-style-type: none"> • Company commitment • Management accountability and responsibility • Legal and customer requirements • Risk assessment and risk management • Improvement objectives • Training • Communication • Worker feedback, participation and grievance • Audits and assessments • Corrective action process • Documentation and records • Supplier responsibility

Management system sector emphasizes the importance of establishing a management system in mitigating operational risks, including company commitment, management accountability and responsibility, legal and customer requirements, risk assessment and management, improvement objectives, training, communication, worker feedback, participation and grievance, audits, corrective action process, documentation and records, and supplier responsibility.

3.2 Supplier audits

Zyxel requires all suppliers to undergo audits on criteria identified by Zyxel. Regular audits help Zyxel to keep track of the direction of achieving our sustainability commitments while at the same time identifying potential risks and taking precautions. Zyxel develops audits criteria based on RBA Validated Audit Process (VAP).

Audit items

Zyxel supplier audits comprise three evaluation sectors – quality system, quality process, and CSR. The quality system audit criteria ensure suppliers follow ISO-related operating processes, while the quality process criteria examine the requirements for the operating environment, methods, and management. The CSR criteria ensure suppliers provide righteous work conditions.

General conditions

1. Quality system
2. Design control
3. Document control & quality record
4. Supplier management
5. Customer service & RMA
6. Inspections, tests, and instrument certification
7. Green products management
8. Nonconforming product control
9. Purchase
10. Sustainable development and corporate social responsibility

Quality process criteria (QPA)

1. SMT
2. DIP
3. Test
4. Assembly
5. Packing
6. Repair & Rework
7. Warehouse
8. QC (IQC-IPQC-FQC-OQC)
9. Environment

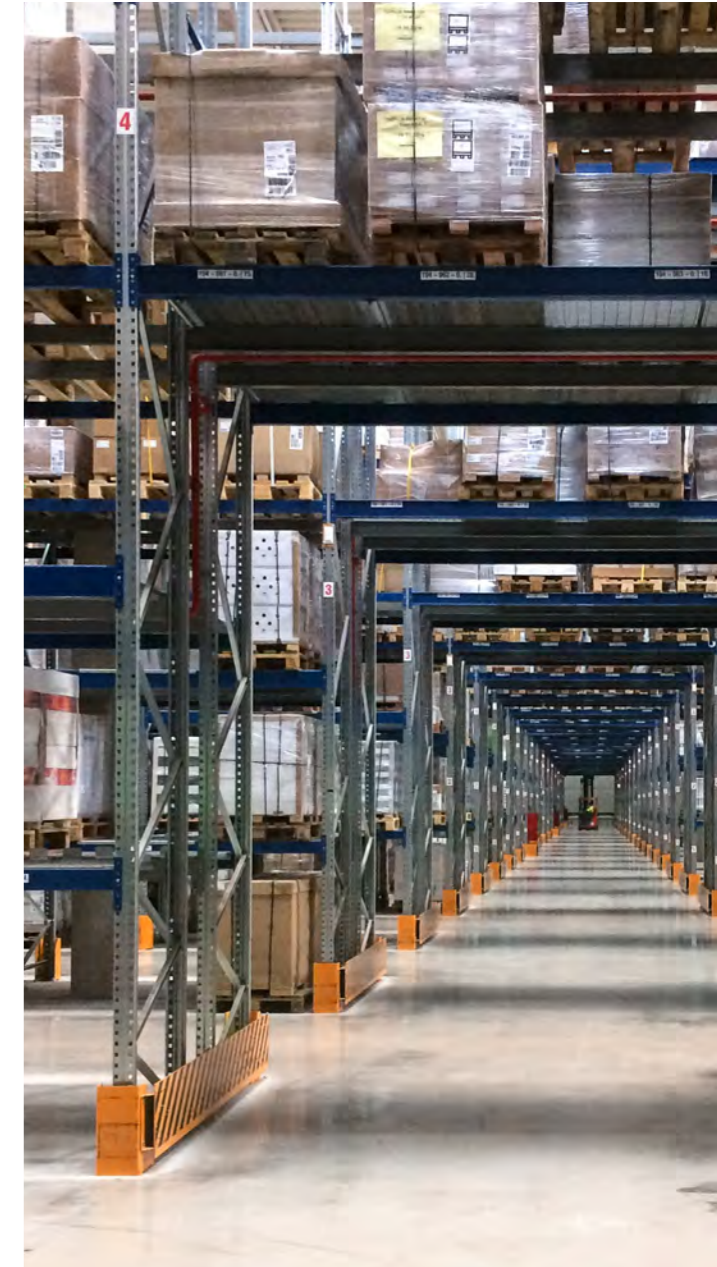
CSR criteria

1. Child labor and young workers
2. Forced labor
3. Discrimination and discipline
4. Freedom of association and communications
5. Working hours and wages
6. Business ethics
7. Fire safety
8. Chemical safety
9. Facility safety and health
10. Dormitory and canteen
11. Environmental protection
12. Management system

Audit implementation

Zyxel conducts audits for both new and existing suppliers. For new suppliers, Zyxel evaluates their financial, quality, and sustainability level via survey. For existing suppliers, Zyxel conducts audits based on annual transaction volume and the previous audit performance. We adopt on-site and digital audit methods and issue audit reports to each supplier. In 2021, Zyxel completed one onsite audit and four vendor audit reports with all audited suppliers qualified.

For those suppliers identified as having issues during the audit process, Zyxel provides guidance and instructions to assist the suppliers in implementing improvement plans. Zyxel has not suspended cooperative relations with suppliers due to audit disqualification.



Supplier risk management

The objective of supplier risk management is to ensure operating efficiency while mitigating potential threats to company assets. In addition to understanding and identifying potential risks through regular audits and verifications, Zyxel encourages its suppliers to actively pursue certifications in the areas of economics, the environment, and society.

Zyxel key supplier certification achievement rate

Aspect	Certification	Achievement rate
Economics	ISO 9001 TL 9000 TL 9000 R6.0	100%
Environment	ISO 14001	100%
Society	RBA EcoVadis JAC Awards or equivalents	100%

In response to the supply chain challenges caused by the COVID pandemic, Zyxel has taken practical measures to minimize negative impacts on business operations, including portfolio diversification, effective raw materials and components stock management.



Conflict minerals disclosure

Aiming to help stem the trade in four minerals – tin, tantalum, tungsten, and gold (3TG) – that finance armed conflict or are mined using forced labor, Zyxel performs comprehensive due diligence with its global suppliers to ensure the above minerals are not derived or sourced from mines in conflict areas of the Democratic Republic of Congo (DRC) or illegally taxed on trade routes, either of which is controlled by non-governmental military groups or unlawful military factions.

Zyxel also promises to follow the requirements of the Responsible Minerals Initiative and the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-

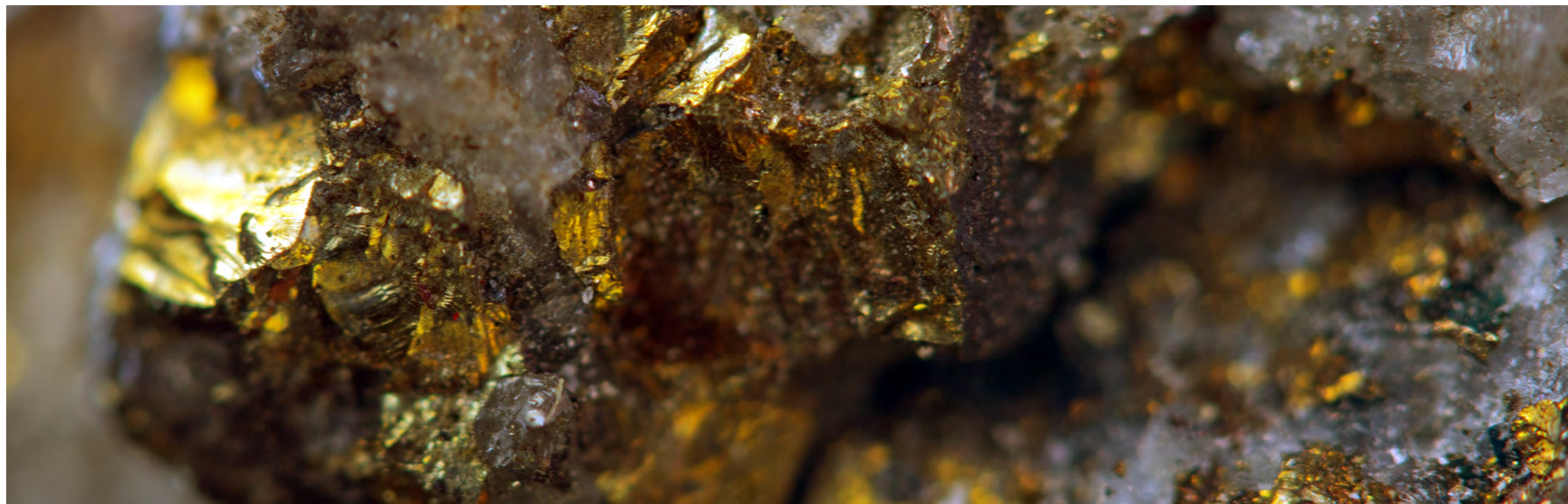
Affected and High-Risk Areas (CAHRA). Zyxel also asks its global suppliers to truthfully disclose the use of smelters by completing the latest Conflict Minerals Reporting Template (CMRT) form.

5.1 Zyxel conflict mineral management process

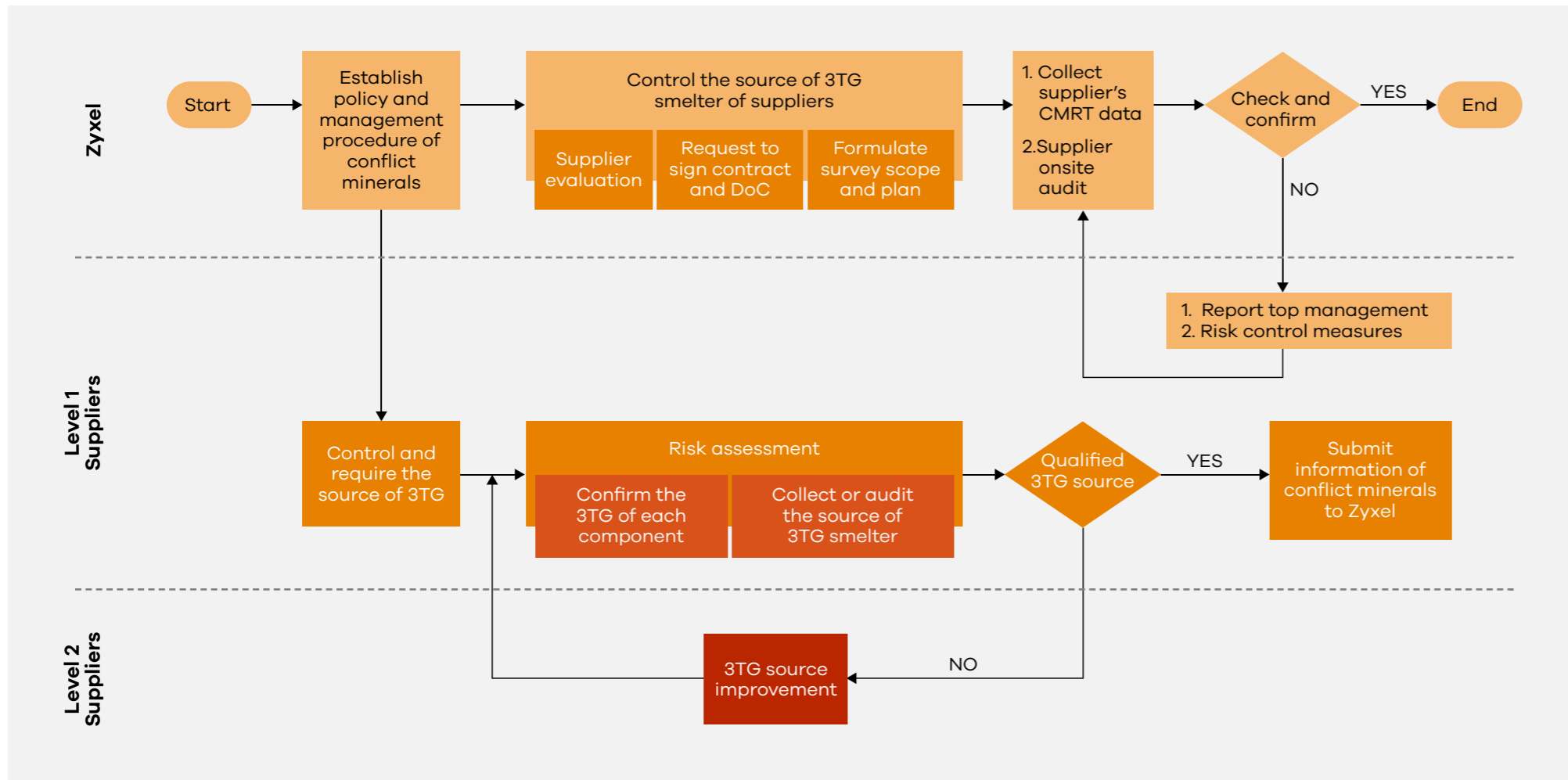
The Zyxel conflict mineral management process includes the following five practical steps:

- Establish a conflict-free mineral policy and requirements.

- Incorporate conflict minerals into the supplier requirement and evaluation and ask suppliers to sign the Zyxel purchase contract and declaration to assure its implementation.
- Define the scope of investigation and carry out evaluations annually to trace the source of minerals used in the supply chain.
- Develop an annual supplier audit plan and track improvement status of suppliers with low performance.
- Take escalation actions immediately and request the suppliers to continue to address the critical issues until the risk is acceptable, otherwise suspend cooperation, as necessary.



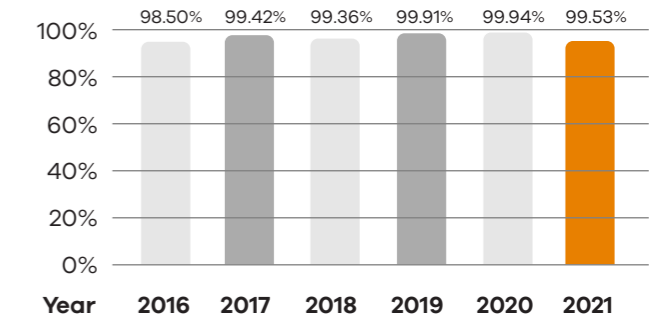
Zyxel conflict mineral management procedure



5.2 Annual mineral source survey

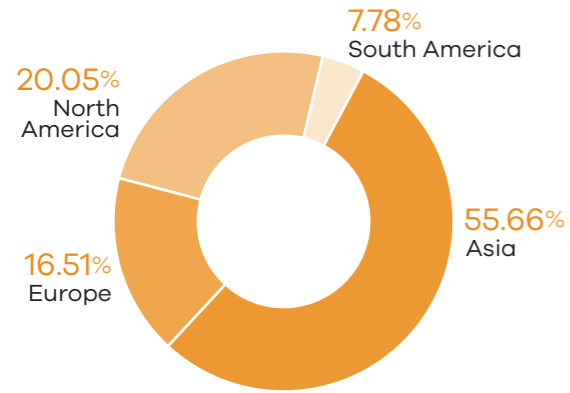
Zyxel conducts an annual survey to trace the source of conflict minerals for its products. In 2021, the conflict minerals disclosure rate of Zyxel products was above 99.53 percent.* The area distribution of qualified smelter locations is as follows with mineral resources primarily sourced from Asia.

Conflict mineral disclosure rate of Zyxel products

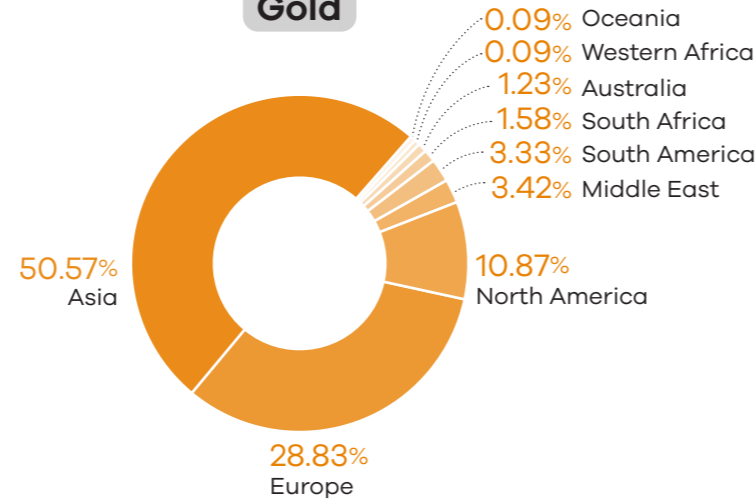


* The calculation method has been adjusted. Subsidiaries within the group, material suppliers, and shipments less than 1000 pcs were not included in the calculation of this report. Therefore, the data is different from that of Unizyx.

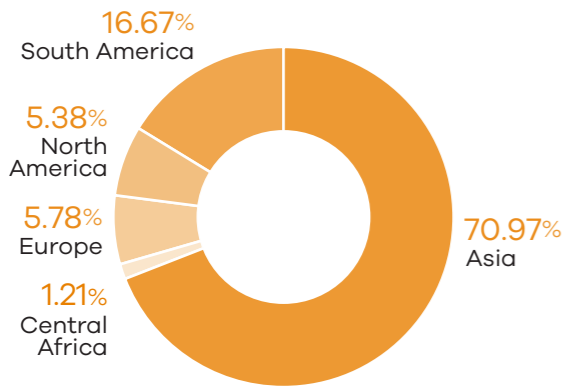
Tantalum



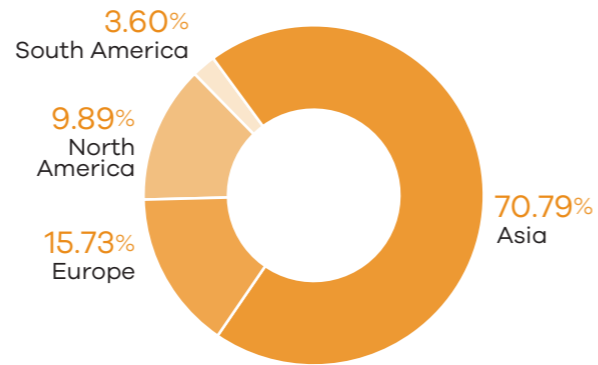
Gold



Tin



Tungsten



Inclusive workplace



Our achievements

Talent is the most critical asset for a corporation to sustain its business and keep growth momentum. Zyxel is committed to creating a diverse and inclusive workplace where employees feel valued, respected, engaged, and empowered to bring their expertise and potential forward.

At Zyxel, we strive to guarantee workplace safety, protect employee health and emphasize work-life balance. We also create an equal, integrated, and diversified working environment where gender equality, multicultural integration, and cross-generational diversity are all brought into account.

With a well-structured promotion system and on-the-job training programs, Zyxel lays out a career development path for its employees for professional and personal growth.



24%

management level
are female

8.45 years

global employee
average tenure

Top Workplace Award

Zyxel American headquarters was recognized the
Top Workplace 2021 by Orange County Register

Workforce structure

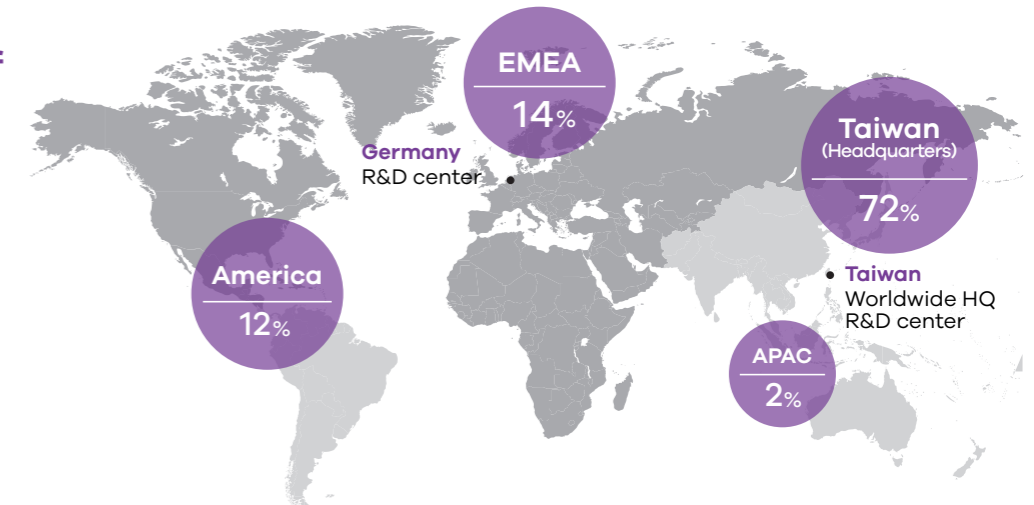
We believe a diverse and inclusive workplace will drive innovation, productivity, and resilience. Zyxel promises to maintain employment diversity in various aspects. Our D&I policy is announced on Zyxel Communications website.

Topic	Category	Male	Female	Total*	Total ratio*
Position	Manager	81	26	107	18.8%
	Sales, marketing, and R&D	259	110	438	64.7%
	Administration	33	61	94	16.5%
Geographic location	Taiwan (Worldwide Headquarters)	255	157	412	72.3%
	APAC	7	5	12	2.1%
	North & South America	46	22	68	11.9%
	EMEA (Europe, Middle East, and Africa)	65	13	78	13.7%
Age	<30	73	38	111	19.5%
	30-50	252	144	396	69.5%
	>50	48	15	63	11.1%
Employee category	Full-time	371	195	566	99.3%
	Temporary/Part-time	2	2	4	0.7%
Total		373	197	570	

* Including overseas employees

This table covers Zyxel's Headquarters in Taiwan as well as subsidiaries and joint ventures in Denmark, Germany, America, Brazil, and Thailand that differ from other disclosures in the report.

Geographic distribution of workforce



1.1 Distribution by geography

As of 2021, Zyxel employs 570 staff worldwide. Of that number, 412 staff members work in Taiwan, accounting for approximately 72 percent of the total workforce. The rest locates throughout EMEA, North and South America, and APAC regions.

1.2 Gender distribution by position

Zyxel values gender equality in the workplace by providing fair career opportunities for all employees regardless of gender. As of 2021, there were 197 female employees, accounting for approximately 34 percent of the global workforce. Of the 107 employees holding a manager or above position, 26 were females. Female managers account for approximately 24 percent of management personnel. Of the 369 employees holding professional positions in sales, marketing or R&D, 110 were females. Female employees account for 30 percent of all professional staff.

1.3 Distribution by age

Zyxel believes age diversity plays a key role in driving innovations. The age distribution of Zyxel employees ranges proportionally from 22 to 65 years old, while the 30 to 50 age group accounts for the majority of the workforce.

1.4 Distribution by management

The proportion of management-level personnel among global workforce was 18.8 percent in 2021. This includes senior managers, mid-level managers, and vice presidents or above. Non-management personnel comprise professional and administrative workers.



Talent relationship management

2.1 Talent recruitment

Diversity in the workplace drives innovation, guarantees equality, and ensures sustainability. Zyxel is dedicated to developing an actionable workforce diversity plan and leverages all possible recruitment channels to acquire qualified talent.

Zyxel currently adopts **seven** recruitment channels.

- Internship program
- Job bank
- R&D alternative
- University job fairs
- Social media
- Headhunters
- Employee referral

In 2021, Zyxel hired 90 full-time employees, of which 67 percent were male and 33 percent female. The male-female ratio of the new hires aligned with that of overall employee demographics.

2.2 Talent retention

Employees are the backbone of a business. Retaining competent talent is as essential as recruiting new employees. Zyxel has established a well-structured promotion system and on-job training program to ensure a healthy, harmonious work environment that keeps employees satisfied and motivated.

In 2021, the global employee turnover rate was 14.4 percent, of which male was 13.9 percent and female was 15.2 percent. The average tenure is 8.45 years.

New hires in 2021

Topic	Category	Male new hires	Female new hires	Total*	Male ratio	Female ratio	Total ratio*
Geographic location	Taiwan (Worldwide Headquarters)	47	26	73	18.4%	16.6%	17.7%
	APAC	1	0	1	14.3%	0.0%	8.3%
	North & South America	6	1	7	13.0%	4.5%	10.3%
	EMEA (Europe, Middle East, and Africa)	6	3	9	9.2%	23.1%	11.5%
Age	<30	27	15	42	37.0%	39.5%	37.8%
	30-50	29	13	42	11.5%	9.0%	10.6%
	>50	4	2	6	8.3%	13.3%	9.5%
Total		60	30	90	16.1%	15.2%	15.8%

* Including overseas employees

Turnover in 2021

Topic	Category	Male turnover	Female turnover	Total*	Male ratio	Female ratio	Total ratio*
Geographic location	Taiwan (Worldwide Headquarters)	39	27	66	15.3%	17.2%	16.0%
	APAC	2	2	4	28.6%	40.0%	33.3%
	North & South America	6	1	7	13.0%	4.5%	10.3%
	EMEA (Europe, Middle East, and Africa)	5	0	5	7.7%	0.0%	6.4%
Age	<30	21	7	28	28.8%	18.4%	25.2%
	30-50	27	22	49	10.7%	15.3%	12.4%
	>50	4	1	5	8.3%	6.7%	7.9%
Total		52	30	82	13.9%	15.2%	14.4%

* Including overseas employees

**TOP
WORK
PLACES
2021**

THE ORANGE COUNTY
REGISTER

Orange County
Register names Zyxel
Communications
a winner of the
Orange County Top
Workplaces 2021
Award.



2.3 Transparent communications

Diverse and transparent communication channels are the key to healthy employee-employer relationships. At Zyxel, we provide versatile communication channels to facilitate two-way communications. In 2021, a total of 16 employee feedbacks were received from the following channels.

- **Employee communication email**
An anonymous channel for employees to relay their suggestions to the company.
- **Annual town hall meeting**
A company-wide face-to-face meeting between the executive management team and employees.
- **Quarterly corporate employee committee meetings**
Employee representatives relay employees' needs and feedback to executive management.

Talent development

3.1 Diverse training and development programs

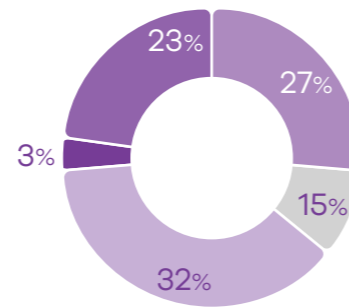
Through comprehensive training programs and personal career development plans, Zyxel encourages its employees to acquire professional skills and knowledge to advance competencies associated with their current roles and responsibilities.

At its Worldwide headquarters, Zyxel launched an online learning platform to give employees great flexibility to participate in training courses while dealing with their daily responsibilities. Our comprehensive training programs consist of five major categories:

- Orientation for new hires
- Leadership & managerial skills
- Professional capabilities
- Safety, Health & Environment (S.H.E.)
- Legal & compliance

Training & development proportion

- Safety, Health, and Environment (S.H.E.)
- Orientation for new hires
- Legal and compliance
- Professional capabilities
- Leadership and managerial skills



The percentage of training hours to total session hours.

In 2021, Zyxel Worldwide Headquarters coordinated 90 training sessions totaling 1,589 training hours, a 28 percent growth from the previous year. The average training hours per

Headquarters employee training sessions and hours*

Year	2019	2020	2021
Total number of sessions	86	50	90
Total hours of sessions	360.1	165.3	296.3
Total participants	1541	1255	1589
Total training hours	1664.6	1944.1	1596.8
Average training hours per employee	3.2	4.3	3.9

* Data is calculated to reflect a Taiwan employee's status.

Headquarters employee were 3.7 hours, of which 4.3 hours for each female employee and 3.5 hours for each male employee.

3.2 Performance appraisal

Zyxel's performance appraisal program manages its employees' performance at different stages of career development. New hires have their first performance appraisal three months after onboard to help them understand their level of eligibility. All regular employees are required to participate in two sessions of annual performance appraisal – the mid-year and year-end review.

The performance appraisal process includes two steps – self- and supervisor assessments. Through the two-step procedure, Zyxel provides a fair and transparent communication channel where employees can self-examine their work and understand the expectations of their supervisors.

Headquarters management training sessions and hours*

	Taiwan HQ employees	Training hours	Average training hours per employee
Position	Managers	426.7	5.4
	Indirect labors (excl. managers)	1170.1	3.5
Gender	Male	927.2	3.6
	Female	669.6	4.3
Employment	Full-time	1592.8	3.9
	Temporary/Part-time	4	1.0
Total		1596.8	3.88

* Data is calculated to reflect a Taiwan employee's status.

Employee rights remuneration and benefits

4.1 Employee rights

Zyxel takes practical actions in line with the Responsible Business Alliance Code of Conduct and strictly complies with laws to protect the labor rights of our employees. In written policies and procedures, Zyxel has clear internal documents such as "Work Rules", "Employee Manual", "Sexual Harassment Prevention", and "Anti Workplace Bullying" policies to ensure employees are properly looked after. Zyxel Human Rights Policy is available for download from Zyxel Global websites.

In 2021, Zyxel conducted human rights training for its Worldwide Headquarters employees. The 70-hour course is designed to help employees understand the behavioral and moral standards each employee should follow in their position. As a result, 99 percent of employees completed the course. In the same year, zero sexual harassment or labor abuse incidents were reported.

Minimum notice periods

In Taiwan, should the following significant operational changes occur, Zyxel Headquarters will strictly abide by Article 16 of the Labor Standards Act legislated by the Taiwan government. In overseas offices, the minimum notice periods are also abided by local legislation in each region.

- The company suspends or transfers operations
- The company sustains losses or reductions in business operations
- The company's business operation is forced to suspend for more than one month due to force majeure incidences

- The company reduces the number of workers due to the business model changes

When an employee is verified as unable to perform tasks required for the position, notices will be given based on the tenure specified below, which applies to Zyxel global employees.

- 10-day notice for an employee who works for more than three months but less than one year
- 20-day notice for an employee who works for more than one year but less than three years
- 30-day notice for an employee who works for more than three years

4.2 Remuneration

At Zyxel, remuneration is determined based on employees' backgrounds, including education, relevant skills, knowledge, experiences, as well as the nature of work, position, and content of duties. Gender, race, language, age, party affiliation, or marital status will not be considered in the remuneration determination process. Remuneration for overseas employees does not disclose in this report.

Headquarters employee monthly salary compared to local minimum wage

	Male	Female
Local minimum wage	1	1
Average monthly salary	1.7	1.5

Headquarters monthly salary and remuneration

	Male	Female
General staff	1	0.86
Management staff	1	0.78

Zyxel Headquarters offers competitive compensation and benefits packages, including the following:

- Performance bonus
- Quarterly bonus
- Annual salary raise
- Allowances for Mid-Autumn Festival, Dragon Boat Festival, and a year-end bonus
- Rewards for creative invention proposal
- Rewards for academic journal publication

Note: The amount of the performance and quarterly bonus depends on the company's annual operating results as well as the employees' performance.

4.3 Severance plans

Zyxel Headquarters established its retirement policy based on the Labor Standard Act and Labor Pension Act legislated by the Taiwan government. A Supervisory Committee of Retirement Reserve was established to manage and supervise the usage of retirement funds. Zyxel has announced its retirement policy on the company database accessible for all employees. Severance plans in overseas offices are also based on local legislation in each region.

4.4 Employee benefits

A safe, healthy, and harmonious work environment is the foundation of employee productivity and company prosperity. Zyxel strives to guarantee workplace safety, protect employee health, and emphasize work-life balance.

In addition to the mandatory labor welfare support required by local legislation in Taiwan, Zyxel Headquarters provides comprehensive benefits packages for all full-time employees. Benefit packages for overseas employees vary based on local legislation in each region.



Health care

- Insurance plans
- Health center
- Annual health checkups
- Onsite doctor consultation service
- Massage service
- Employee Assistance Program (EAP)
- Health promotion program

Work-life balance

- Social clubs
- Healthy workplace
- Travel subsidy and family day

Employee welfare

- Employee discount at selected shops
- In-house catered meals with allowances
- Birthday and holiday allowances
- Annual paid annual leave
- Free parking

Maternity care

- Maternity leave and parental leave
- Lactation room
- Maternity risk assessment
- Maternal assessment
- Reserved parking space
- Kids' toy and book rental and exchange service

Health care

• Insurance plans

Zyxel provides comprehensive insurance plans to protect its employees and families in the event of hospitalization, death, and disability. There are five types of insurance – fixed-term life insurance, accidental injury medical allowance, hospitalization medical insurance, and cancer medical insurance. All employees, their spouses, and children are eligible to participate in the insurance plans.

• Health center

Zyxel has a dedicated health center and a regular licensed corporate nurse at its Worldwide Headquarters. Employees can receive immediate consultations and health care.

• Annual health checkup

Zyxel entrusts hospitals to conduct annual health checkups for all employees to identify any early signs of health issues.

• Onsite doctor consultation service

Zyxel provides a free onsite doctor consultation service once a month at its Worldwide Headquarters.

• Massage service

Zyxel works with visually impaired masseurs and masseuses to provide massage services to headquarters employees. This program offers Zyxel employees a channel for stress relief while creating job opportunities for disadvantaged individuals and groups.

• Employee Assistance Program (EAP)

The Zyxel Employee Assistant Program (EAP) consists of lawyers and consultants in fields like psychology, finance, and health. Employees can receive confidential professional support.

• Health promotion programs

Zyxel hosts a series of educational programs on life support, emergency care, fire-prevention facilities, and firefighting equipment to improve employees' knowledge of how to deal with emergency situations.

Work-life balance

Work-life balance improves employee productivity. Zyxel organizes an array of activities during workdays and on the weekends.

• Social clubs

All Zyxel employees are encouraged to form or join social clubs based on their interests. The Zyxel headquarters employee welfare committee sponsors up to US\$846 (NT\$25,000) per club annually for Taiwan employees to form a diverse array of social clubs. In 2021, there were 17 active clubs.

The welfare committee organizes several sports games every year to further encourage collaboration across departments and cross-functional teamwork. In 2021, all sports games were suspended due to the COVID-19 pandemic.

• Healthy workplace

In 2017, Zyxel renovated the interior design of its Worldwide headquarters facilities, incorporating a modern but warm design concept to provide employees with a glamorous multifunctional workplace. In addition to work areas, the office also offers an array of facilities such as an employee café, cafeteria, fitness center, and lactation room.

• Travel subsidy and family day

In 2021, Zyxel Headquarters allocated 22.36 percent of the employee welfare fund to travel subsidies to encourage employees to take vacations and travel with their families.

Employee welfare

Zyxel Headquarters offers competitive compensation and benefits packages to secure employees' financial stability and extend overall tenure.

• Employee discount

As of 2021, Zyxel Headquarters contracted with 2,900 selected shops to offer Taiwan employees a special discount upon each purchase.

• In-house catered meals with allowances

Zyxel Headquarters' cafeteria serves a variety of health-oriented meals. The company compensates each employee US\$1.7 (NT\$47) for lunch or dinner.

• Birthday and holiday allowances

Zyxel Headquarters' provides allowances for birthdays, Mid-Autumn Festival, Dragon Boat Festival, and Chinese New Year.

• Annual paid leave

Zyxel's paid leave program is superior to the government's minimum requirement. In 2021, Zyxel Headquarters provided employees with a total of 118 holidays, 2 days more than the number of national holidays announced by Taiwan government.

• Free parking

Zyxel Headquarters provides all employees who commute by car or motorcycle with parking spaces for free.

Maternity care

• Maternity leave and parental leave

In alignment with the Act of Gender Equality in Employment legislated by the Taiwan government, Zyxel's unpaid parental leave program is applicable for both male and female employees. In 2021, 412 employees at Zyxel Headquarters were entitled to unpaid parental leave. 7 employees applied for unpaid parental leave. In the same year, 10 employees were scheduled to be reinstated and 8 were on schedule. The return to work rate was 80 percent and retention rate was 75 percent.*

2021 Taiwan headquarters employees	Male	Female	Total
Number of employees that were entitled to parental leave	255	157	412
Number of employees that took parental leave	1	6	7
Total number of employees that expected to return to work	2	8	10
Total number of employees that did return to work	2	6	8
Return to work rate	100%	75%	80%
2020 Total number of employees that did return to work	1	7	8
2020 Total number of employees retained 12 months after returning to work following parental leave	1	5	6
2021 Retention rate	100%	71%	75%

* Data is calculated to reflect Taiwan employees' status.

- **Lactation room**

Zyxel provides private and independent lactation spaces with a bottle sterilizer within its Headquarters facility to help female employees smoothly transit through the postpartum period.

- **Maternity risk assessment**

Zyxel Headquarters conducts an annual workplace environmental safety assessment to ensure pregnant employees are protected from potential hazards and harmful substances.

- **Maternal assessment**

Zyxel's onsite doctor consultation service at its Headquarters facilities also covers maternal assessment, which examines physical and mental conditions to evaluate occupational suitability.

- **Dedicated parking spaces**

Zyxel Headquarters designates parking spaces near the entrance or the elevator for pregnant employees.

- **Kids toys and books rental service**

With an eco-conscious mindset, Zyxel provides a free rental service for children's toys and books to encourage employees to achieve planet-friendly, clutter-free, and money-saving.

Work-life balance during the pandemic

In alignment with the pandemic-related restrictions imposed by the Taiwan government, Zyxel implemented crowd control measures at its facilities in the Hsinchu Headquarters, which separated the employees into two shifts during the first half of 2021. The pandemic didn't stop us from promoting the work-life balance culture. During the work-from-home period, Zyxel organized two online aerobic courses with a total of 140 employees and their family members participating.



Occupational safety and health

5.1 Commitments

Zyxel is committed to providing and maintaining a safety-first workplace where the occurrence of occupational hazards is minimized. Comprehensive requirements and procedures are established following the nature of each operation unit to prevent, track, manage and report onsite occupational injuries and disasters. All Zyxel employees and contracted workers are required to follow and implement daily operations. In 2021, the number of occupational injuries and work-related ill health is zero.

5.2 Committee

Following the "Occupational Safety and Health Management Regulations" legislated by the Taiwan government, Zyxel has established the Occupational Safety and Health Committee to ensure employee health and workplace safety. The Committee holds meetings on a quarterly basis to review the results of occupational safety and health operations. Re-elected every two years, the committee members were department heads, engineering technicians, occupational safety and health personnel, medical staff, and employee representatives, with employee representatives accounting for more than one-third of the committee members.

The committee's duties include reviewing, tracking, and recommending the following programs and implementations:

- Annual training plans for occupational safety and health
- Work environment monitoring and improvement plans
- Employee health management, occupational disease prevention, and health concept promotion plans
- Implementation of autonomous inspections and audit plans for each business unit
- Preventive measures for occupational disasters from machine and equipment operations and raw material handling
- Occupational disasters investigation and performance assessment



5.3 Management system

To improve the efficiency of occupational safety and health management and ensure the safety and health of all Zyxel employees and work environments, Zyxel introduced the Occupational Safety and Health Management System in 2010 and received the OHSAS 18001 certification in 2011. The company also obtained the revision certification by DNV-GL to comply with the latest requirements specified by ISO 45001:2018 in 2020.

In accordance with ISO 45001, Zyxel Headquarters has established the "Standards of Accident Investigation Management Operations" and carried out risk identification of various operational disasters at the offices for both regular and outsourced employees. Zyxel takes proactive actions to evaluate and analyze various disasters that could cause physical and psychological damages due to work contents and work environments to formulate preventive measures.

Each year, Zyxel Headquarters asks representatives from each unit to conduct hazard identification and risk assessment of routine and non-routine operations. Based on the assessment results, they are asked to judge the risk level based on low, medium, or high. If the risk level of a certain operation is judged as high, improvement measures such as elimination, replacement, and engineering control should be taken immediately with a high priority.

5.4 Education and training

Zyxel cares for the physical and mental wellness of its employees through annual health checkups and monthly doctor visits at the offices. Zyxel also organizes comprehensive workplace safety and fire safety training for new employees, existing employees, on-site employees, and outsourced contractors on a regular basis. In 2021, the completion rate of occupational health and safety training was 100 percent.

On-the-job training for specific occupational hazards

- **General employees:** General safety and health training courses are conducted annually, and the requirements for the safety of high-ground operations are also addressed.
- **Forklift operators:** All forklift operators working in the warehouse must be trained and certified for the "operator of forklifts with a working load of one ton or more" qualification. They must complete 3 hours of on-the-job safety and health training for the same qualification every three years at an external training unit.
- **Internal firefighting unit members:** The company conducts fire safety training for internal firefighting unit members every six months.

5.5 Pandemic prevention policy

To diminish the risk of the COVID-19 pandemic to employee health and company operation, Zyxel formed a "Pandemic Prevention Workforce" at the early stage of the pandemic. Led by senior executives assigned by the President, the Workforce held regular meetings to revisit the feasibility of the pandemic prevention policies and measures, while at the same time continuously monitoring the development of the pandemic and tracking the health status of all employees.

Zyxel implemented pandemic prevention measures in five major areas: pandemic information collection and prevention concept promotion, prevention of cluster infection, reinforcement of personnel epidemic prevention, environmental and facility sterilization, and employee care.

Information collection and promotion

- Timely notification of pandemic developments and prevention regulations
- Promotion of pandemic prevention concepts
- Mandatory daily employee health management survey
- Regular surveys of employee vaccination status

Environmental and facility sterilization

- Increase the frequency of disinfection in public areas
- Outsource professional disinfection services
- Replace all faucets with induction type

Prevention of cluster infection

- Implement temporary staggered shifts
- Install partitions in the employee cafeteria and divide meal shifts
- Limit the number of people on the elevator
- Visitor control
- Replace physical meetings with video conferences
- Reduce non-essential domestic and international travel

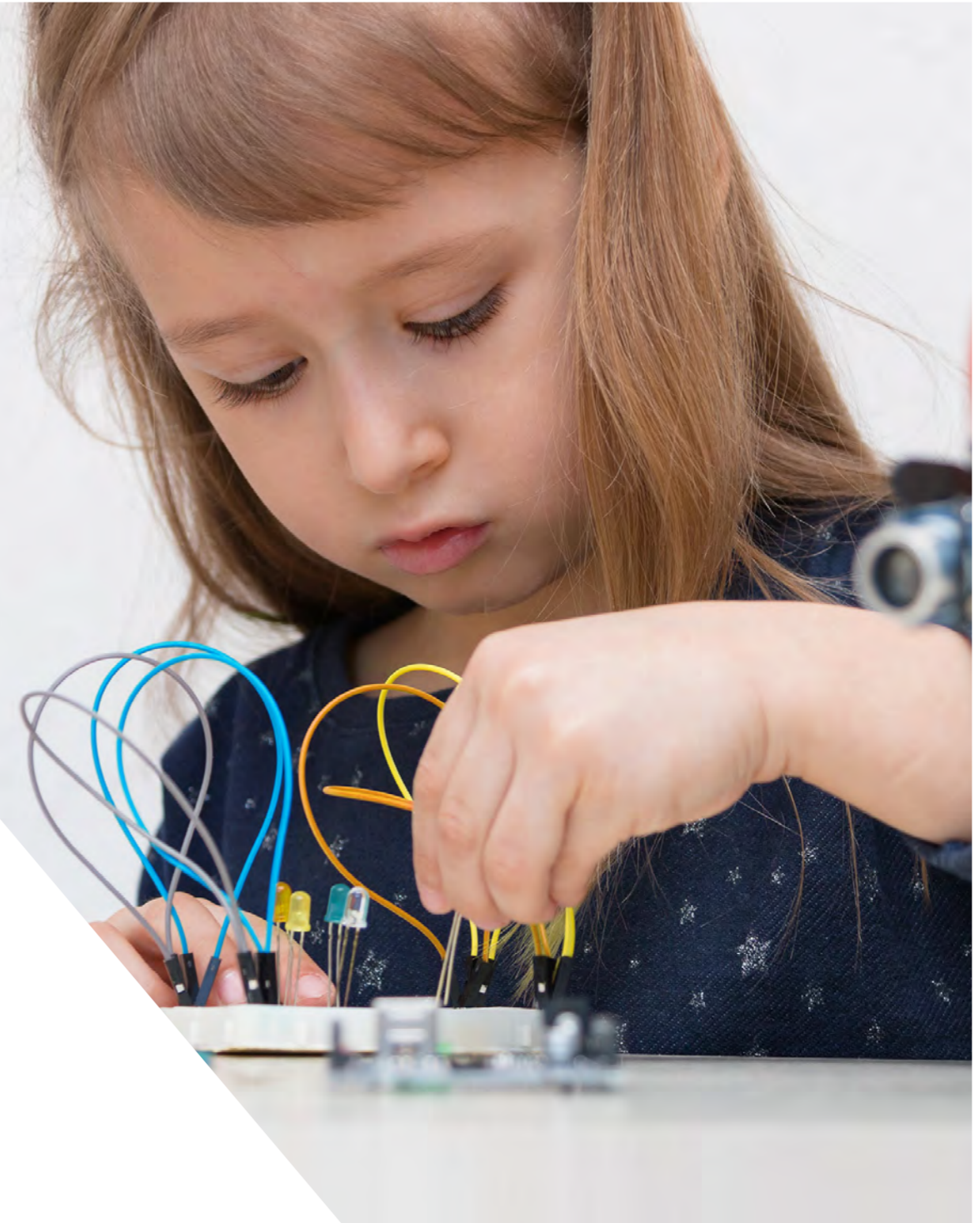
Reinforcement of personnel epidemic prevention

- Provide free masks to employees regularly
- Require mandatory mask-wearing in public areas
- Require mandatory body temperature measurement and hand disinfection at entry of the facility
- Offer rapid test service for employees with infection concerns

Employee care

- Provide paid vaccination leave and recovery leave
- Offer family care leave or work from home options for employees with children under age 12

Community contribution



Our achievements

Envisioning a connected and sustainable future with open communications, equal educational opportunities, and inspired innovation, Zyxel and Zyxel Foundation work together to create positive impacts for our community and industry while keeping the growth momentum of our business.

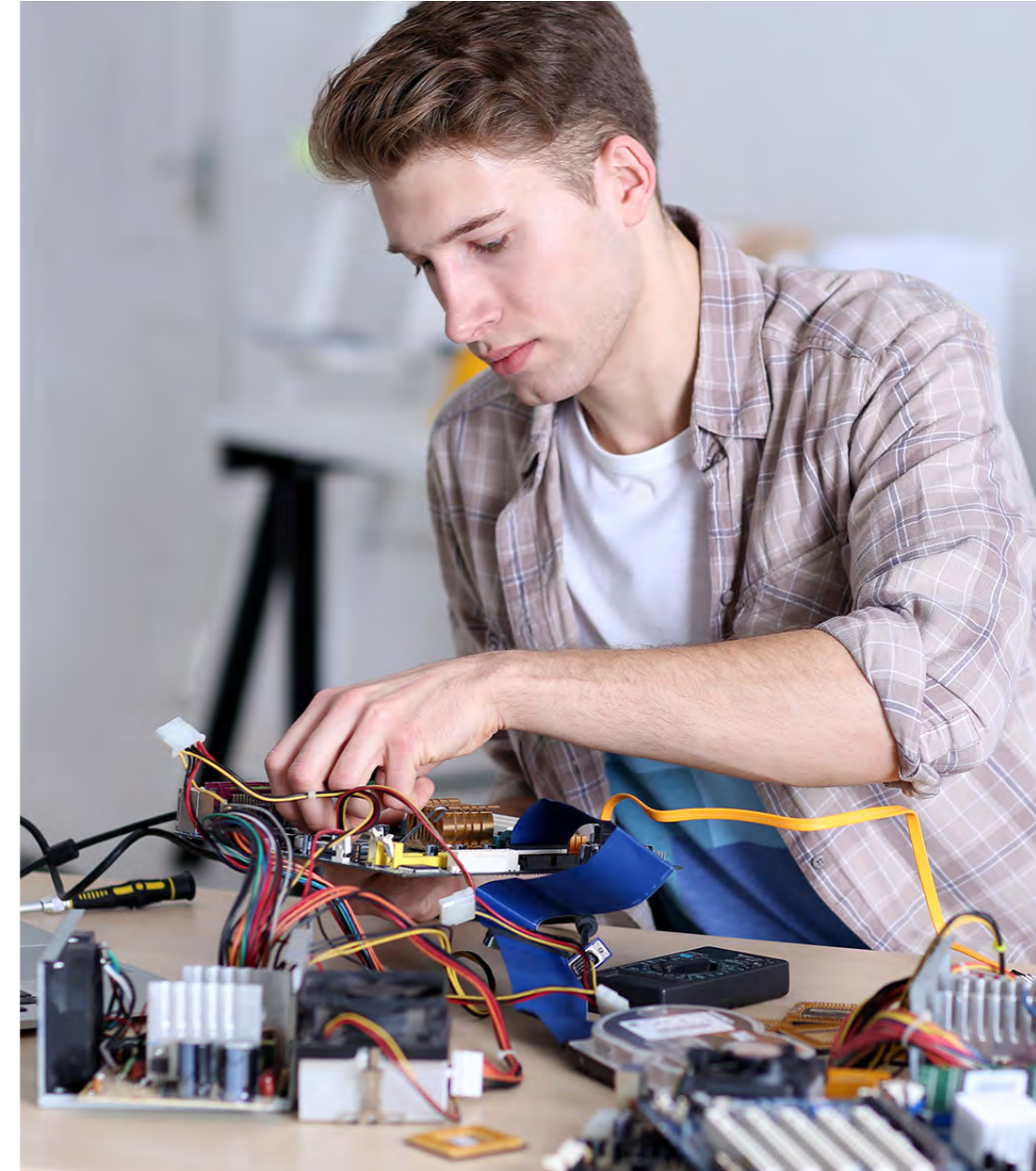
Our sustainability programs are designed to encourage purposeful innovation, nurture the talents of tomorrow, promote the spirit of entrepreneurship, advance social justice, and inspire sustainable patterns of living.

US\$ 276 thousand

of Shun-I Chu Zyxel Scholarship granted in 2021

Shortened Digital Gaps

through our connect the unconnected initiatives



Talent innovation entrepreneurship

1.1 Zyxel Innovation Plus Lecture Series

The Zyxel Innovation Plus Lecture Series is organized by Zyxel Foundation and designed to bridge the industry and academics. Through experience sharing from successful entrepreneurs, students can broaden their minds and knowledge. In 2021, the Lectures attracted over one thousands participation and over 65 thousand online views.

Innovation x Entrepreneurship x CreAction Joint Lecture Series

Since 2017, the Innovation X Entrepreneurship X CreAction Joint Lecture Series has been held in the "Zyxel Lecture Hall" in the National Yang Ming Chiao Tung University. The auditorium was funded by Dr. Shun-I Chu, the founder of Unizyx Group. Thanks to Professor Hsiao Chan from the Department of Management Science of National Yang Ming Chiao Tung University, the Lecture Series provides an invaluable platform for students to learn and exchange ideas with successful entrepreneurs.

Public Relativity Lecture Series

Zyxel Foundation partnered with the Chinese Culture University (CCU) in 2021 to hold a total ten Public Relativity Lecture Series. Thought leaders from industry, government, and academia shared their experience and knowledge with students to enhance their understanding and critical thinking capabilities on public issues.

Zyxel Innovation Plus Lecture Series

Online views*

Innovation x Entrepreneurship x CreAction Joint Lecture Series	548
Public Relativity Lecture Series at Sustainable System Development with SDGs Program of CCU	4,109
Public Relativity Lecture Series at the Master Program of Social Enterprise Management of CCU	61,013
Total	65,670

* Online views statistics to 2022/8

1.2 Talent of tomorrow

The ability to solve problems through innovation and knowledge in technology and science plays a critical role in developing the talents of tomorrow. Each year, Zyxel organizes or sponsors a series of curriculums and programs to inspire more young talent to develop interest in Science, Technology, Engineering, and Mathematics (STEM).

In 2021, Zyxel Foundation sponsored several talent cultivation activities hosted by Taiwan government and academic institutions, including "Girls in CyberSecurity (GiCS) Competition", "Advanced Information Security - Summer School (AIS3) program", "Students' Information Technology Conference (SITCON)".

Girls in CyberSecurity Competition (GiCS)

Organized by the Taiwan Ministry of Education, Ministry of Science and Technology, and Board of Science and Technology, Executive Yuan, the GiCS is an attempt to empower more women in the field of cybersecurity.



Advanced Information Security - Summer School (AIS3) program

Since 2015, the Advanced Information Security Summer School (AIS3) hosted by the Information Security Incubation Program Office, Ministry of Education, has aimed at enhancing students' competence in information security.



Students' Information Technology Conference (SITCON)

SITCON is a community organized by students who are dedicated to education on information technology and the promotion of the spirit of open source. Seminars hosted by volunteer students provide a platform for students to present ideas and exchange information.

1.3 Academia-industry collaboration

Academic-industrial collaborations and technology transfer have played a prominent role in accelerating industrial development. Through long-term engagement in academic research projects, Zyxel aims to narrow the gap between academic training and industrial applications.

Ongoing Zyxel-academic research projects

University	Project name	Collaboration period
National Yang Ming Chiao Tung University	AI-empowered Wi-Fi self-optimization and user association scheme	2021-2022
	Wi-Fi motion sensing technology	2021-2022



1.4 Scholarship

Shun-I Chu Zyxel Scholarship

The Shun-I Chu Zyxel Scholarship was established by Zyxel Group founder, Dr. Shun-I Chu in 1999. Over the last two decades, the scholarship has granted nearly US\$5 million (NT\$145 million) in support of thousands of Taiwanese college and high school students who demonstrate outstanding academic or athletic performance or who come from socially disadvantaged families.

In 2021, the Scholarship supported 366 sponsorships with endowments totaling US\$276 thousand (NT\$8.3 million), benefiting students from college and high school, including National Tsing Hua University, National Yang Ming Chiao Tung University, and National Central University, National Chutung Senior High School, National Chunan Senior High School, National Hsinchu Girls' Senior High School, and National Hsinchu Senior High School.

Rising Sun Scholarship of the National Tsing Hua University

The Rising Sun Scholarship was established to provide financial aid for students from low-income families. Since 2016, Zyxel has sponsored the scholarship and granted over US\$41 thousand (NT\$1.2 million).

"

Education is the key with which humankind solves future challenges.

The Shun-I Chu Zyxel Scholarship is the tool to inspire more talented students to appreciate the power of knowledge and become lifetime learners.

"



Dr. Shun-I Chu
Founder and Chairman
Unizyx Group



Community contribution

2.1 Connect the unconnected

Reliable and consistent high-speed internet is not a luxury but a necessity for people in the post-pandemic era. Zyxel applies its extensive expertise in broadband access solutions to shorten the digital gaps, bringing quality connectivity to everywhere and anyone.

Restore service amidst West Germany floods

In July 2021, major areas of West Germany experienced heavy rain, resulting in unprecedented flooding. The floods damaged critical infrastructures, including mobile networks.

Understanding how reliable connections are essential to relaying messages for public safety and facilitating communication during the crisis, Zyxel reached out to its long-term partner eifel-net and provided free access to multi-service access nodes (MSAN). As a result, eifel-net successfully resumed full-capacity service within days.

Connecting students in Spain to online education

In 2020, Zyxel partnered with Solutions 30, a European leader in solutions for new technologies, to bring free 4G access to families and school-age children in Ribeira, Spain.

To keep students safe and minimize the spread of COVID-19, schools in Ribeira moved to online classes and learning activities. However, many students and their families in Ribeira did not have access to high-speed internet at home, forcing many to forgo their education.

Zyxel partnered with Solutions 30 to help these students connect with high-speed internet and continue their everyday school activities. Zyxel provided its 4G LTE WiFi Router, while Solution 30 coordinated technical integration and communication with local school directors.

Bringing high-speed internet to UK schools

In 2020, Zyxel partnered with B4RN, a non-profit fiber-optic broadband network, to fully equip 21 rural UK primary schools with high-speed internet access.

The partnership allowed each rural school to adopt modern curriculums and the latest in education technology. Zyxel provided XGS-PON IAD supporting the latest WiFi 6 technology to help students and teachers complete work online, attend virtual educational events, and shift towards cloud-based education software and technology.



2.2 Day of Giving

Since 2013, Zyxel employees have annually selected a non-profit organization in the Los Angeles area and provided a day of volunteer labor to help improve their facilities or support their missions.

In 2019, nearly 100 of Zyxel's employees, family members, friends, and business partners volunteered their time and energy to support Giving Children Hope in Buena Park, California.

The volunteers from Zyxel worked alongside staff members to assemble food packages to support the Giving Children Hope We've Got Your Back program (WGYB). The WGYB program addresses the food needs of local school-age children at risk of hunger due to family poverty. The program was started in 2007 to provide additional food to children when they were not in schools, such as during weekends, extended holidays, and summer months. During school, these children receive federally funded free or reduced-price lunches. However, when school is not in session, many students experience limited access to food. The volunteer work in 2019 helped Giving Children Hope provide 10,000 pounds of critical supplies for children and families in need.

The Day of Giving event was suspended due to the COVID-19 pandemic in 2020 and 2021.



2.3 Love in a shoebox

On the eve of Christmas, Zyxel and Zyxel Foundation invited all headquarters employees to participate in the Christmas charity – "Love in a shoebox". In just 3 days, a total of

118 shoeboxes full with new stationery, books, toys, sports goods, and daily necessities were collected and delivered to students in rural elementary schools in Taiwan.



Appendix - GRI Index

GRI standard and disclosure		Response	Page
GRI 102: General Disclosure (2016)			
1. Organizational profile			
102-1	Name of the organization	Zyxel Communications	P6
102-2	Activities, brands, products, and services	Company governance chapter 1.3	P9
102-3	Location of headquarters	Company governance chapter 1.1	P8
102-4	Location of operations	Company governance chapter 1.1	P8
102-5	Ownership and legal form	Company governance chapter 1.1	P8
102-6	Markets served	Company governance chapter 1.1 & 1.2	P8-P9
102-7	Scale of the organization	Zyxel is an unlisted OTC company, requiring no public financial report disclosure.	
102-8	Information on employees and other workers	Company governance chapter 1.1 Inclusive workplace chapter 1	P8 P56-P57
102-9	Supply chain	Responsible supply chain chapter 2	P47
102-10	Significant changes to the organization and its supply chain	About the report	P6
102-11	Precautionary principle or approach	Company governance chapter 3.5	P15-P20
102-12	External initiatives	About the report Company governance chapter 5	P26-P29
102-13	Membership of associations	Company governance chapter 1.7	P10
2. Strategy			
102-14	Statement from senior decision-maker	Message from the President	P3-P4
102-15	Key impacts, risks, and opportunities	Company governance chapter 3.5	P15-P20
3. Ethics and integrity			
102-16	Values, principles, standards, and norms of behavior	Company governance chapter 3.3	P13
102-17	Mechanisms for advice and concerns about ethics	Company governance chapter 3.3	P13
4. Governance			
102-18	Governance structure	Company governance chapter 3.1	P12
5. Stakeholder engagement			
102-40	List of stakeholder groups	Company governance chapter 4.1	P21-P22
102-41	Collective bargaining agreements	The relationship between the company and labor is harmonious, and there is no need to organize a labor union. However, the company attaches significant importance to labor rights and holds regular labor-management meetings.	

GRI standard and disclosure		Response	Page
102-42	Identifying and selecting stakeholders	Company governance chapter 4	P21-P22
102-43	Approach to stakeholder engagement	Company governance chapter 4	P22-P25
102-44	Key topics and concerns raised	Company governance chapter 4	P22-P25
6. Reporting practice			
102-45	Entities included in the consolidated financial statements	Zyxel is an unlisted OTC company, requiring no public financial report disclosure.	
102-46	Defining report content and topic Boundaries	About the report	P6
102-47	List of material topics	Company governance chapter 4.2	P23-P24
102-48	Restatements of information	No information restatement	
102-49	Changes in reporting	No major topic changes	
102-50	Reporting period	About the report	P6
102-51	Date of most recent report	About the report	P6
102-52	Reporting cycle	About the report	P6
102-53	Contact point for questions regarding the report	About the report	P6
102-54	Claims of reporting in accordance with the GRI Standards	About the report	P6
102-55	GRI content index	GRI index	P77
102-56	External assurance	About the report	P6
GRI 103: Management Approach (2016)			
103-1	Explanation of the material topic and its boundary	Company governance chapter 4.2	P23-P24
103-2	The management approach and its components	Company governance chapter 4	P22-P29
103-3	Evaluation of the management approach	Company governance chapter 4	P22-P29
GRI 201: Economic Performance (2016)			
201-2	Financial implications and other risks and opportunities due to climate change	Company governance chapter 3.5	P18-P20
201-3	Defined benefit plan obligations and other retirement plans	Inclusive workplace chapter 4	P64-P67
GRI 203: Indirect Economic Impacts (2016)			
203-1	Infrastructure investments and services supported	Community contribution	P70-P76
203-2	Significant indirect economic impacts	No significant indirect economic impacts	
GRI 205: Anti-corruption (2016)			
205-1	Operations assessed for risks related to corruption	Company governance chapter 3.3	P13
205-2	Communication and training about anti-corruption policies and procedures	Company governance chapter 3.3	P13
205-3	Confirmed incidents of corruption and actions taken	No corruption incident reported this year	

GRI standard and disclosure		Response	Page
GRI 206: Anti-competitive Behavior 2016 (2016)			
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	No anti-competitive, antitrust, or monopoly practices	
GRI 302: Energy (2016)			
302-1	Energy consumption within the organization	Environmental protection chapter 2	P33
GRI 305: Emission (2016)			
305-1	Direct (Scope 1) GHG emissions	Environmental protection chapter 1	P32
305-2	Energy indirect (Scope 2) GHG emissions	Environmental protection chapter 1	P32
GRI 307: Environmental compliance (2016)			
307-1	Non-compliance with environmental laws and regulations	No violation reported	
GRI 308: Supplier Environmental Assessment (2016)			
308-1	New suppliers that were screened using environmental criteria	Responsible supply chain chapter 3	P51-P52
308-2	Negative environmental impacts in the supply chain and actions taken	No complaint of negative impact on the environment received	
GRI 401: Employment (2016)			
401-1	New employee hires and employee turnover	Inclusive workplace chapter 2.1 & 2.2	P61
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Inclusive workplace chapter 4	P64-P67
401-3	Parental leave	Inclusive workplace chapter 4.4	P65-P66
GRI 402: Labor/Management Relations (2016)			
402-1	Minimum notice periods regarding operational changes	Inclusive workplace chapter 4.1	P64
GRI 403: Occupational Health and Safety (2018)			
403-1	Occupational health and safety management system	Inclusive workplace chapter 5	P68-P69
403-2	Hazard identification, risk assessment, and incident investigation	Inclusive workplace chapter 5	P68-P69
403-3	Occupational health services	Inclusive workplace chapter 5	P68-P69
403-4	Worker participation, consultation, and communication on occupational health and safety	Inclusive workplace chapter 5	P68-P69
403-5	Worker training on occupational health and safety	Inclusive workplace chapter 5	P68-P69
403-6	Promotion of worker health	Inclusive workplace chapter 5	P68-P69
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Inclusive workplace chapter 5	P68-P69
403-8	Workers covered by an occupational health and safety management system	Inclusive workplace chapter 5	P68-P69
403-9	Work-related injuries	Inclusive workplace chapter 5	P68-P69
403-10	Work-related ill health	Inclusive workplace chapter 5	P68-P69

GRI standard and disclosure		Response	Page
GRI 404: Training and Education (2016)			
404-1	Average hours of training per year per employee	Inclusive workplace chapter 3	P63
404-2	Programs for upgrading employee skills and transition assistance programs	Inclusive workplace chapter 3	P63
404-3	Percentage of employees receiving regular performance and career development reviews	Inclusive workplace chapter 3	P63
GRI 405: Diversity and Equal Opportunity (2016)			
405-1	Diversity of governance bodies and employees	Inclusive workplace chapter 1	P59-P60
405-2	Ratio of basic salary and remuneration of women to men	Inclusive workplace chapter 4.2	P64
GRI 406: Non-discrimination (2016)			
406-1	Incidents of discrimination and corrective actions taken	No discrimination complaint received	
GRI 408: Child Labor (2016)			
408-1	Operations and suppliers at significant risk for incidents of child labor	No significant risk for incidents of child labor	
GRI 409: Forced or Compulsory Labor (2016)			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	No violation reported	
GRI 412: Human rights assessment (2016)			
412-1	Operations that have been subject to human rights reviews or impact assessments	No incident reported	
412-2	Employee training on human rights policies or procedures	Inclusive workplace chapter 4.1	P64
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	No relevant activities	
GRI 414: Supplier Social Assessment (2016)			
414-1	New suppliers that were screened using social criteria	Responsible supply chain chapter 3	P51-P52
414-2	Negative social impacts in the supply chain and actions taken	No incident reported	
GRI 415: Public Policy (2016)			
415-1	Political contributions	Political neutrality, no political contributions	
GRI 416: Customer Health and Safety (2016)			
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Green Product chapter 4.4	P45
GRI 418: Customer Privacy (2016)			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	No complaints reported	
GRI 419: Socioeconomic compliance (2016)			
419-1	Non-compliance with laws and regulations in the social and economic area	No violation reported	

Independent Assurance Statement



Scope and Approach

Zyxel Communications Corporation ("Zyxel" or "the Company") commissioned **DNV Business Assurance Co., Ltd.** ("DNV" or "we") to undertake independent assurance over the 2021 Sustainability Report ("the Report") for the year ended 31 December 2021.

We performed our work using DNV's assurance methodology VeriSustain™¹, which is based on our professional experience and international assurance best practices, including International Standard on Assurance Engagements 3000 (ISAE 3000) and the Global Reporting Initiative (GRI) Sustainability Reporting Standards.

We understand that the reported financial data and information are based on the data from the Company's Annual Report and Accounts, which are subject to a separate independent audit process. The review of financial data taken from the Annual Report and Accounts is not within the scope of our work.

We planned and performed our work to obtain the evidence we considered necessary to provide a basis for our assurance opinion. We are providing the evaluation of reporting principles with a Moderate level of assurance, according to the DNV VeriSustain™ Protocol and Moderate level, Type I assurance according to AA1000 AS v3.

Responsibilities of the Directors of Zyxel and of the Assurance Providers

The Directors of Zyxel have sole responsibility for the preparation of the Report. In performing our assurance work, our responsibility is to the management of Zyxel; however, our statement represents our independent opinion and is intended to inform all of Zyxel's stakeholders. DNV was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement.

DNV provides further services to the Company, none of which constitutes a conflict of interest with the current assurance engagement.

DNV's assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been provided in good faith. DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

Basis of Our Opinion

A multi-disciplinary team of sustainability and assurance specialists performed work at Zyxel's Headquarters in Hsinchu City and the site level. We undertook the following activities:

- Review of the current sustainability issues that could affect Zyxel and are of interest to stakeholders.
- Review of Zyxel's approach to stakeholder engagement and recent outputs.
- Review of information provided to us by Zyxel on its reporting and management processes relating to the Principles.
- Interviews with selected senior managers responsible for the management of sustainability issues and review of selected evidence to support the issues discussed.
- Site visits to Zyxel's Headquarters in Hsinchu City and data checks to review processes and systems for preparing site-level sustainability data and the implementation of sustainability strategies.
- Review of supporting evidence for key claims and 2021 data in the Report, as reported information beyond 2021 is not within the scope of the current engagement. Our checking processes were prioritised according to materiality, and we based our prioritisation on the materiality of issues at the consolidated corporate level.
- Review of the processes for gathering and consolidating the specified performance data and, for a sample, checking the data consolidation. Where financial data had been checked by another third party, we tested the transposition from these sources to the Report.
- An independent assessment of Zyxel's reporting against the Core option of Global Reporting Initiative (GRI) Sustainability Reporting Standards.
- The verification was conducted based only on the English version Report.

¹ The VeriSustain™ Protocol is available on [dnv.com](https://www.dnv.com)

Opinion

On the basis of the work undertaken, nothing came to our attention to suggest that the Report does not properly describe Zyxel's adherence to the Principles. In terms of reliability of the performance data, in accordance with Moderate level assurance requirements, nothing came to our attention to suggest that these data have not been properly collated from the information reported at the operational level, nor that the assumptions used were inappropriate.

Observations

Without affecting our assurance opinion, we also provide the following observations.

- The continual development of a more legible procedure for the collection of the Company's sustainability topics and the decision on material topics is recommended.
- The management approaches of the Company's material topics can be further structured to address sustainability strategies more systematically.
- The continual development and implementation of relevant impact and risk assessment within the Company operations and throughout the value chain are encouraged.
- The harmonisation of data collection and management rules is encouraged to facilitate a more coherent conception that corresponds to the Group-level reporting.

Stakeholder Inclusiveness

The Company has identified the expectations of stakeholders through internal mechanisms in dialogue with different groups of stakeholders. The stakeholder concerns are well identified and documented. The significant sustainability issues identified through this process are reflected in the Report.

Sustainability Context

The Report provides an accurate and fair representation of the level of implementation of related corporate sustainability policies and meets the content requirements of the GRI Standards.

Materiality

The process developed internally has not missed out any significant, known material issues, and these issues are fairly covered in the Report. A methodology has been developed to evaluate the priority of these issues.

Completeness

The Report covers performance data against the GRI Standards core indicators that are material within the Company's reporting boundary. The information in the Report includes the Company's most significant initiatives or events that occurred in the reporting period.

Accuracy and Reliability

The Company has developed the data flow for capturing and reporting its sustainability performance. In accordance with Moderate level assurance requirements, we conclude that no systematic errors were detected which causes us to believe that the specified sustainability data and information presented in the Report are not reliable.

Impact

The Company presents the impacts related to its identified material topics by measuring and monitoring impacts through appropriate performance metrics demonstrating outcomes and outputs of its value creation processes. Nothing has come to our attention to suggest that the Report does not meet the requirements related to the Principle of Impact.

For and on behalf of DNV Taiwan

Date: 14 November, 2022

Signed:



Yu Chung Chen
Lead Verifier
Business Assurance
DNV Taiwan

Statement Number: C563392-2021-CSR-TWN-DNV

Signed:



David Hsieh
District Manager,
Business Assurance
DNV Taiwan





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