tp-link

TP-Link 2022

Sustainability Report

Contents

Message from the CEO 04

About Us 05

GOVERNANCE

Corporate Governance 08

Sustainable Governance 08

Risk Management 11

Business Ethics 13

Information Security and Privacy Protection 15

Business Continuity 16

ENVIRONMENT

Environmental Management System 19

Greenhouse Gas Management 21

Energy Consumption Management 22

Water Resource Management 23

Chemical Management 23

Environmental Impact Factors Management 24

PRODUCTS AND SERVICES

R&D Innovation 26

Quality Management 27

Green Products 28

Protection of Customer Rights and Interests 30

SUPPLY CHAIN

Supplier Management 32

Sustainable Procurement 33

EMPLOYEES

Overview of Employees 36

Rights and Interests 37

Talent Development 38

Health and Safety 39

Work-life Balance 41

Community and Public Welfare 42

Future Prospects 44

Indicator Index 45

About the Report

Report Cycle

This report is the first annual Sustainability Report issued by TP-Link Corporation Limited (hereinafter referred to as "TP-Link," "Company," or "We").

Reporting Structure

This report is compiled with reference to the GRI (Global Reporting Initiative) Standards issued by the Global Sustainability Standard Board (GSSB) in compliance with the principles of "accuracy, balance, clarity, comparability, completeness, timeliness, and verifiability" of the GRI Standards.

Reporting Period

The information and data in this report mainly cover the period from January 1, 2022 to December 31, 2022. In order to enhance the integrity of this report, some contents fall outside this range as appropriate and are explained in this report.

Reporting Scope

This report discloses the concept and practice of sustainability management of TP-Link International Shenzhen Co., Ltd., a holding company subsidiary of TP-Link Corporation Limited, and its manufacturing subsidiaries. For the entity information of other non-manufacturing subsidiaries not disclosed in this report, the correctness and completeness of information collection will be considered, and an information collection mechanism will be established to be included in the disclosure scope of subsequent reports.

The entities involved are listed as follows:

- TP-Link International Shenzhen Co., Ltd. , hereinafter referred to as "TP-Link Shenzhen"
- TP-Link International Shenzhen Co., Ltd. Guangming Branch, hereinafter referred to as "Shenzhen Manufacturing Center"
- TP-Link International Shenzhen Co., Ltd. Tianliao Branch, hereinafter referred to as "Shenzhen Tianliao Manufacturing Center"
- Dongguan TP-Link Technology Co., Ltd. , hereinafter referred to as "Dongguan Manufacturing Center"

External Measurements

TP-Link entrusts SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD to review the materiality of the report and data against the AccountAbility AA1000 Standard and GRI Standards (2021) to ensure the information and data within the report included in the scope of assurance is accurate, reliable, and has been fairly stated.

Publication

This report was published in both Chinese and English in April 2023. You can obtain the electronic version of this report through the following website: www.tp-link.com.

Contact Information:

Email: sustainability@tp-link.com.
Address: Suite 901, New East Ocean Centre, Tsim Sha Tsui, Hong Kong

Message from the CEO

TP-Link is the Wi-Fi network backbone for an abundance of homes and businesses worldwide. With humble beginnings in 1996, the Company has grown to what it is today: a global leader of reliable networking devices. You can find our reliably smart devices all over the world, connecting billions of people in over 170 countries and regions. Our products and technologies deliver a simple, reliable always-connected lifestyle, with information security and eco-friendly sustainability at the forefront of decision making.

Through technology innovation and human inspiration, we aim to benefit both customers and the planet with energy-efficient, sustainable, and environmentally friendly products. By developing sustainable products and technologies in both our supply chain and product design process, TP-Link aims to reduce our waste and carbon footprint. A commitment to ISO 14001 and ISO 14064 certification ensures our innovation process is positive for the planet and all its people. By adopting sustainable practices and technologies, TP-Link is making strides to reduce waste and emissions for long-lasting impact.

As more businesses rely on digital data and technology, ensuring data security has become increasingly important. As an ISO 27001 & ISO 27701 compliant company, we're demonstrating a commitment to data confidentiality and integrity. TP-Link has built trust and loyalty among stakeholders while also complying with applicable laws and regulations related to data protection. We understand that data security is critical to delivering a reliable always-connected lifestyle to our valued customers.

Corporate social responsibility is becoming increasingly important, and businesses like TP-Link can make a significant impact by giving back to their local communities. By conducting research and outreach internally, we have built relationships with local non-profit organizations to provide valuable support to those in need while also building strong relationships within the community. We have partnered with local hospitals to provide resources needed to bring positivity into patients' visits and strive to continue efforts like this in the years to come. We understand that by prioritizing social responsibility, TP-Link can create a meaningful and lasting impact in our local communities.

As our lives grow ever more connected, TP-Link will continue to pursue excellence and explore the possibilities of tomorrow. This pursuit of excellence includes an emphasis on environmental, social, and governance measures to enhance the digital life of the communities we serve and deliver a positive impact on the planet.

About Us

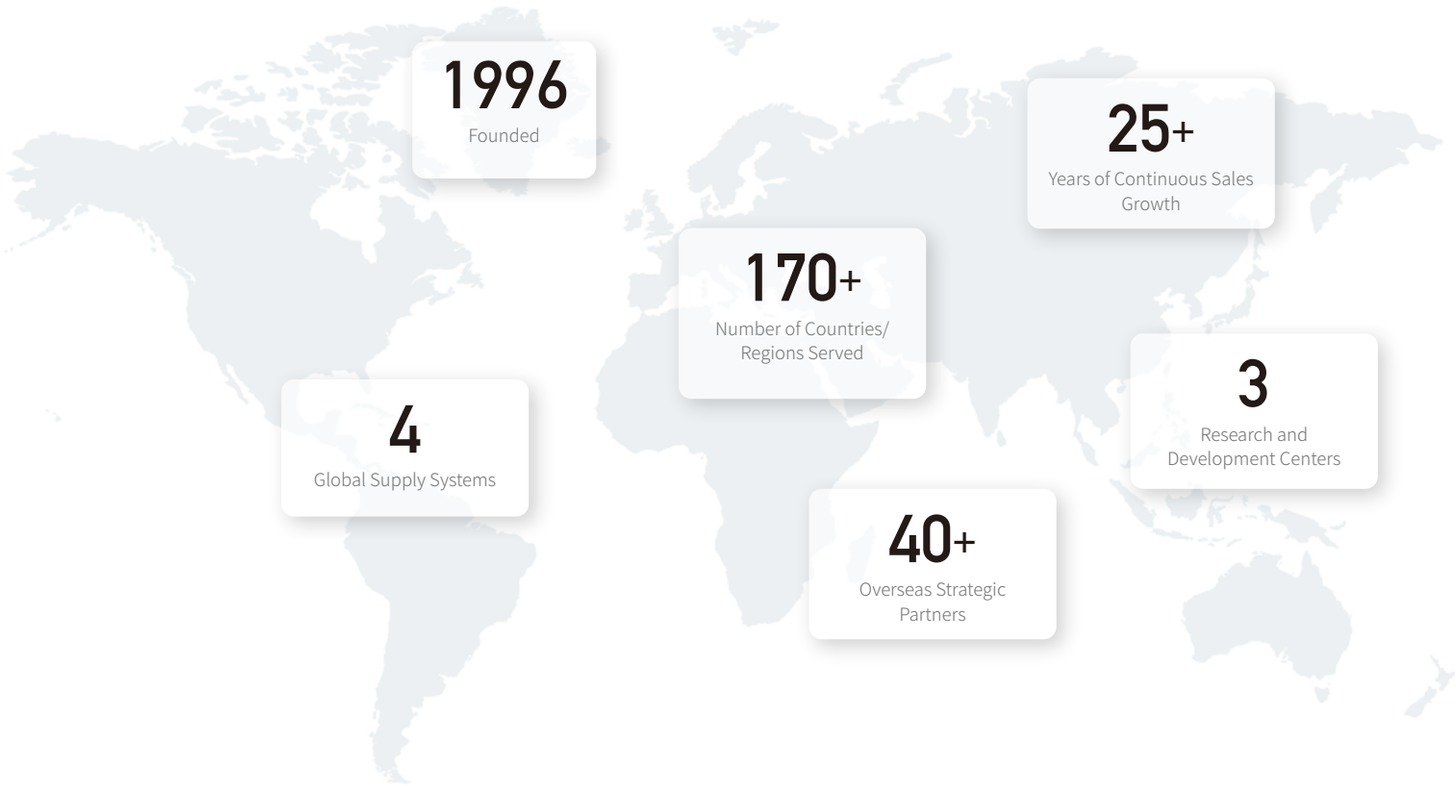
Enterprise Profile

TP-Link is a supplier of equipment and solutions specialized in network communication, consumer electronics, and security monitoring, and has a comprehensive range of product design, research and development, manufacturing, marketing, and services. Since the brand's founding in 1996, TP-Link has always adhered to independent research and development, independent manufacturing, and independent marketing to continually provide high-quality, highly reliable, and high-performance product experiences for users around the world.

As a multinational company, TP-Link has three R&D centers, as well as global supply systems in China, Vietnam, India, and Brazil. Working with more than 40 overseas strategic partners, our products have been sold in more than 160,000 retail stores and more than 700 home appliance platforms around the world. With brand businesses in over 170 countries and regions around the world, TP-Link has maintained positive sales growth for more than 25 consecutive years.

TP-Link always prioritizes technical reliability and product stability. As an enterprise impetus, "Reliable" is deeply embedded in every link of enterprise development. As a result, the TP-Link brand has gained recognition and trust from all over the world, and has achieved the largest shipment of Wi-Fi equipment in the world for consecutive years. It has won numerous awards such as "The Most Satisfactory Brand for Users" and "The Best Product Performance Award," with the cumulative number of awards exceeding 1,500. TP-Link will continue to bring high-performance, innovative products and solutions to users with cutting-edge technology, "making life better with technology and allowing more people to enjoy the wonders of technology."

TP-Link Global Layout



Business Scope

TP-Link's products cover a wide range of commercial and domestic fields, including Ethernet, wireless LAN, broadband access, campus networking, surveillance cameras, smart homes, and home robots, and has set up a one-stop solution based on the product system. In 2022, TP-Link took the lead in launching a full set of Wi-Fi 7 commercial and home network equipment in the industry, and actively developed high-end technologies such as AI Mesh, multi-Gigabit, and 5G, which set off a new wave of network products.

At present, TP-Link is vigorously developing chip design, AI, cloud computing, network security, the industrial internet, and other fields to provide systematic equipment, solutions, and overall services for a wider range of users.

Our Values

Our Mission

To use technology to make life better and enable more people to enjoy the wonders of technology

Our Values

Pursuing Excellence and Exploring Possibilities

Participations in Organizations and Initiatives

Backed by science and technology, the Company connects everything. It expects to help people realize their vision of a better life with advanced technology and high-quality products. We joined the Wi-Fi Alliance and other organizations and also shared our technological exploration, creation, and achievements with our customers and peers who share the same vision while following the world's cutting-edge technology.

Honors, Recognitions, and Qualifications

TP-Link has gained global recognition for our excellent products, technologies, and services.

By the end of the reporting period, we had won 140 awards from technical/marketing organizations in the United States, Japan, France, Germany, and other countries and regions.

- In 2000, TP-Link Shenzhen and Shenzhen Manufacturing Center introduced the **ISO 9001** international standard and obtained certificates for 22 consecutive years.
- In 2010, TP-Link Shenzhen and Shenzhen Manufacturing Center introduced the **ISO 14001** international standard and obtained certificates for 12 consecutive years.
- In 2021, TP-Link Shenzhen passed the **AEO certification of China Customs** and became an advanced customs certification enterprise.
- In 2022, TP-Link Shenzhen and Shenzhen Manufacturing Center introduced the **ISO 45001** international standard, which was successfully certified in April 2023.
- In 2022, TP-Link Shenzhen and Shenzhen Manufacturing Center introduced the **ISO 14064** international standard, which was successfully certified in April 2023.
- In 2022, TP-Link Corporation Limited and TP-Link Shenzhen introduced the **ISO 27001** and **ISO 27701** international standards and planned to obtain certification in May 2023.
- In 2022, PCR awarded tp-link the honorary titles of **"Smart Home Vendor of the Year"** and **"Highly Commended Networking Vendor of the Year."**
- In 2022, CRN awarded tp-link the honorary title of **"Specialist Vendor of the Year."**
- In 2022, after IDC certification, tp-link ranked **first in the world** in terms of Wi-Fi product shipments for 12 consecutive years.

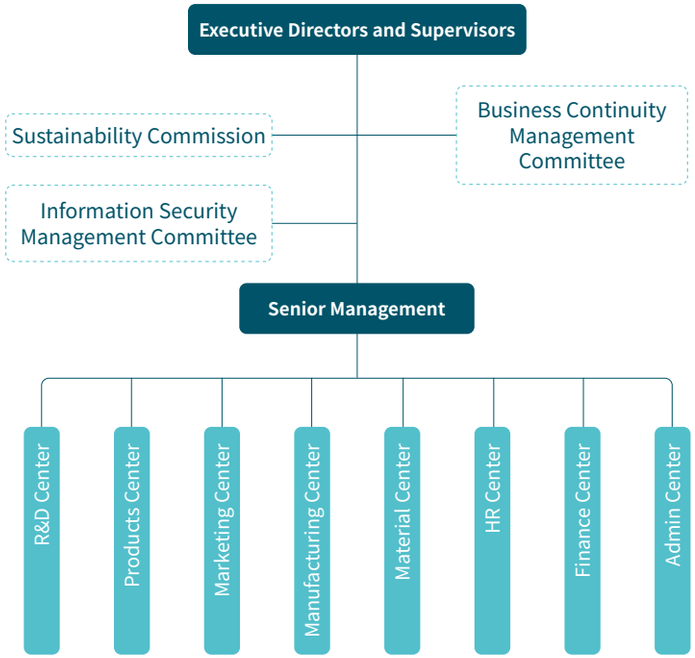
GOVERNANCE

- Governance Structure
- Sustainable Governance
- Risk Management
- Business Ethics
- Information Security and Privacy Protection
- Business Continuity

TP-Link strictly abides by the laws and regulations of the countries and regions where it operates, and thus formulates the basic standards of corporate governance. Based on healthy corporate governance standards and systems, TP-Link is committed to protecting the rights and interests of shareholders and stakeholders, enhancing corporate value, formulating corresponding business strategies and policies, and striving to improve operational transparency and accountability.

Governance Structure

TP-Link has set up top leadership composed of executive directors and supervisors. In order to ensure that risks can be identified comprehensively, strategies can be formulated thoroughly, and policies and business plans can be implemented effectively, TP-Link **has set up a Sustainability Committee, a Business Continuity Management Committee, an Information Security Management Committee,** and senior management composed of functional leaders of R&D, marketing, manufacturing, finance, product business groups, etc., to monitor TP-Link's business management and related affairs within its scope from different angles.



Sustainable Governance

Internalized in the mind, externalized into practice. TP-Link is committed to becoming a leader in corporate social responsibility and sustainability. We uphold the concept of responsibility, strengthen the governance of responsibility, and adhere to the continuous innovation of technology and products to help customers realize digital development. We take the benefit of the public as our responsibility and share the development achievements of enterprises with all of society.

Sustainable Governance Framework

TP-Link adheres to the principle of **"persisting in technology and product innovation, helping customers' digital development, letting consumers enjoy the latest technology's brilliance, and enabling more consumers to enjoy a technology-driven lifestyle; while also responding to the United Nations' global sustainable development goals, promoting the continuous upgrading of industries towards a greener and low-carbon direction, and actively assuming social responsibility"** as our concept of sustainability. TP-Link integrates sustainability management into all aspects of enterprise operations. Under the guidance and leadership of TP-Link's top leadership, the TP-Link Sustainability Committee was founded, and an executive sustainability team composed of the heads of major functional departments and a sustainability management framework in which all business units work together have been established and maintained. TP-Link translates our sustainable ideas, policies, and commitments to stakeholders into concrete actions to ensure the implementation and promotion of sustainable governance.

Sustainability Committee

Formulates TP-Link's sustainability development strategy and objectives, directs TP-Link's sustainable construction, makes decisions on key issues and major issues of TP-Link's sustainable development, and reports the situation and progress of sustainable constructions to the top leadership.

Executive Sustainability Team

Implements TP-Link's sustainability-related decisions, carries out sustainable goals, formulates the implementation plan, supervises and evaluates the plan implementation results, and reports the implementation progress to the sustainability committee regularly. The General Management Department is set as the executing agency.

Business Units

Under the guidance of the executive sustainability team, the sustainable objectives of respective units will be incorporated into daily business for implementation, and the implementation of sustainable development will be summarized regularly.

Stakeholder communication

The expectation of stakeholders is an important consideration for TP-Link to formulate a sustainable development strategy and optimize sustainable management. We identify stakeholders and their key areas of concern through various methods. Based on our governance structure, operation mode, business characteristics, and lessons from experience and practice of global peers, we identify the **main stakeholders as follows: customers, employees, suppliers, governments and regulatory agencies, partners, shareholders, communities, and the public.**

Maintaining effective communication with stakeholders is an important way to continuously improve sustainable governance. TP-Link has established diversified communication channels according to the characteristics of different stakeholders, and adopted various measures to ensure smooth and effective communication channels, including but not limited to active information disclosures, press conferences, meetings, exchanges, symposiums, consultations, visits, and investigations. Through effective communication, we actively listen to the suggestions and opinions of stakeholders, deeply understand their expectations and requirements, and incorporate their requirements into our daily operations and sustainable governance. We also work together with all stakeholders to promote TP-Link's sustainable progress and development.

List of Important Stakeholders, Issues, and Communication

Important Stakeholders	Issues of Concerns	Communication and Response
Clients	Product quality management; Technology R&D and innovation; Customer service; Customer information security and privacy protection	Site surveys Customer satisfaction surveys Product launches Customer exchange meetings
Employees	Employee rights and benefits; Employee health and safety; Employee development and training	Staff representative meetings Employee activities Employee training
Suppliers	Supply chain management	Supplier audits and assessments, exchange visits
Government and regulatory authorities	Compliant operation; Business ethics; Energy management; Water resource management; Emission management; Addressing climate change	Policy collection, consultation and implementation Active reporting and information disclosures
Partners (alliances and industry organizations)	Industrial synergy; Technological innovation	Exhibitions Association and society activities
Public and community	Community contributions; Public charity; Green concept advocacy	Community activities
Shareholders	Compliant operation; Risk management; Business ethics	Shareholders' meetings

Identification of material topics

Through communication with stakeholders, we understand the sustainable issues they are concerned about. Additionally, we identify the risks, opportunities, and challenges faced by TP-Link through the analysis of global political, economic, legal, and social development situations, and we comprehensively identify the sustainable governance issues in combination with TP-Link's operation strategy and development policy. With the GRI substantive issues analysis method, the substantive issues of TP-Link's sustainability are analyzed and assessed.

Economy

① Corporate governance
② Quality of products and services
③ Business and trade compliance
④ Business continuity
⑤ Anti-corruption
⑥ R&D innovation
⑦ Market performance

Environmental Issues

⑧ Energy conservation and consumption reduction
⑨ Climate change
⑩ Raw materials and minerals
⑪ Pollutant control

Social Issues

⑫ Occupational health and safety
⑬ Child and forced labor
⑭ Information security and privacy protection
⑮ Sustainable procurement
⑯ Product safety
⑰ Pluralism and anti-discrimination
⑱ Training and career development
⑲ Local community relations

Risk Management

TP-Link attaches great importance to risk management. In the process of discussing and formulating strategies, we test the feasibility and adaptability of objectives, plans, and measures through risk identification and assessment. "Pre-risk control" is an important way for us to control operational risks. Through the effective operation of three layers of prevention — "business department for review, functional department for audit, and risk control team for supervising the risk control" — daily operational risks can be avoided.

TP-Link Risk Identification and Response Procedure

Periodic risk identification

Identify and assess major risk issues regularly every year, analyze and form a response plan for risk issues, and dynamically adjust the risk management plan according to the business development stage and external situation changes to ensure that major risks are under control.

Strengthen the role of three preventions

The first prevention

The Core Business department — acting as the first responsible department of risk management, requires timely identification of internal and external changes in the organization in daily business operations, identification, discrimination, assessment, and control of risks within the scope of responsibilities, alongside timely reporting of major risks;

The second prevention

Legal, Administrative, Financial, and other functional departments — assists business departments in risk analysis and assessment while paying attention to changes in laws, regulations, and policies in real time;

The third prevention

The Internal Control team, the risk control team, and the internal financial auditor — regularly and systematically audits and investigates the risks of TP-Link's business and financial sectors, reveals the risks through the audits and investigations, and makes assessments and improvement suggestions on the risk management of the first and second preventions.

Major Risk Issues in 2022:

Risk Issues	Potential Impact	Countermeasures
Information security	1) Disclosure of business confidential information and personal data of customers and employees 2) Interference with the Company's operation 3) Damage to brand image and reduced trust of customers	1) Introduce the ISO 27001 standard to improve the Company's information security management 2) Regularly check internal information security risks, fully consider threats, weaknesses, and impacts, and improve the resilience of network attack protection
Supply chain disruption	1) Failure to make delivery to customers as scheduled 2) Interrupted operations and lost business development opportunities	1) Conduct supplier risk analysis, regularly evaluate supplier performance, and schedule audit plans 2) Diversified procurement. Increase the supplier reserve for key materials and spread the upstream supply risk 3) Diversified manufacturing. Cooperate with overseas manufacturing plants to improve supply capacity and reduce delivery risk 4) Establish risk inventory
Infectious diseases	1) Interrupted supply chains 2) Interrupted operations	1) Formulate emergency treatment procedures for infectious diseases 2) Coping with the risk of supply chain interruption
Supply chain human rights	1) Events causing occupational safety and health hazards 2) Reduce employees' sense of identity and loyalty to the Company, causing brain drain 3) Interrupted cooperation with customers	1) Establish an occupational health and safety committee, hold regular meetings to collect opinions from employees extensively, and establish a good communication mechanism. 2) Introduce human rights protection requirements into supplier management requirements, and suspend cooperation with high-risk suppliers.

TP-Link continuously optimizes and improves the internal control system. We incorporate internal control requirements and objectives into business norms and job performance. Through the strong implementation of policies and procedures such as the Internal Control System, we continuously strengthen TP-Link's internal control management with system construction as the starting point.

TP-Link has established policies and standards for internal audits. Through regular/special internal audits, TP-Link monitors the compliance of business promotion and the effectiveness of the internal control system, identifies risks, identifies hidden dangers, formulates and implements corresponding corrective and preventive measures, and continuously promotes the construction of the internal control management system. In 2022, we implemented a total of 60 special internal control projects.

Internal Control Projects in 2022

60

Business Ethics

The top leadership of TP-Link is directly responsible for and supervises matters related to business ethics and authorizes the sustainability committee to cooperate with the top leadership to jointly build and improve an effective business ethics management system.

Anti-corruption

Management mechanism

We have issued a series of codes of conduct and management systems related to business ethics, such as the Code of Conduct for Business Ethics, Anti-corruption and Anti-bribery Procedures, Management Procedures for Fair Trade, Competition and Honest Advertising, Integrity and Self-discipline System, and Investigation Procedures for Anti-ethics Cases. We also have defined the professional ethics and business ethics that employees should abide by through the Employee Handbook, so as to prevent corruption and unfair competition at the source.

Awareness cultivation

Every member of TP-Link has an obligation to understand and abide by TP-Link's moral standards. Combining job responsibilities, job skills, and compliance requirements, we provide employees with business ethics training to help them fully understand our business ethics standards and codes of conduct. **During the reporting period, we carried out a total of 20 specialized training sessions on integrity and self-discipline, covering 1,263 people, and the coverage rate of new employees reached 100%.** We also implemented intensive training on integrity and self-discipline for employees in operation departments and business departments, and shared training materials with all employees. The management of TP-Link attaches great importance to business ethics training. It not only guides and listens to the relevant training of departments and employees, but also takes the initiative to receive targeted business ethics training for managers by example, continuously improving its own professional ethics level and risk prevention awareness to meet higher-level compliance requirements. In addition, TP-Link also signed the Honesty and Integrity Agreement with all management and all employees in the procurement department to ensure their abidance by laws and regulations.

Supervision

Internal control audits and compliance audits are specific methods for TP-Link to implement business ethics audits. In 2022, **we implemented a total of 60 specific internal control tasks**, including 11 specific business ethics tasks. The audits covered all aspects of the business activities of TP-Link Shenzhen and its branches/subsidiaries within the scope of the report, such as follow-up of the annual supplier inspection process and a special compliance audit for the purchase of beds for employees' apartments, etc. Based on the results of the internal control audit and compliance audit, we review the business ethics management system, further identify potential risks and hidden dangers, put forward improvement goals, and formulate corrective and preventive measures, thus promoting the sustained and effective operation of the business ethics management system.

Supplier management

On the basis of full communication with partners, TP-Link strengthens the construction of business ethics in the process of business operation by signing the Honesty and Integrity Agreement. By the end of the reporting period, **87.95% of suppliers have signed the Honesty and Integrity Agreement with us**, among which the signing rate of the Honesty and Integrity Agreement for suppliers of production materials (excluding short-term cooperative suppliers, such as proofing) **is 92.59%.**

Reporting mechanism

Based on the principle of "Zero Tolerance" for corruption, TP-Link has established a reporting mechanism and improved the supervision system by setting up and announcing reporting mailboxes. We accept reports of all kinds of behaviors and phenomena, such as violations of the code of honesty and self-discipline and violations of the code of duties. We attach equal importance to real-name reporting and anonymous reporting and accept various reporting channels and methods. All reporting leads are consolidated and processed by the Internal Control team, which responds directly to TP-Link's top leader. Every report will have a response, and an investigation report will be formed after the case is verified. The responsible subject will be fined according to TP-Link's regulations if there is a true violation, and the improvement effect will be followed up. Following the principle of **"Guarantee the Confidentiality for the whistleblower, rewarding whistleblowers, and protecting the legitimate rights and interests of whistleblowers,"** we have formulated and issued the Procedures for the Administration of the Protection of Whistleblowers, and strictly kept confidential the personal information of whistleblowers. It is strictly forbidden for the reported subjects to take revenge, so as to effectively protect whistleblowers. **By the end of the reporting period, the number of complaints and reports of corruption and bribery received was 0.**

TP-Link complaint/report mailbox: TELLUS@tp-link.com

Trade compliance

TP-Link strictly abides by laws and regulations in its operation and management and requires TP-Link's Legal Affairs department and operating agencies to know and report the changes of laws and rules related to international trade in real time; identify the risks of international politics, economy, and market development; and put forward relevant reports and plans through the special assessment of trade compliance, which will be implemented after being reviewed and approved by the senior management, thus effectively complying with the requirements of relevant trade laws and rules in the place where business is conducted to ensure compliance operation. By the end of the reporting period, there were 0 complaints about non-compliant operations received.

Case

In February 2022, BIS, the US Department of Commerce, issued a revised EAR to expand export control restrictions on Russia. We sorted out the existing Russian-related businesses for the first time, combined with the comparative analysis of the new EAR terms, and implemented a special assessment of Russian-related trade compliance to prevent the risk of export control compliance.

Case

In March 2022, we issued the Management Procedure for Conflict Minerals to further standardize the management and control of raw material procurement and use, as a response to the Dodd-Frank Wall Street Reform and Consumer Protection Act and the investigation needs of corporate customers on conflict minerals. We require all suppliers to cooperate in conducting reasonable due diligence on a regular basis, trace the mineral sources of tin, tantalum,tungsten, gold, etc., contained in the products and truthfully submit the investigation report to TP-Link, so as to ensure that the materials used and the commodities produced by TP-Link meet the relevant requirements. TP-Link conducts a routine conflict mineral survey once a year (it will be checked again in case of significant changes). By the end of the reporting period, our response rate to the direct supplier survey reached 91.7%. Additionally, important indirect suppliers were investigated.

Non-compliant operations complaints

0

Direct supplier survey response rate

91.7%

Information Security and Privacy Protection

As a pioneer of wireless technology, TP-Link regards data security as the life of the enterprise and attaches great importance to the protection of customers' business secrets, data information, and privacy. We strictly abide by relevant laws and regulations, policies, and industry standards. To realize the standardization and unity of TP-Link's information security system, we have established an Information Security Management Committee to lead and comprehensively coordinate TP-Link's information security management. We have formulated a series of policies and regulations to ensure data and information security, such as the Management Manual for Information Security and Privacy Security, Management Procedure for Personal Information Security, and Compliance Implementation Procedure. We have implemented strict internal process control to ensure the security and control of information collection, processing, transmission, storage, and use.

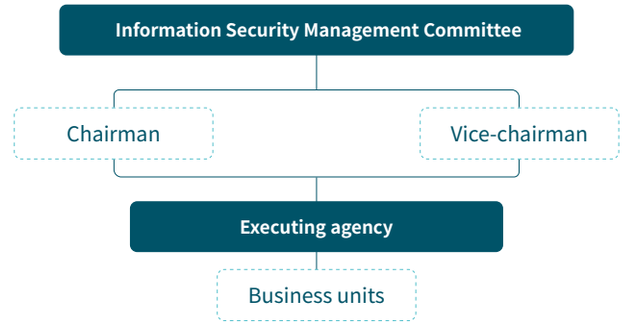
With the intensified global legislation and regulation on information security and privacy protection, it is imperative for enterprises to achieve data compliance and improve data security protection and governance capabilities. In April 2022, TP-Link launched a data compliance system construction project based on the European Union GDPR (General Data Protection Regulation). During the reporting period, TP-Link established a four-level data protection management framework consisting of a DPO (Data Protection Officer), DPMO (Data Protection Management Office), DPR (Data Protection Representative of each department), and business departments.

In cooperation with professional third-party law firms, TP-Link conducted research on the compliance of TP-Link's business data by means of reconciliation and staff interviews, and developed 15 management documents such as the Personal Data Protection Policy, Internal Data Protection Standard, Data Subject Rights Standard, and Standards for Notifications of Data Disclosure, with reference to the GDPR regulations. Up to now, TP-Link has initially completed the GDPR compliance construction. While implementing the GDPR compliance management system, we introduced ISO/IEC 27001:2022 and ISO/IEC 27701:2019 to establish and operate an information security management system and a privacy information management system. By seeking an independent third-party professional organization to review and certify the effectiveness of the operation of the systems, which will be completed in May 2023, the information security and privacy protection work of TP-Link will be pushed forward to a higher standard.

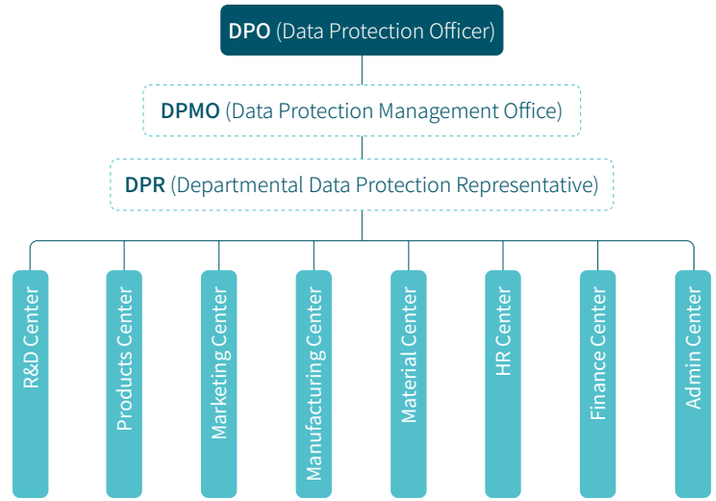
Through education and training, we continue to enhance employees' awareness of information security and privacy protection and develop corresponding work skills and habits. During the reporting period, we held five special trainings on the legal interpretation of personal data compliance, covering all departments of the Company, with a total of 100 participants.

We have always adhered to high standards of business ethics and continue to create an information security system to ensure the privacy and safety of our customers through a sound information security management and protection mechanism and effective technical safeguards.

Information Security management strcuture



Privacy protection management structure



Business Continuity

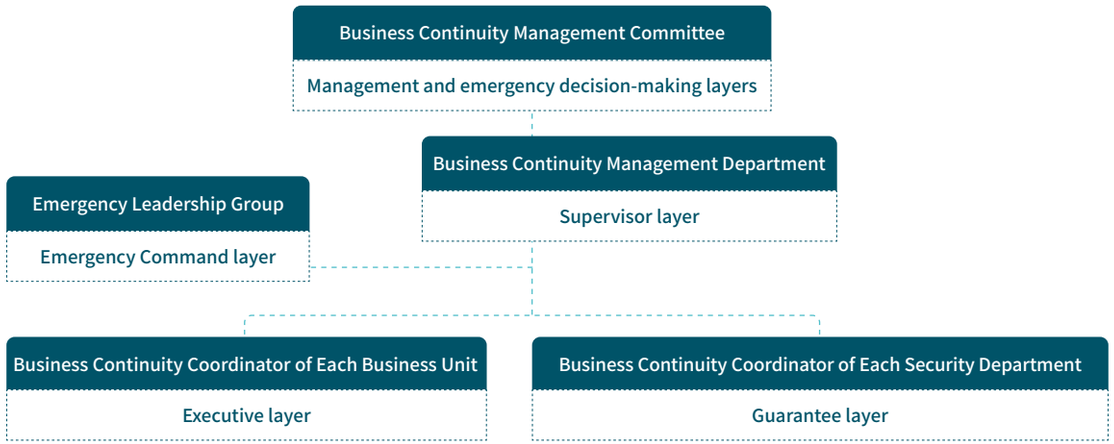
TP-Link is soberly aware that, under the context of international economic integration, the social division of labor presents a highly international development trend. TP-Link inevitably needs extensive cooperation with raw material suppliers, third-party manufacturers, professional organizations, and partners, in which case business continuity management is critical.

TP-Link focuses on comprehensive examination, assessment, and risk identification of R&D, procurement, manufacturing, logistics, and technical services, while gradually establishing a Business Continuity Management (BCM) System on the basis of full communication with our partners. TP-Link has established a Business Continuity Management Committee to clarify and standardize the business continuity management structure, strategies, responsibilities, processes, etc. by formulating the Business Continuity Management System.

We continue to seek our own evolution and transformation by comprehensively improving TP-Link's operational efficiency and organizational resilience, so as to cope with and properly handle the impact of business risks.

Based on the effective achievements of business continuity management, TP-Link can continuously safeguard the continuity of business development in the face of major natural disasters and international political, economic, and trade conflicts. We firmly embrace the global and diversified operation strategy and build long-term, sustained, stable, and healthy operation capability through win-win cooperation with our partners.

TP-Link BCM System



Diversification of resources

From the beginning of the new product design, TP-Link will review and consider the supply support of raw materials, components, and parts, and seek diversified supply solutions. By actively expanding supply channels and resources, we can avoid the risk of exclusive or single regional supply and ensure the sustainable supply of products.

Convenient supply

Strengthen the connection between production and sales, realize the immediate decomposition and transformation of sales plans and sales orders with the help of the IT system, and ensure the rapid transmission of supply demand and the efficient arrival of supply materials on the basis of deep cooperation with suppliers and relying on the rapid response logistics system established by TP-Link.

Storage scenarization

Identify uncertain changes such as climate, environment, logistics, natural disasters, conflicts, market conditions, etc., to prevent risks in advance and assess and formulate reasonable safety stocks of raw materials, semi-finished products, and finished products, so as to ensure that TP-Link can maintain sustained and stable business operation in the event of unexpected changes in operating scenarios.

Resilience of capacity

According to product characteristics and market direction, a controllable "backup" mechanism is established for TP-Link's manufacturing capacity, and a flexible and resilient production line system is created to ensure efficient response and feedback to market demand.

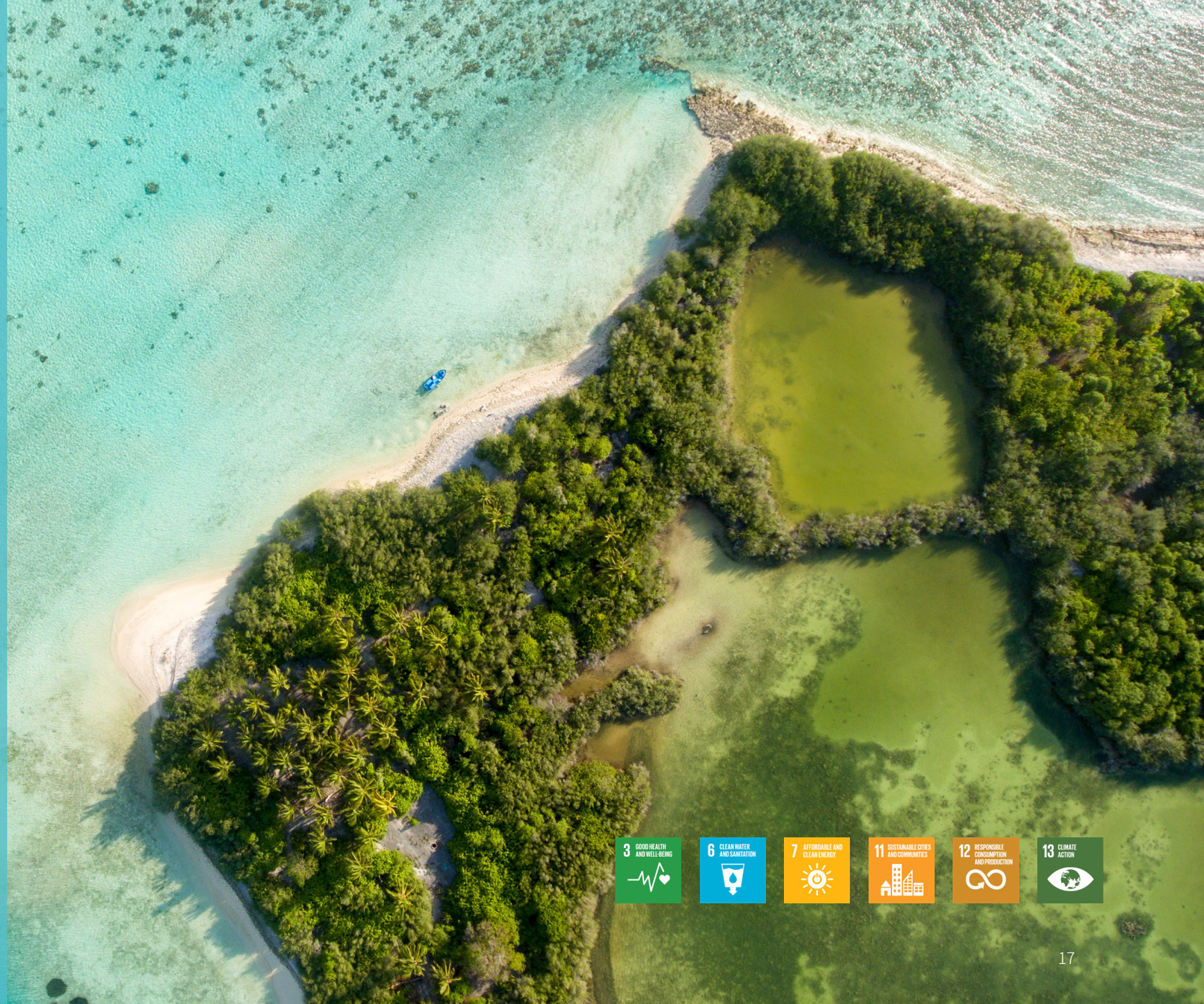
Product life cycle review

For products to be discontinued, the market demand is predicted in combination with historical consumption, and on the basis of a comprehensive review of the whole life cycle of the products, a reasonable and safe spare parts reserve plan is formulated to ensure the continuity of the products put into service by customers.

ENVIRONMENT

- Environmental Management System
- Greenhouse Gas Management
- Energy Consumption Management
- Water Resource Management
- Chemical Management
- Environmental Impact Factors Management

Following the environmental concept of "harmonious coexistence of people and nature," TP-Link has fulfilled its commitment to the environment with a green system, green products, and green operation throughout all processes. We persist in improving energy efficiency, reducing emissions, and saving resources through continuous innovation, strictly carry out environmental management, continuously research and develop green products and technologies, explore the possibility of using new technologies to address environmental problems and challenges, and realize a virtuous circle of symbiotic development between enterprises and the environment.



2022 Electricity Consumption

105,064,034.7 /kwh

2022 Annual Water Consumption

871,882 /t

2022 Annual Industrial Waste Disposal Quantity

2,588 /t

2022 Annual Hazardous Waste Treatment Quantity

204.50 /t

2022 Greenhouse Gas Emissions of TP-Link

2,435,706.74 t CO2

Environmental Emergency Drills

23 times

Environmental Protection Training

137 times

Total Duration of Training

266 /h

Quantity of Trainees

2,050 person-times

Environmental Management System

TP-Link has always highlighted the protection of the environment. We actively respond to the environmental governance initiatives of the international community, strictly comply with environmental protection laws and prevailing rules, and formulate strict environmental management standards.

We continuously improve TP-Link's environmental management system and fulfill its environmental management responsibilities in accordance with the ISO 14001 international standard. In 2022, TP-Link Shenzhen and Shenzhen Manufacturing Center both obtained the ISO 14001 certification.

"Protect the environment, prevent pollution, comply with laws and regulations, and promote development" is TP-Link's environmental policy. TP-Link issued the Quality and Environmental Management Manual and authorized the Sustainability Committee to coordinate environmental management.

TP-Link always insists on environmental protection. By using environmental protection facilities, we devote ourselves to green environmental protection and pollution prevention, promote resource recycling and industrial waste reduction, and reduce the environmental impact of production, operation, and other processes, as well as the life cycle of products and services. We strengthen the guidance of employees' environmental awareness, update and incorporate them into TP-Link's management system, and strive to extend them to upstream supply chain management. We strengthen environmental risk management, continuously improve the environmental management system, and keep improving TP-Link's environmental performance, thus promoting TP-Link's sustainability.

Environmental emergency mechanism

Based on the identification and assessment of environmental risks, TP-Link has formulated relevant emergency measures for prevention and early warning mechanisms, emergency response mechanisms, after-treatment procedures, emergency support, and other measures. This includes formulating TP-Link's Environmental Emergency Plan, which consists of a comprehensive emergency plan, a special emergency plan, and four emergency disposal cards.

On the basis of constructing and perfecting the environmental contingency plan system, TP-Link continuously improves the environmental emergency mechanism from the following four aspects:

People-oriented, prevention first

Strengthen the monitoring, supervision, and management of the hazards of environmental events, and actively prevent, timely control, and eliminate hidden dangers. Continuously improve the ability to prevent and deal with sudden environmental pollution incidents, avoid or reduce the occurrence of sudden environmental pollution incidents as much as possible, eliminate or mitigate the impact of environmental pollution incidents, and ensure the safety of employees, enterprises, and the surrounding environment to the greatest extent.

Management based on laws and unified command

Under the guidance of the emergency management department of local governments, incorporate TP-Link's sudden environmental emergency system into the organic part of the regional emergency system. In the work of environmental incident prevention, emergency response, incident reporting, and accountability, adhere to the unified leadership and planning of the Company, strengthen coordination and cooperation among various departments of the Company, and improve rapid response capabilities. Adopt classified management by referring to the characteristics of environmental pollution caused by different pollution sources to give full play to the professional advantages of departments and ensure the adaptability of emergency measures to the scope of harm and social impact caused by sudden environmental pollution incidents.

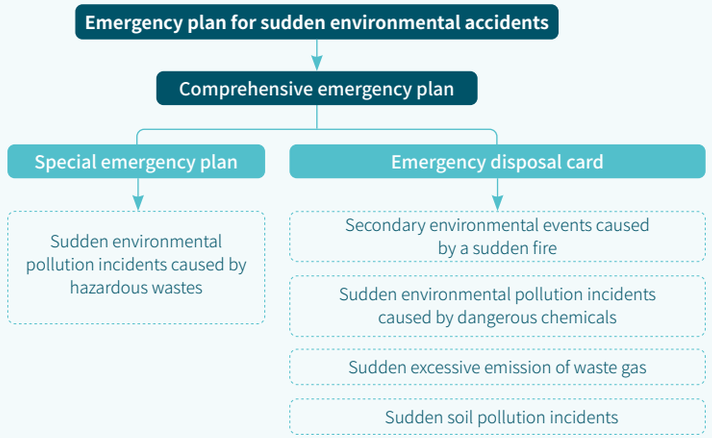
Quick response and dual-utilization of peacetime and wartime

Time is always of the essence. The best time for emergency treatment of environmental events is within 2 hours before the initial occurrence. TP-Link has established a rapid response mechanism for early warning and emergency response to pollution with active preparation for sudden environmental pollution incidents in terms of awareness, materials, technology, and organization, strengthened training and drills, and a standby emergency system. During the reporting period, TP-Link organized 23 environmental emergency drills.

Defined subject and territorial management

The Company is the subject of emergency work and is subject to the unified leadership, coordination, and command of the competent government department where it operates. Additionally, it shall give full play to the self-help role of the Company and realize the organic combination of self-help and social assistance.

TP-Link environmental emergency plan system



Training and Action

While strengthening the establishment of the Environmental Protection System, TP-Link takes the education and training of environmental awareness as an important starting point for environmental governance. We incorporate an environmental protection system that includes thoughtfulness, measures, policies,and carbon reduction targets into our daily work and various special trainings to advocate environmental awareness and establish environmental protection concepts among our employees.

During the reporting period, TP-Link organized 137 special trainings on environmental protection with a total duration of 266 hours and with a total of 2,050 participants.

TP-Link has continuously increased investment in environmental protection, earnestly practiced green and low-carbon operations, implemented a paperless office, equipped teleconferencing facilities and equipment, installed energy-saving lamps, carried out an intelligent transformation of the lighting system, posted tips on water and electricity saving, deeply integrated the concept of green operation and green office into the nuances of employees' work, continuously cultivated and enhanced employees' environmental awareness, and transformed the belief of actively responding to climate change into practical actions of all employees to jointly create a sustainable environment in which people and nature coexist harmoniously.

Environmental Protection trainings

137 times

Total duration of training

266/h

Quantity of trainees

2,050 person-times

Greenhouse Gas Management

TP-Link deeply understands the significance of the sustainable goals of the United Nations and the Paris Agreement on climate change for human beings to protect the earth, and constantly explores ways and paths to take climate action. Under the leadership of its sustainability committee, TP-Link organized special teams to learn and study the relevant policies, strategies, principles, and practices of the United Nations and the international community. By combining the phased achievements of TP-Link's sustainable governance, TP-Link studied and formulated the Company's plans and strategies to reduce carbon emissions under the guidance of the grand goals of "carbon neutrality" and "net zero emission."

TP-Link, in line with the requirements of the ISO 14064 international standard, sorts out and investigates the key links of carbon emissions, and identifies and manages the responsibilities, assets, and risks related to greenhouse gases (GHG), maintains a GHG emission inventory, and establishes a sound GHG emission quantification, management, and reporting mechanism.

In 2023, TP-Link completed the inventory of greenhouse gas emissions from January 1, 2022, to December 31, 2022, according to the ISO 14064-1:2019 standard for the first time. We invited third-party certification bodies to carry out external verification in accordance with ISO 14064-3:2019, and formulated a work plan for the annual greenhouse gas inventory.

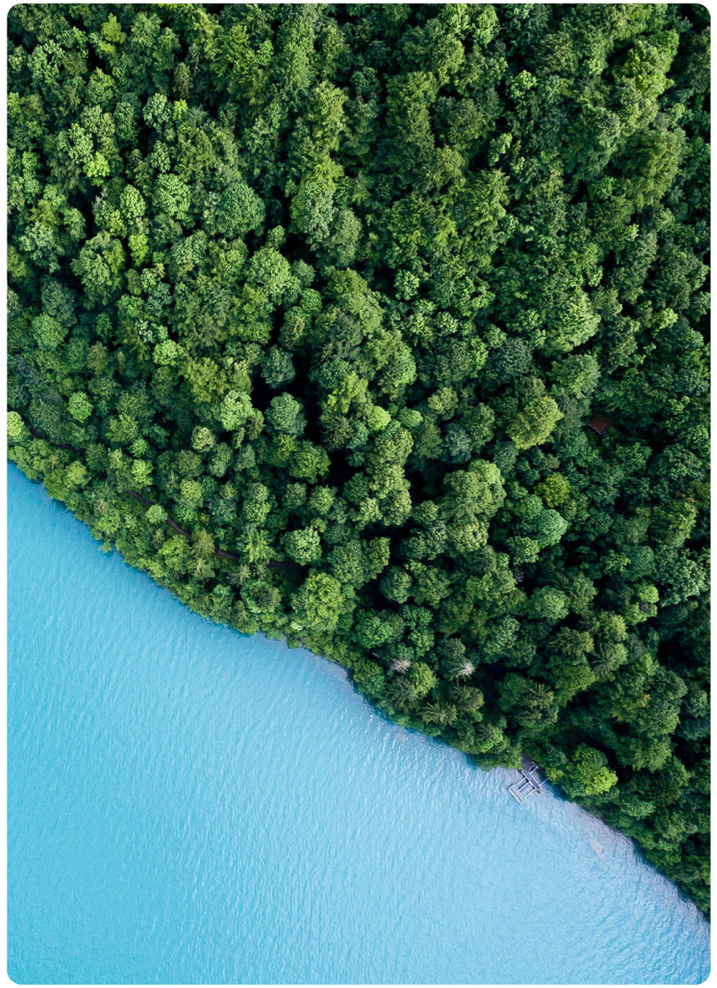
In addition, we also identify the "carbon risk" from trade rules, raw material supply, corporate assets, corporate reputation, professionals, and other aspects, and study and explore the adaptability and feasibility of various emission reduction measures in combination with TP-Link's operation strategy and actual technical and management conditions, with a view to formulating TP-Link's carbon emission targets and implementation plans more scientifically and objectively.

SGS

Greenhouse Gas Verification Statement

TP-LINK INTERNATIONAL SHENZHEN CO., LTD.

ISO 14064-1:2018



Greenhouse Gas Emissions of TP-Link 2022

Scope	Scope 1	Scope 2	Scope 3				Total
			Category 3	Category 4	Category 5	Scope 3 total	
Emissions (ton CO2 equivalent/year)	2,865.44	21,439.59	2,289.38	501,851.84	1,907,260.49	2,411,401.71	2,435,706.74
Percentage	0.12%	0.88%	0.09%	20.60%	78.30%	99.00%	100.00%

Note: This value comes from TP-Link Shenzhen and Shenzhen Manufacturing Center.

Energy Consumption Management

Electricity is a major contributor to TP-Link's energy consumption. During the reporting period, our electricity consumption was 105,064,034.7/kWh in 2022 and 127,225,999.8/kWh in 2021.

In accordance with the ISO 50001 standard, TP-Link has gradually promoted the establishment of an energy management system by defining the management system of energy conservation and emission reduction, the management system of office space energy conservation, and other system specifications. Combined with the actual situation, TP-Link has equipped corresponding measuring instruments in energy-using units, major and secondary energy-using units, major energy-using equipment, etc. TP-Link focuses on energy conservation and actively introduces new technologies to promote in-depth energy conservation.

In 2022, we implemented a series of energy-saving technical initiatives:

- The Shenzhen Manufacturing Center carried out the technical transformation of the SMT line weight group, which effectively improved the utilization rate of equipment after the transformation. Estimated electricity consumption savings: 378,000 kWh/year after completion.
- The Shenzhen Manufacturing Center has optimized the fume exhaust system of the factory, improved the path of the fume exhaust pipeline in the workshop, and optimized the selection of fume exhaust fans. Estimated electricity consumption savings: 310,800 kWh/year.
- The Shenzhen Manufacturing Center made improvements to the air compressor drainage throttle, which consisted of installing a drainage valve at the air compressor drainage outlet to avoid the discharge of compressed gas during drainage. Estimated electricity consumption savings: 0.88 million kWh/year.
- The Dongguan Manufacturing Center has carried out the technical transformation on the hot air recovery of drying drums. By adding heat-resistant pipes, the hot air recovery device at the outlet of a drying drum, through a filter device and an air supply device, re-sends the recovered hot air into the drying drum through a fan to recycle hot air. Estimated electricity consumption savings: 1,374,000 kWh/year.
- The Shenzhen Manufacturing Center changed the traditional explosion-proof lamp into an LED-integrated explosion-proof lamp and selected the LED-integrated explosion-proof lamp to replace the lighting lamps in the production department. Estimated electricity consumption savings: 702,000 kWh/year while addressing the illumination demands.

Linear weight group

Air compressor drainage throttle

Hot air recovery of drying drum

Optimization of the fume exhaust system

While promoting energy-saving measures, TP-Link turns to the improvement of energy structure with a view to better fulfill environmental governance responsibilities and create a harmonious and symbiotic corporate ecology through the introduction of green energy.

In 2022, the Shenzhen Manufacturing Center put forward the idea of building a rooftop photovoltaic power generation system project. Upon preliminary investigation, measurement, energy consumption, environmental assessment, and other preparatory work, it is estimated that the photovoltaic capacity on the roof of the factory may be 0.9MW, and the annual power generation after completion is estimated to be 95.04W/kWh.

Water Resource Management

Domestic water is a major component of TP-Link's water consumption, all of which comes from the tap water supplied by the municipal pipe network. TP-Link does not consume any industrial water, and only a small amount of tap water is used in the production process for cleaning the local ground and auxiliary equipment. During the reporting period, the water consumption was 871,882/t.

All the factory areas and building facilities of the Company have been built with a "rain-sewage diversion" system, which has carried out separate collection, utilization, and centralized management of rain and sewage inflow, reducing the impact of sewage on water bodies and avoiding pollution to riverways, open channels, and more. This not only improves the living environment of residents but also enhances the image of the city. TP-Link strictly follows the water resource management in the EIA reply, and the domestic sewage is pretreated in septic tanks and then discharged into the local sewage treatment plant through the municipal pipe network through the factory discharge port. During the reporting period, we regularly entrusted qualified third-party agencies to carry out tests on sewage outfalls for TP-Link Shenzhen and Shenzhen Manufacturing Center, and the test results show complete compliance with EIA standards.

TP-Link actively improves the efficiency of water use through water-saving notices, water-saving appliances and equipment, recycling of water, pipeline and device transformation, and troubleshooting and control of pipe network leakage.

In 2022, we implemented a special water-saving improvement project for toilet flushing tanks and faucets in the Shenzhen Manufacturing Center, which is estimated to save water consumption of 19,163.42m^3 per year.

Estimated annual water consumption to be saved

19,163.42m^3

Chemical Management

From the daily use, disposal, procurement, and other aspects of the management of chemicals, TP-Link conducts fine management of chemicals. TP-Link has formulated normative documents such as the Chemical Management Practices and the Chemical Safety Management Control Procedure. On the premise of ensuring safe use and process requirements, TP-Link will strive to select chemicals with fewer hazards and actively explore ways of comprehensive utilization. The chemical waste liquid generated in production will be uniformly disposed of by a qualified professional organization to avoid impact on environmental safety.

We regularly audit the qualifications of chemical suppliers to ensure that the chemicals we use meet the relevant standards on safety, environmental quality, and more. The transportation of chemicals shall also be reported to TP-Link in advance, and the transportation qualification and goods shall be verified upon arrival.

We have equipped a special chemical storage warehouse, set up obvious danger warning signs and compliance display signs, and now conduct routine inspections on storage conditions regularly every day to ensure storage safety. We have also maintained a chemical storage ledger to standardize the collection.

We require chemical users to wear personal protective equipment in accordance with the standards and use, label, repackage, and temporarily store the chemicals on the job site in compliance with the operation specifications. Waste chemicals, their containers, and contaminants are all managed as hazardous wastes. TP-Link trains chemical management and operators while requiring them to hold certificates. We also revised the hazard identification table and safety operation procedures according to the introduction of chemicals. TP-Link has compiled the Emergency Plan for Chemical Leakage, allocated emergency materials, and conducted emergency drills regularly.

Case

Reduce the volatilization of alcoholic varnish solvent (in process). Aimed at "reducing the use of chemicals, lowering the emission of VOCs, prolonging the service life of activated carbon and reducing the generation of waste activated carbon," TP-Link reforms and optimizes the transformer impregnation chamber and production process mainly through the following measures:

√ Add the draining rack, prolong the draining time of the product after soaking in chemicals, reduce the chemical residue on the product, and reduce the volatilization of VOCs during baking.

√ Seal the unused chemicals in time, and improve the sealing performance of the drained collection points.

√ Increase the number of A/C outlets in the workshop, appropriately increase the A/C refrigeration capacity in the workshop, keep the workshop at a low temperature, and reduce the volatilization rate of chemicals.

Environmental Impact Factors Management

In accordance with the environmental policy defined in the Quality and Environmental Management Manual, TP-Link has formulated and issued the Regulations on Environmental Waste Disposal and the Hazardous Waste Disposal Standard, and has carried out systematic management of environmental impact factors in compliance with the 4R principles (Responsibly Recycle, Reduce, and Renew).

Waste gas

The waste gas generated in the production process of TP-Link is purified by waste gas treatment facilities before being discharged. TP-Link insists on entrusting a qualified third-party agency to carry out exhaust emission testing in accordance with relevant requirements. During the reporting period, after testing, TP-Link's exhaust gas reached the Level 2 standards specified in DB44/27-2001 and the emission limit specified in GB31572-2015.

Wastewater

The main sewage type of TP-Link is domestic sewage generated by office and living. Domestic sewage is pretreated by septic tanks and then discharged into local sewage treatment plants through municipal pipe networks through the factory outlets. During the reporting period, we regularly entrusted qualified third-party institutions to carry out domestic sewage discharge testing on the discharge outlets with testing requirements, and the test results all met the standard requirements. In 2022, we upgraded the magnetic core flushing equipment of the transformer in the Dongguan Manufacturing Center, changing manual flushing to automatic flushing of the magnetic core automatic flushing line. The flushing wastewater is automatically filtered and reused continuously. No additional wastewater will be generated (the filter residue will be treated by entrustments as required). By calculation, it is estimated that 12 tons of wastewater treatment can be reduced annually.

Noise

To reduce noise pollution, TP-Link adopts measures such as selecting high-quality low-noise equipment, making reasonable equipment layout, setting up vibration reduction foundations for various equipment that may cause noise pollution, installing vibration isolation facilities, sealing doors and windows, and installing muffler devices — all to reduce the impact of noise on the environment. The emission of noise at the boundary of the Company shall comply with Class 3 and Class 4 standards of GB12348-2008 Emission Standard for Industrial Enterprises Noise at Boundary. In 2022, TP-Link entrusted a qualified third-party organization to carry out noise testing every year, and the testing results are better than compliance with the standard.

Solid wastes

TP-Link's solid wastes include general industrial wastes and hazardous wastes, among which general industrial wastes are recycled or treated by qualified recycling units. Hazardous wastes mainly include waste circuit boards, waste packaging materials, waste activated carbon, waste organic solvents, etc. All hazardous wastes are handed over to qualified third-party companies for disposal according to the specified period. During the reporting period, TP-Link disposed of 2,588t general industrial waste and 204.50t hazardous waste according to regulations.

Hazardous waste

TP-Link has established a refined hazardous waste management system and implemented the whole process management such as hazardous waste declaration and registration, hazardous waste identification, hazardous waste storage and transportation, and hazardous waste transfer manifest by establishing a clear and complete hazardous waste management ledger in accordance with the Standard for Pollution Control on Hazardous Waste Storage. During the temporary storage of hazardous waste, measures such as installing spray devices were taken to prevent leakage and accidents.

TP-Link also established and improved the emergency response mechanism for hazardous waste pollution incidents by formulating the Hazardous Waste Emergency Plan and organizing training and emergency drills to improve the emergency response capability of employees for hazardous waste emergencies.

In 2022, our Dongguan Manufacturing Center introduced a high-temperature water temperature machine to replace the original oil temperature machine. It is estimated that the annual discharge of waste mineral oil (HW-08) can be reduced by about 50kg.

Estimated reduced wastewater treatment

12 t

General Industrial waste disposed

2,588 t

Hazardous waste disposed

204.5 t

Estimated reduced annual discharge of HW-08

50 kg

PRODUCTS AND SERVICES

- R&D Innovation
- Quality Management
- Green Products
- Protection of Customer Rights and Interests

Based on TP-Link's mission of "using technology to make life better and enable more people to enjoy the wonders of technology," we make unremitting efforts to improve and are committed to providing reliable and stable quality products and services to customers and the public, in order to address the laws, regulations, and customers' expectations.

R&D Innovation

"Exploring Possibilities" is one of TP-Link's core values. We focus on the forward-looking layout of the main business, establishing and improving TP-Link's innovation management mechanism, vigorously promoting strategic breakthroughs in key core technologies, and continuously enhancing TP-Link's core competitiveness.

Based on the cultivation of scientific research talents and the construction of scientific research teams, TP-Link increased investment in science and technology to strengthen the foundation of R&D facilities and equipment and improve the environment for entrepreneurial innovation. We organically integrate talent absorption, cultivation, empowerment, and introduction, and have established a talent team system with cross-level connections and iterative development. By strengthening the protection of IP rights and establishing innovative incentive mechanisms such as effort recognition awards, patent awards, talent awards, and project awards, researchers involved in project development, technological innovation, invention, creation, and other works will be awarded in an all-round and multi-dimensional way.

Relying on TP-Link's strong scientific research and economic strength, and on the basis of promoting the iterative upgrade of wireless technologies (protocols) such as Wi-Fi together with global peers, we have persistently pushed the R&D and marketization of TP-Link's leading products to a new record high and consolidated TP-Link's leading position through "vertical in-depth development." Further, we also promote the sustainability of our business in an orderly "horizontal expansion" through a sensitive perception of the market.

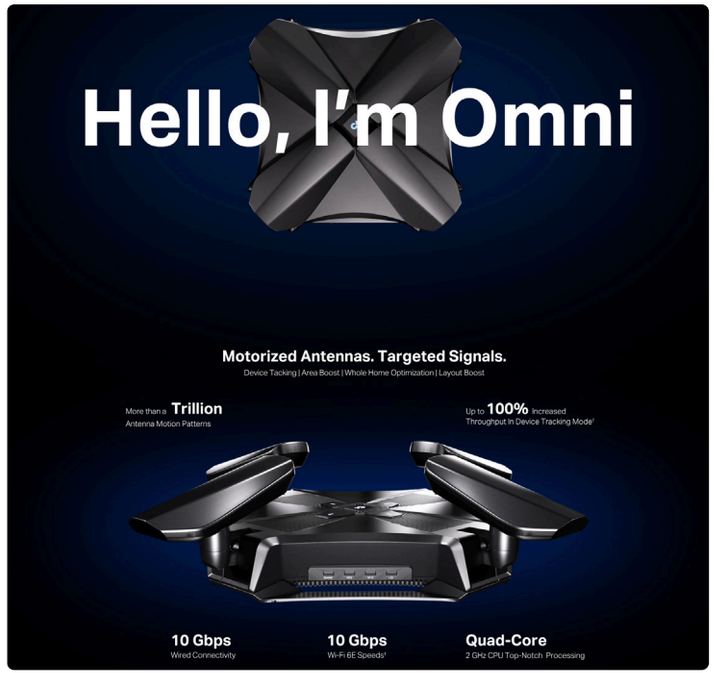
Focusing on the technical fields of wireless communication networking, antenna design, digital information transmission, and multiplex communication, TP-Link, in 2022, applied for 177 patents in China, including 146 invention patents (accounting for 82.5%), and 63 patents were granted. In the same period, 19 overseas patents were obtained.

Case

In 2022, TP-Link took the lead in the industry in launching Archer AXE200 Omni, the world's first wireless router with mechanical antennas. The product was creatively developed with mechanical rotating antennas and introduced an AI intelligent control system, which can accurately detect the movement of a wireless client and realize the tracking optimization of the wireless network. The wireless air interface resources are utilized to the maximum extent under the premise of not increasing the RF power to improve the wireless experience of users. The product was awarded the Innovation of the Year Award at CES 2022. Based on the pioneering nature of the product, the project has produced eight domestic and foreign patents during the implementation, such as the Calculation Methods, Devices, Terminal Equipment, and Storage Medium of Antenna Optimal Orientation, and the Method, Device, Equipment, and Storage Medium of Direction Finding for Clients Based on RSSI.

Case

Wi-Fi 7 — As a new generation of Wi-Fi protocol, Wi-Fi 7 is compatible with 2.4 GHz/5 GHz/6 GHz Wi-Fi frequency bands, and its performance has been comprehensively improved, enabling a higher—speed Wi-Fi experience. In November 2022, TP-Link once again became a first in its industry in realizing the launching of Wi-Fi 7 products, introducing a number of new Wi-Fi 7 product lines such as Archer BE900, Deco BE95, and Omada EAP780, and releasing a complete Wi-Fi 7 network solution for the first time in the world. TP-Link's pioneering and innovative efforts on Wi-Fi 7 not only greatly improve the immersive network experience of consumers in games and entertainment, smart life, and VR/AR but also promote the efficiency of business partners in local/telecommuting, cloud computing, and big data processing.



Quality Management

Quality is the lifeline of TP-Link's sustainability.

In compliance with the ISO 9001 international standard, TP-Link has established a quality system covering all business segments and all operational processes, such as design and development, procurement and manufacturing, and marketing and service. Additionally, we organically integrate the concept and strategy of sustainability into the construction of a quality system and issue and run the Quality and Environment Management Manual to coordinate quality management and sustainable construction, so as to realize the continuous improvement of work, product, and service quality, and the coordinated promotion of sustainable goals.

Certificate CN10/30196.00

SGS

TP-LINK INTERNATIONAL SHENZHEN CO., LTD.
TP-LINK INTERNATIONAL SHENZHEN CO., LTD.
Guangming Branch

ISO 14001:2015

Firmly upholding the quality concept of "ensuring more than just user satisfaction," TP-Link "follows up on the cutting-edge technology and creates an excellent team, creates customer value, and contributes to society" as the quality guideline, keeping up with the trend of world-wide technology development, empowering products with high-quality design, manufacturing products with high-quality materials, shaping products with high-quality services, and remaining dedicated to the continuous quality improvement with high-quality talents.

Over the years, TP-Link has persistently carried out comprehensive, thorough, and accurate research and analysis on customer demand, market trends, policy environment, etc. By combining the achievements of technological progress and management improvement, we continuously optimize and improve our quality objectives. TP-Link has incorporated 18 indicators, such as "zero complaints about product safety," into the annual quality target system and implemented product quality responsibility to every department, post, and employee of TP-Link through systematic and hierarchical refinement. During the operation of the quality system, we check the quality level by level through customer demand reviews, incoming inspections of materials, process control inspections, product ex-factory verifications, internal quality audits, management system reviews, and more. From micro-operation details to overall mechanism promotion, TP-Link's quality has continuously reached new levels.

Customer demand review | Material incoming inspection | Process control inspection | Product delivery verification | Internal governance audit | Management system review

Green Products

Insisting on the concept of going green and environmental protection, TP-Link draws lessons from the whole life cycle method to carry out green innovation, continuously reduces the harmful impact of products on the natural environment and users, and provides customers with leading green products and solutions.

Green design

In the design and development stage of products, TP-Link incorporates ecological assessment and introduces the concept of product life cycle management to ensure that the design, quality, function, and production process of products is in line with green products. In terms of product design, TP-Link fully considers the recyclable design, universal design, and minimal design of products. We follow the principles of minimal energy consumption, minimal ecological impact, and maximum renewable rates, and actively develop high-quality environmental protection products with high added value, low emission, and low power consumption.

Case

Ultra-thin Archer Air series products. The size of wall-mounted RE (Range Extender) and routing products will become larger with the upgrade of specifications, which will take up more space. In response, TP-Link innovatively developed ultra-paper-thin routing and RE products with the Archer Air series in 2022. The product shares the dimensions of an A5 paper with a thickness of 8mm. It offers convenient and flexible installation (it can be attached to the wall or hung on the wall) with little space demand. Compared with traditional routers with the same specification, the shell material can be saved by about 50%. Moreover, the charging mode of the product is changed from the traditional round head to the Type-C power supply, which increases the universality of the charging power supply and avoids waste.

Case

EAP690E HD 1.0 intelligent power supply AP. The product is a quad-band model, and the wireless module supports 2.4 GHz, 5 GHz-Low, 5 GHz-High, and 6 GHz bands. When working at full load, the power consumption of the whole unit is 45W. This product can identify the current usage of the equipment through automatic detection and adjust the frequency band module on/off accordingly, which can reduce the power consumption of the whole machine below 8W.

Case

All in One. In the construction of small and medium-sized local area networks with relatively complex structures, such as convenience stores, small offices, and townhouses, four kinds of products traditionally work together to complete networking, and the network deployment has some shortcomings, such as complex topology and high space demand. To this end, TP-Link launched the "three-in-one" ER7212PC in 2022, designed and developed with the concept of "All in One," which integrates a desktop router + PoE switch + hardware controller to greatly reduce the difficulty of network deployment and the space occupation of equipment, effectively solving the product application bottleneck of customers in market segments.

Green procurement

TP-Link practices green procurement from the following aspects:

Supplier cooperation

We promote "going green and environmental protection" requirements to suppliers and require them to sign the Supplier Code of Conduct. Through continuous communication with suppliers, TP-Link will convey the concept of green products to suppliers and introduce TP-Link's environmental planning and strategy, promoting the continuous improvement of supply chain environmental management and control capabilities.

Selection of raw materials

TP-Link practices the concept of life-cycle management and control of green products, and actively seeks substitute materials of harmful substances at the product design stage. At present, all the raw materials used by TP-Link meet the requirements of environmental protection laws and regulations and the rules of chemical registration, assessment, licensing, and restriction, and meet the relevant regulations that producers should take measures to gradually reduce and eliminate the contents of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB), polybrominated diphenyl ether (PBDE), and other toxic and harmful substances in electronic information products.

Case

Printing the presswork with environmentally friendly ink. At present, more than 280 products and 300 color boxes/brochures of TP-Link all use environment-friendly ink with lower mineral oil content (the content of MOAH in the ink is less than 1% (10000 ppm)), and the average monthly consumption reaches 5.3KK, which greatly reduces the damage to the environment and human body.

Selection of energy-saving equipment

At the planning stage of equipment procurement, TP-Link explicitly requests the adoption of energy-saving products. While highlighting the economic efficiency of equipment purchases, we establish clear requirements for green environmental protection indicators for suppliers and require suppliers to provide relevant test reports and use cases for verification.

Green manufacturing

TP-Link pays close attention to the green control and improvement of manufacturing processes. In the production process, process parameters and equipment status are continuously optimized, and energy-saving technical transformation projects and measures are encouraged to achieve the goal of emission reduction and consumption reduction in the production process.

Case

Effective utilization of precious and expensive accessories—Tin bars needed for wave soldering. TP-Link requires maintenance personnel to recycle the underused tin slag in daily equipment maintenance and reuse it according to the predetermined recycling plan, so as to save the dosage of precious accessories and improve the use efficiency of precious resources.

Green packaging

Starting with materials and products, TP-Link vigorously promotes green packaging.

- TP-Link has signed the Supplier Packaging Recovery Agreement with 47 suppliers, according to which the recyclable packaging materials are recycled.
- Special optimization project of "White Card to Grey Card" for product packaging materials: In 2022, TP-Link carried out a "White Card to Grey Card" replacement for packaging color boxes of about 200 products after evaluating the market feedback information. The implementation of this special project has greatly reduced the weight of product packaging paper. According to TP-Link's monthly average shipments, the use of packaging paper exceeds 121km^2/ month, and the average weight of paper can be reduced by about 9.075 tons per month if the weight of paper per square meter is reduced by 50-100g. At the same time, this special project can effectively promote the recycling of resources, protect trees and forests, and promote the development of a green economy, as white card is made of pure wood pulp, while gray card is made of recycled paper except for white wood pulp on its surface.

Green logistics

TP-Link products are sold all over the world, and logistics has become an important aspect of TP-Link's green economy. To this end, we mainly strengthen cooperation with partners, improve the thoroughness of storage and transportation plans, and jointly promote the logistics mode of "sea shipping-based, supplemented by air transportation," striving to increase the proportion of shipping, while saving transportation costs, reducing the environmental impact brought by air transportation and other modes of transportation. In 2022, the proportion of TP-Link's products by sea reached 87.53% — about 1.29% higher year over year.

Increasement compared to 2021

1.29%

Further, we continue to promote green logistics through the following measures:

Cooperate with the world's leading logistics organizations

Improve the "green" content of TP-Link's product transportation with the help of the powerful operation network, efficient logistics system, and green transportation mode of partners such as freight forwarders.

Adopt multimodal transport

Solve the "last mile" problem while reducing the product transshipment links and improving the product transportation efficiency and social benefits.

Recover and recycle the product loading tools

Practice green and low-carbon actions in detail.

Protection of Customer Rights and Interests

TP-Link consciously abides by the laws and regulations, takes "ensuring more than just customer satisfaction" as the action guide, and integrates safeguarding the legitimate rights and interests of customers into corporate governance, cultural construction, and business development.

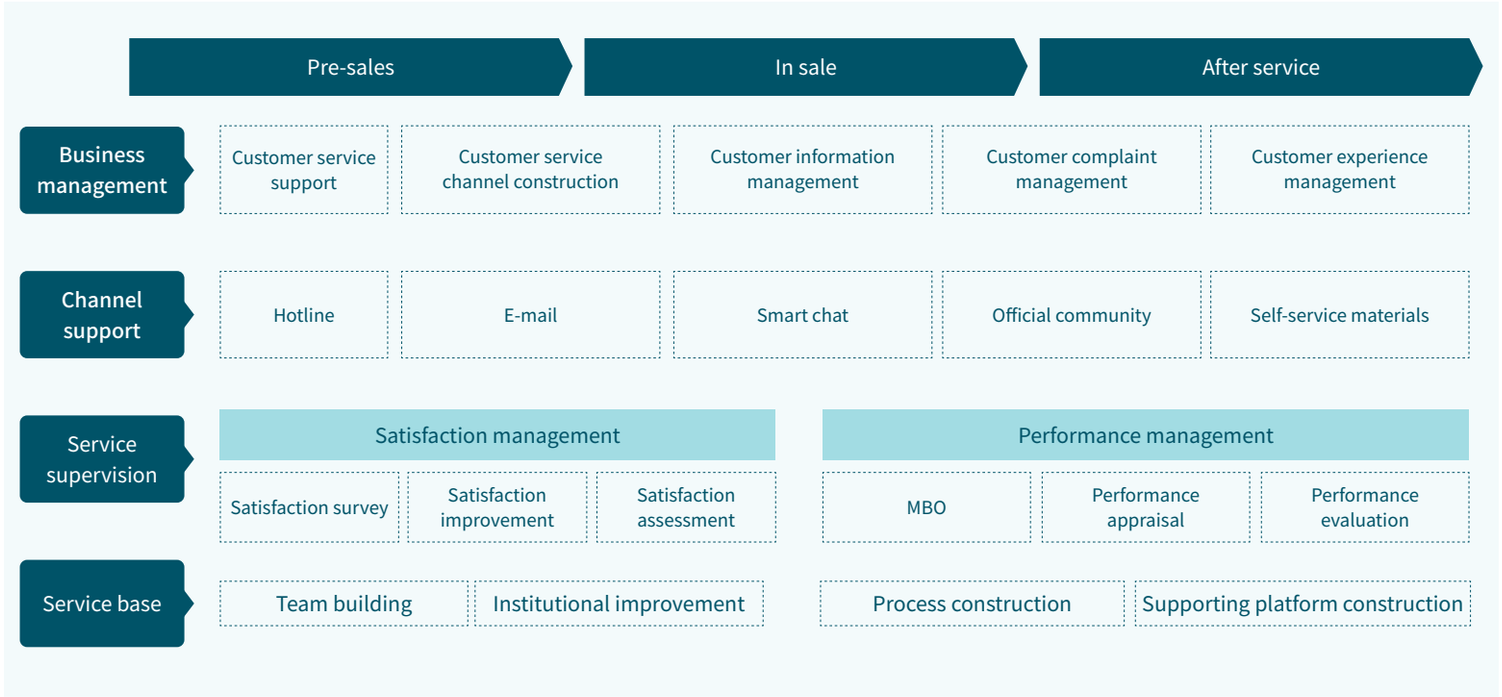
According to the guidance of the Quality and Environment Management Manual, TP-Link has formulated management systems such as the Customer Satisfaction Management Procedure, the Quantitative Method of Customer Satisfaction, and the Specification for Handling Customer Complaints, and has established a refined customer service system through standardization of processes, methods, and means.

In 2022, the direct customer satisfaction of TP-Link was 93.18%.

Direct customer satisfaction rate

93.18%

TP-Link customer service structure



SUPPLY CHAIN

- Supplier Management
- Sustainable Procurement

TP-Link extends the concept of sustainability to the supply chain and enhances the importance of sustainability in supplier access, performance assessment, and procurement decision-making to help suppliers improve the governance of sustainability, encourage long-term win-win cooperation, and promote the healthy development of the entire supply chain system.

Supplier Management

Overview of suppliers

By the end of the reporting period, TP-Link had 540 production and procurement suppliers (including 434 formal suppliers and 106 temporary suppliers), including 480 in the Chinese mainland, 50 in Hong Kong, Macao, and Taiwan SARs, and 10 in foreign countries.

Supplier risk management

TP-Link identifies and assesses the supply chain risks from multiple dimensions and takes corresponding measures to ensure the stable and healthy operation of the supply chain. Supplier risk identification and management of TP-Link include:

Macro-environmental risk

- TP-Link conducts research and analysis on the laws, regulations, and sustainable policies of the supplier's location and conveys the analysis results to the supplier, so as to prevent the supplier from stopping production and limiting production due to changes in laws, regulations, and policies, and consequently affecting the supply.
- We require our suppliers to actively search for alternatives to contaminated materials in accordance with TP-Link's environmental protection policies and relevant laws and regulations. Since 2006, we have required relevant suppliers to supply materials that meet RoHS and REACH requirements. In 2022, we started to promote the relevant suppliers to use eco-friendly inks.

Operational risk

- TP-Link evaluates suppliers' operational status (including legal and financial aspects) and reviews the sustainable governance of suppliers, including system, labor, safety and occupational health, environment, mineral conflicts, etc.

Storage and transportation risks

- TP-Link requires the suppliers to diversify their modes of transportation to cope with emergency supplies and ensure a stable supply. TP-Link carries out safety assessments on logistics suppliers to ensure their transportation safety.

Moral hazard

- TP-Link establishes and improves the procurement process and implements the bidding procurement of major engineering projects and important materials. It evaluates the integrity system of new suppliers and signs the Honesty and Integrity Agreement with them to avoid any violation of business ethics.

Based on the risk identification and assessment of suppliers, TP-Link establishes and continuously improves the supply risk management mechanism, strives to eliminate or reduce risks by means of early warning and maintaining communication, and assists suppliers in formulating response strategies to ensure their business continuity.

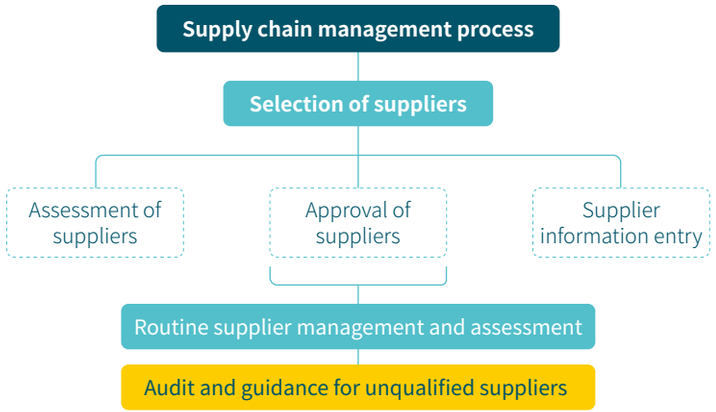
Sustainable Procurement

Sustainable procurement policy

According to TP-Link's Environmental Health Management Manual, Sustainable Procurement Policy, Social Responsibility Management Manual, and related system norms, we transfer TP-Link's sustainable governance concept, principles, objectives, and requirements to our suppliers. Combining the economic principle of high quality and good price with the responsible principle of sustainability, we are going to promote sustainable procurement with the policy of "green procurement and responsible procurement," and build a sustainable supply chain system.

Supplier access and review

TP-Link has standardized the management requirements for suppliers and established corresponding management processes through institutionalized documents such as the Supplier Management Standard and the Supplier Social Responsibility Management Procedure.



"Quality, technology, price, and delivery" is the basic tenet of TP-Link's supplier access and review. Also, TP-Link has incorporated sustainable factors such as "labor, environment, and society" into the criteria for supplier access and review:

Access assessment

TP-Link has formulated the Supplier Assessment Form to evaluate and score suppliers' performance in terms of quality, safety, environment, and hazardous substance management and requires suppliers to show their certification qualifications, such as ISO 14001. If there is any nonconformity, the supplier shall immediately rectify it and will be granted access after reaching the standard.

Requirements and constraints

TP-Link requires approved suppliers to sign the Supplier Code of Conduct to ensure that they understand and abide by the basic requirements of TP-Link's sustainability criteria. TP-Link also requires them to sign the Honesty and Integrity Agreement and the Confidentiality Agreement to jointly abide by business ethics.

Review and assessment

TP-Link conducts continuous investigation and assessment of suppliers through a combination of regular and irregular reviews, including but not limited to emails, questionnaires, on-site investigations, and unannounced inspections. The review and assessment of TP-Link adhere to the principles of fairness and objectivity. After the assessment, TP-Link will feed back the results to the suppliers and help them to improve the defects and reduce risks, jointly promoting the sustainability of the supply chain.

During the reporting period, TP-Link conducted 251 annual audits of suppliers, with 80.59% of them having signed the Supplier Code of Conduct and 80.59% of them having participated in the social responsibility assessment of suppliers. Less than 10.44% of them did not undergo on-site auditing. Additionally, 95.83% of all the procurement personnel in TP-Link received training in sustainable procurement.

Supplier Code of Conduct signed percentage

80.59%

TP-Link's procurement personnel trained percentage

95.83%

Supplier training and communication

TP-Link and suppliers are equal and mutually beneficial partners. Therefore, we keep continuous communication with suppliers in good faith and based on the principle of keeping promises. We hope that, by virtue of training and exchange, we can convey our expectations of our suppliers in terms of economic and social responsibilities, so as to enhance the connotation of cooperation between both sides; form a more consistent view on environment, society, and governance; and jointly build a sustainable green supply chain.

During the reporting period, TP-Link held 185 supplier instances of training.

Supplier instances of training held

185

Exchange:

Providing feedback on cooperative issues and offering improvement suggestions on a daily basis.

Training:

Conducting training on an irregular basis, covering topics including but not limited to quality, technology, business ethics, as well as methods and strategies for sustainable development governance.

EMPLOYEES

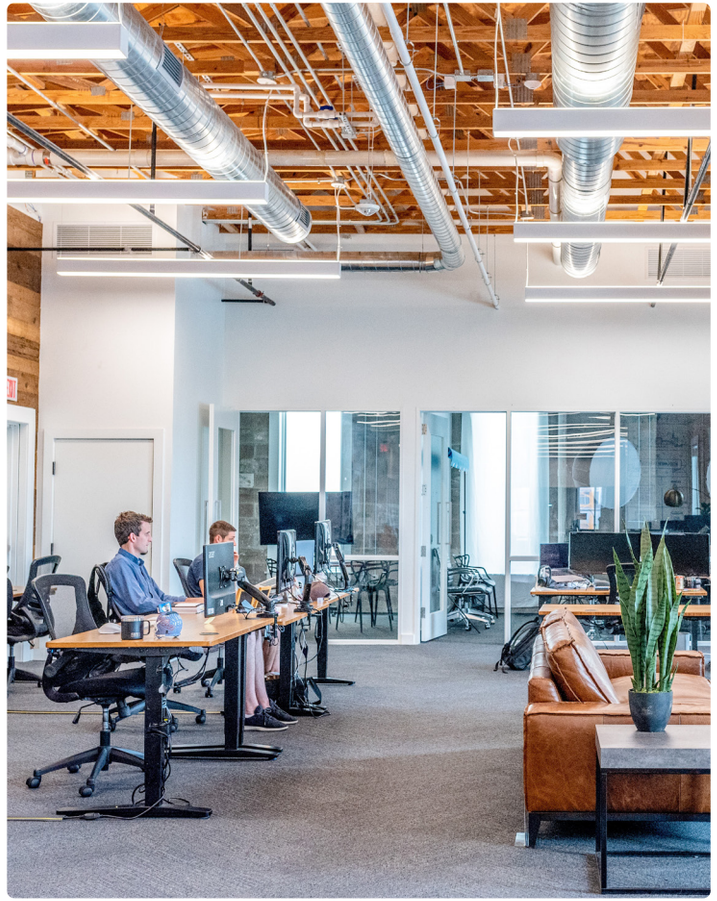
- Rights and Interests
- Talent Development
- Health and Safety
- Work-life Balance

Talent is TP-Link's most important resource. TP-Link is committed to creating a diverse and inclusive workplace, respecting and attaching importance to every employee, and encouraging employees to develop their expertise and potential with an open mind for common development with TP-Link.

Employee Profile

		Number (persons)	Proportion (%)
Total employees		6,386	100.00%
Gender	Male	4,573	66.87%
	Female	2,263	33.13%
Age	Number of employees aged under 30	4,349	63.64%
	Number of employees aged 30-49	2,465	36.04%
	Number of employees aged ⩾ 50	22	0.32%
Education	Master's	764	11.17%
	Bachelor's	1,956	28.65%
	Junior college	245	3.58%
Ethnic minorities		1,163	17.00%

Note: This employee profile provides an overview of employees of TP-Link Shenzhen, Shenzhen Manufacturing Center, Shenzhen Tianliao Manufacturing Center, and Dongguan Manufacturing Center



Rights and Interests

We respect human rights, safeguard human rights, and promote equality by following international norms such as the United Nations human rights protection convention and the ILO Convention. We have formulated and implemented more than 20 systems and norms, such as the Standard Code of Conduct for Labor, the Procedures for Administrating the Relief of Child Workers and Juvenile Workers, the Management Control Procedures for Compulsory Labor, the Management Regulations for the Protection of Female Employees, the Management Regulations for Anti-discrimination and Anti-harassment, and the Service Procedures for Religious Needs. We have also publicized the relevant knowledge of anti-discrimination and harassment among our employees and set up relevant complaint-reporting channels to help them safeguard their rights and interests. We will resolutely put an end to child labor and forced labor, prohibit discrimination and harassment, and effectively protect the legitimate rights and interests of employees in all aspects, including inclusiveness and equality, openness and diversity, job selection and employment, association and assembly, and religion and belief. During the reporting period, TP-Link experienced zero incidents of discrimination and harassment.

On the basis of equality and voluntariness, we signed labor contracts with all employees and paid social insurance according to the law. We provide pre-job health examination and pre-job health and safety training for all employees and allocate personal protective equipment according to job responsibilities and characteristics. We pay great attention to the labor rights and interests of female workers and protect their legitimate rights and interests during sensitive times such as menstruation, pregnancy, and lactation.

Discrimination and harassment incidents

0

We follow the basic principle of distribution according to work to establish and improve the remuneration and welfare system, pay employees labor remuneration in full and on time, and continuously improve employees' welfare benefits such as rest and vacation, work meals and accommodation, and holiday gifts. TP-Link raised the Mid-Autumn Festival gift standard by 66%.

We establish channels and mechanisms to maintain friendly and full communication with employees. TP-Link has set up a suggestion box to understand employees' opinions and suggestions on TP-Link's development and also to collect employees' complaints and reports of violations of employees' rights and interests. We also promote employee participation in democratic management through "employee representative meetings."

Case

In May 2022, TP-Link Shenzhen held an employee representative meeting attended by 21 employee representatives on the formulation and revision of the Employee Handbook. The employee representatives analyzed and discussed the structure and terms of the Employee Handbook, asked questions to the Human Resources Department on related issues, and reviewed and revised them one by one. After the employee representatives signed and agreed, the contents of the newly revised Employee Handbook were gradually implemented.

Holiday gifts

Talent Development

TP-Link is committed to creating a platform for employees to improve their knowledge and skills, develop their careers, and realize their personal values. We have established a dual-channel career development mechanism of "specialty + management" to create opportunities and possibilities for employees' diversified career development.

TP-Link has formulated the Performance Appraisal System to evaluate the performance of each employee internally on a regular basis, set up different position performance standards for different positions of departments, and select the outstanding employee representatives according to the performance of each employee. We encourage managers at all levels to identify, cultivate, and promote outstanding talents. We encourage employees to organically integrate their personal value pursuit with TP-Link's strategic guidance, so as to stimulate resonance and enthusiasm and realize the common, rapid, and healthy growth of employees and the Company.

Guided by the principle of "establishing a learning organization to help employees comprehensively improve their abilities and qualities," TP-Link has established a teaching system with the integration of "general knowledge + specialty + management." Combined with flexible and diverse training methods and mechanisms, we help employees enrich their knowledge, improve their skills, and broaden their horizons, laying a solid foundation for the common growth of employees and the Company.

We have also set up an internal online learning system, TP-Learning, which enables every TP-Link employee to easily access learning resources and create a "sustainable learning" platform and environment. Up to now, TP-Learning has offered 655 training courses.

In 2022, TP-Link organized 1,185 training sessions, with a total of 2,028 training hours, 38,210 participants, and training hours averaging 9.14/h per employee.

Training courses offered in TP-Learning

655

Training sessions organized

1185

Training hours in total

2028

Participants

38210

Average training time per employee

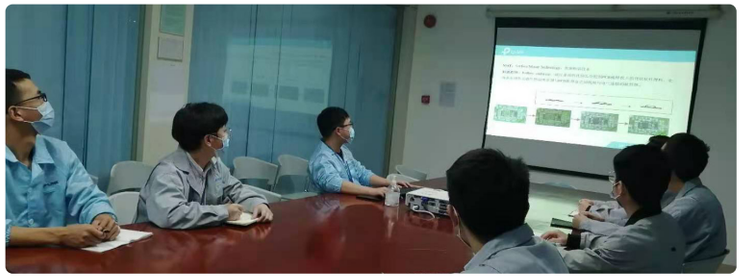
9.14/h

Management training

Product training

New employee training

Professional skills training



Health and Safety

TP-Link has formulated more than 30 system documents, such as the Regulations on Health and Safety Management, the Occupational Health Archives Management System, the Measures for Management of Occupational Disease Prevention, the Labor Protection Articles Management System, the Hazardous Operation Approval System, and the Hazard Identification and Assessment Control Procedure. TP-Link establishes and improves the occupational health and safety management system and improves the health and safety awareness of all employees through education and training to familiarize them with health and safety knowledge and skills. We arrange first-aid medicine boxes, medicine, safety protection facilities, and tools in the necessary areas/locations of the business premises, striving to create a healthy and safe working environment for employees.

Certificate CN23/00001521

SGS

The management system of

TP-LINK INTERNATIONAL SHENZHEN CO., LTD
TP-LINK INTERNATIONAL SHENZHEN CO., LTD.
Guangming Branch

has been assessed and certified as meeting the requirements of

ISO 45001:2018

For the following activities

The Scope of Registration appears on page 2 of this certificate

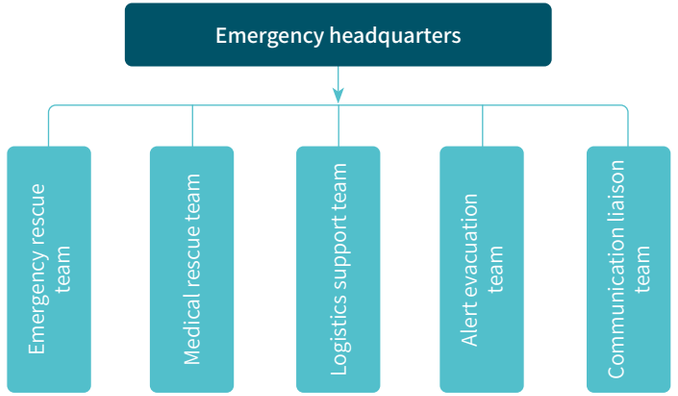
We find and prevent occupational health and safety hazards in time through daily inspections. We identify the defects in the management system and formulate and implement preventive and corrective measures to continuously improve the management system through regular investigation and examination of the factors and links affecting health and safety. Through regular management reviews, we evaluate the effectiveness of system operation and continuously enhance the management of occupational health and safety.

In 2022, we carried out a comprehensive and systematic arrangement and improvement of TP-Link's occupational health and safety management system in compliance with the ISO 45001 international standard, among which TP-Link Shenzhen and Shenzhen Manufacturing Center successfully passed the system audit and certification in April 2023 and obtained the certificate.

Safety is of vital importance that upholds the concept of "life being paramount with safety first." We pay close attention to the standardization of safety management, improve the safety awareness of all employees, and promote the institutionalization, systematization, and standardization of safety management. TP-Link has also formulated and improved the emergency plan for production safety to ensure that the initial emergency rescue and orderly evacuation can be carried out quickly and orderly in the event of a safety accident. We also organize safety emergency drills from time to time to enhance employees' awareness of safety in production and improve employees' ability to handle safety emergencies, effectively protecting employees' lives and property.

In 2022, TP-Link conducted 172 safety education and training sessions, with 208 class hours and 10,754 participants. Six emergency drills were conducted, and 14,109 employees participated.

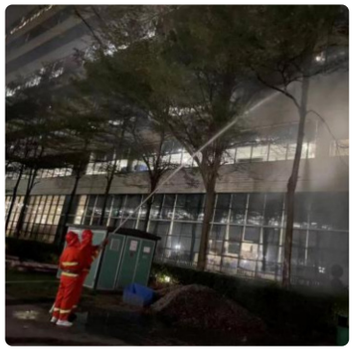
Organizational system of the company's safety production emergency plan



Emergency Classification Table

Response grading	Response conditions	Response measures
Workshop level	Accident harms and impacts are confined to a single area or single post and can be disposed of without the need for the Company to allocate resources.	The on-site disposal plan shall be activated, emergency disposal shall be organized by workshop as a unit, and the case shall be reported to the Company to make preparations for expanding response.
Company level	Accident harms and impacts are beyond a single area, but are still limited to the scope of the Company, and the internal resources of the Company can be mobilized for disposal.	The Company's comprehensive emergency plan shall be activated, emergency disposal shall be immediately organized, the case shall be reported to the regulatory authorities as appropriate, and the Company shall be ready to expand emergency response.
Societal level	Accident harms and impacts are beyond the scope of the Company, and the local government is needed to coordinate social resources to deal with such cases.	The Company's comprehensive emergency plan shall be activated to handle the case in the early stages, and the case shall be reported to the local government, and emergency response (rescue) shall be requested from outside the Company. After local intervention and access, we will obey the unified command.

Crisis drills



Work-life Balance

In order to help employees to relieve their psychological anxiety, relieve psychological pressure, and protect their physical and mental health, TP-Link has set up special activity funds and organizes employees to carry out cultural and sports activities from time to time.

Community and Public Welfare

As the leader of product innovation and operation scale in the global industry, we have an increasingly strong sense of "using technology to make life better and enable more people to enjoy the wonders of technology" is not only our mission, but also our initial intention. Therefore, we have also begun to meet a wider range of people as corporate citizens and take the initiative to assume social responsibility, while we continue to provide scientific and technological convenience to the public through commercial operations.

The senior management of TP-Link set an example by donating RMB 900,000 to the Rhodes Scholarship to support outstanding bachelor graduates from China to go to Oxford University in the UK, donating RMB 10 million to the "Huiyuan" Program of Shanghai Jiaotong University to repair and protect the Ming and Qing Dynasty residential buildings south of the Yangtze River.

In recent years, TP-Link has joined hands with partners to participate in public welfare undertakings, expanding its footprints into more and more fields: education, sports, community building, refugee relief, children's growth, and more. TP-Link's public welfare pace can also be found in more and more countries and regions, such as India, the Czech Republic, the United Kingdom, Germany, and the United States.

Case Freifunk Free Network Plan in Germany

1,045 WLAN routers were donated to support the Freifunk project to provide Wi-Fi coverage for refugee groups in about 50 regions of Germany.

Case Good Things Foundation to Bridge the Digital Divide Project in the UK

Donated Wi-Fi devices to the Good Things Foundation for use in community digital inclusion centers across the UK.

Case Czech/Children's Education

Donated wireless network products to the Cheb & Horní Slavkov Children's Home, School in Měnín (Brno), and School in Liberec.

Case India/Education and Health Care

Donated uniforms, books, and drinking fountains to Zillha Parishad School in Shiroshi village, Maharashtra.

Donated medical equipment to the Cardinal Gracious Memorial Hospital Trust in Vasai.

An ambulance was donated to the AIIMS Jai Prakash Narayan Apex Trauma Center in Delhi.

Case Italy/Sports

Routers and other products were donated to support the Adidas Playground Milano League (2018-2019).

Future Prospects

TP-Link will, as always, create high-quality scientific and technological products for the public through technological innovation and strive to climb to new heights in the global industry.

TP-Link will also strictly abide by business ethics and jointly safeguard the fair competition market value system with its partners and all sectors of society. TP-Link will actively identify and prevent operational risks, strengthen internal control, and follow internationally accepted rules and practices, to maintain the stability, health, and sustainability of TP-Link businesses.

We will also continue to maintain friendly communication with customers, suppliers, employees, and other stakeholders, unswervingly take the initiative to undertake and earnestly fulfill our corporate social responsibility, and contribute to the sustainable goals of the United Nations.

We will also take more effective measures to deal with climate change, actively promote low-carbon technologies, strengthen energy transformation, and adopt energy-saving and emission-reduction measures to improve the energy structure and enhance the efficiency of energy and resource use. We plan to find "carbon resources" according to international rules such as the GHG Protocol and carry out carbon verification and assessment analysis according to international standards such as ISO 14064 and ISO 14067. Guided by the net-zero emission standard of the Science Based Targets initiative (SBTi) and combined with the operational characteristics of TP-Link, we will formulate a concrete action roadmap to deal with climate change and act quickly to push the world towards a better future.

Indicator Index

GRI Standards Index

GRI Standards	Disclosure	Corresponding chapters and sections
GRI2: General Disclosures	2-1 Organizational Details	2.1 Enterprise Profile
	2-2 Entities included in the organization's sustainability reporting	0.1 Report Scope
	2-3 Reporting period, frequency, and contact point	0 About the Report
	2-4 Restatements of information	0 About the Report
	2-5 External assurance	Third-party Authentication Report
	2-9 Governance structure and composition	3.1 Governance Structure
	2-29 Approach to stakeholder engagement	3.2.1 Identification and Communication with Stakeholders
GRI3: Material Topics	3-1 Process to determine material topics	3.2.3 Assessment of Material Topics
	3-2 List of material topics	3.2.3 Assessment of Material Topics
GRI205: Anti-corruption	205-2 Communication and training about anti-corruption policies and procedures	3.4.1 Anti-corruption
	205-3 Confirmed incidents of corruption and actions taken	3.4.1 Anti-corruption
GRI206: Anti-competitive Behavior	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	3.4.2 Trade compliance
GRI301: Materials	301-3 Reclaimed products and their packaging materials	5.3 Green Products
GRI302: Energy	302-1 Energy consumption within the organization	4.3 Energy Management
	302-4 Reduction of energy consumption	4.3 Energy Management
GRI303: Water and Effluents	303-1 Interactions with water as a shared resource	4.4 Water Resource Management

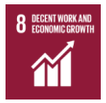
GRI Standards Index

GRI Standards	Disclosure	Corresponding chapters and sections
GRI305: Emissions	305-1 Direct (Scope 1) GHG emissions	4.2 Carbon Emission Management
	305-2 Energy indirect (Scope 2) GHG emissions	4.2 Carbon Emission Management
GRI306: Waste	306-5 Waste directed to disposal	4.6 Management of Environmental Impact Factors
GRI308: Supplier Environmental Assessment	308-1 New suppliers that were screened using environmental criteria	6.1.2 Supplier Risk Management
GRI401: Employment	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	7.1 Protection of Employee Rights and Interests
	401-3 Parental leave	7.1 Protection of Employee Rights and Interests
GRI403: Occupational Health and Safety	403-1 Occupational health and safety management system	7.3 Occupational Health and Safety
	403-3 Occupational health services	7.3 Occupational Health and Safety
	403-5 Worker training on occupational health and safety	7.3 Occupational Health and Safety
	403-6 Promotion of worker health	7.4 Work-life Balance
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	7.3 Occupational Health and Safety
GRI404: Training and Education	404-1 Average hours of training per year per employee	7.2 Promoting Employee Growth
	404-2 Programs for upgrading employee skills and transition assistance programs	7.2 Promoting Employee Growth
GRI405: Diversity and Equal Opportunity	405-1 Diversity of governance bodies and employees	7.1 Protection of Employee Rights and Interests
GRI413: Local Communities	413-1 Operations with local community engagement, impact assessments, and development programs	8. Community and Public Welfare
GRI414: Supplier Social Assessment	414-1 New suppliers that were screened using social criteria	6.1.2 Supplier Risk Management
GRI418: Customer Privacy	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	3.5 Information Security and Privacy Protection

SDGs Index

SDGs	Response from TP-Link	Corresponding chapters and sections
	Join hands with partners to participate in public welfare undertakings such as education and sports, community building, aids to refugees and child development	8 Community and Public Welfare
	• Reduce or avoid the use of raw materials with health hazards and dispose of wastes environmentally-friendly • Require suppliers to vigorously develop and provide alternatives to contaminated materials • Create a healthy and safe workplace for employees	4.5 Chemical Management 4.6 Environmental Impact Factors Management 6.1 Supplier Management 7.3 Health and Safety
	• Create a platform for employees to improve their knowledge and skills, develop their careers and realize their personal values • Donate money to help students and promote the development of educatio	7.2 Talent Development 8. Community and Public Welfare
	• Adhere to equal pay for equal work among both male and female employees and advocate gender equality • Pay attention to the legitimate rights and interests of female workers during special periods such as physiological period, pregnancy and lactation • Incorporate sustainable development factors such as "labor, environment and society" into the supplier assessment system	6.2 Sustainable Procurement 7.1 Rights and Interests
	• Adopt water-saving equipment, cycling use of water, pipeline and plant modification, etc., to improve the utilization efficiency of water resources • Build a "rainwater-sewage diversion" system to reduce the impact of sewage on waters • Upgrade the equipment to reduce wastewater discharge •Help suppliers improve their sustainable development governance	4.4 Water Resource Management 4.6 Environmental Impact Factors Management 6.2 Sustainable Procurement
	• Strengthen the establishment of an environmental protection system and promote green office and green operations • Take energy-saving technical measures to improve energy efficiency • Actively explore the path of using clean energy • Develop and innovate green products to reduce the consumption of energy resources • Adopt the green procurement and responsible procurement to create a sustainable supply chain system	4.1 Environmental Management System 4.3 Energy Consumption Managemen 5.3 Green Products 6.2 Sustainable Procurement

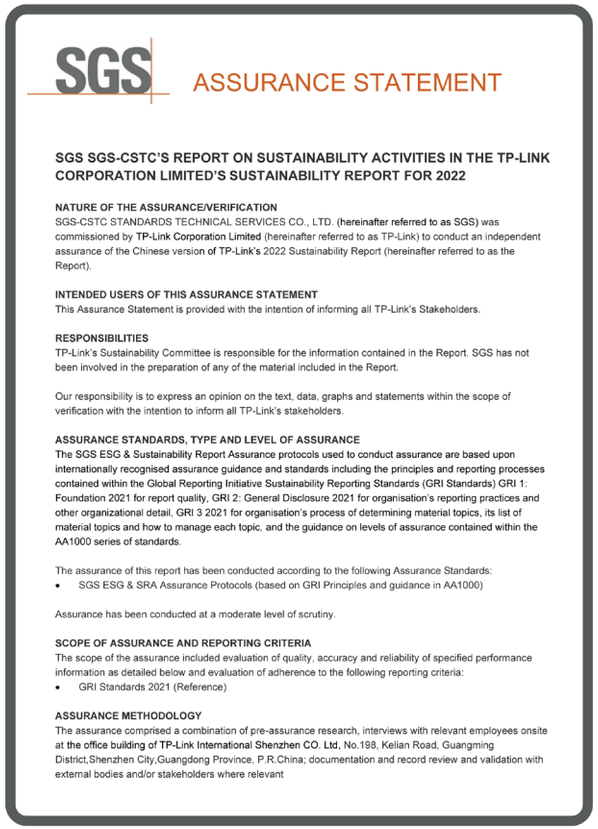
SDGs Index

SDGs	Response from TP-Link	Corresponding chapters and sections
	• Innovate products with cutting-edge technology, finish the global layout of the industry, and expand employment opportunities • Sales have maintained positive growth for more than 25 consecutive years, and Wi-Fi equipment shipments have ranked first in the world for many years • Establish a business continuity management system to improve operational efficiency and organizational resilience • Uphold an open, fair and equal employment policy, provide equal work opportunities for all employees, implement competitive salaries, and ensure the health and safety of employees • Follow the international laws and regulations on human rights, safeguard the basic human rights of employees, and strictly prohibit the child labor and forced labor	2.1 About Us 3.2 Sustainable Governance 3.6 Business Continuity 7 Employees
	• Boost strategic breakthroughs in key core technologies to continuously improve the company's core competitiveness • Pursue the quality products and services to the public and expand the popularity of information and communication technology	5 Products and Services
	• Create a pluralistic and equal workplace and provide equal employment opportunities for all, without any discrimination regardless of the ethnic group race, nationality, religious belief, gender, age, disability, marital status, etc.	7.1 Rights and Interests
	• Adhere to environmental protection and reduce the negative impact of products and services on the environment throughout their life cycle • Make green product innovations to reduce the harmful impact of products on the natural environment • Promote the healthy development of the supply chain system based on win-win long-term cooperation	4.1 Environmental Management System 5.3 Green Products 6.2 Sustainable Procurement
	• Conduct continuous improvements on the environmental management system and the Company's environmental performance and promote sustainable development • Make the systematic management of environmental impact factors to reduce the discharge of waste gas, wastewater and waste • Work with suppliers to create a sustainable green supply chain	4.1 Environmental Management System 4.6 Environmental Impact Factors Management 6.1 Supplier Management 6.2 Sustainable Procurement
	• Identify and manage greenhouse gas liabilities, assets and risks in compliance with international standards • Develop mechanisms for the quantification, management and reporting of greenhouse gas emissions • Include sustainable development factors in supplier assessment criteria	4.2 Greenhouse Gas Management 6.2 Sustainable Procurement

SDGs Index

SDGs	Response from TP-Link	Corresponding chapters and sections
	• Global industrial layout, with business in more than 170 countries and regions worldwide • Achieve global recognition by virtue of excellent products, technologies and services • Optimize the corporate governance system and improve the corporate governance • Manage and control operational risks through "risk control front" • Abide by business ethics and maintain a fair competitive market value system • Improve the anti-fraud management and strengthen supplier integrity and anti-corruption publicity	2.1 Enterprise Profile 2.5 Honors, Recognitions, and Qualifications 3.1 Governance Structure 3.2 Governance Structure 3.3 Risk Management 3.4 Business Ethics 10 Indicator Index
	• Join international organizations such as Wireless LAN Alliance and strengthen international cooperation in cutting-edge technologies • Maintain effective communication with stakeholders and improve sustainable development governance • Address the globalization and diversification, and work with partners to maintain business continuity • Integrate sustainable development into the establishment of quality system, create customer value and contribute to the society	2.4 Participations in Organizations and Initiatives 3.2 Sustainable Governance 3.6 Business Continuity 5.2 Quality Management 5.4 Protection of Customer Rights and Interests 10 Indicator Index

Third-Party Authentication Report



SGS ASSURANCE STATEMENT

SGS SGS-CSTC'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE TP-LINK CORPORATION LIMITED'S SUSTAINABILITY REPORT FOR 2022

NATURE OF THE ASSURANCE/VERIFICATION
SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD. (hereinafter referred to as SGS) was commissioned by TP-Link Corporation Limited (hereinafter referred to as TP-Link) to conduct an independent assurance of the Chinese version of TP-Link's 2022 Sustainability Report (hereinafter referred to as the Report).

INTENDED USERS OF THIS ASSURANCE STATEMENT
This Assurance Statement is provided with the intention of informing all TP-Link's Stakeholders.

RESPONSIBILITIES
TP-Link's Sustainability Committee is responsible for the information contained in the Report. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all TP-Link's stakeholders.

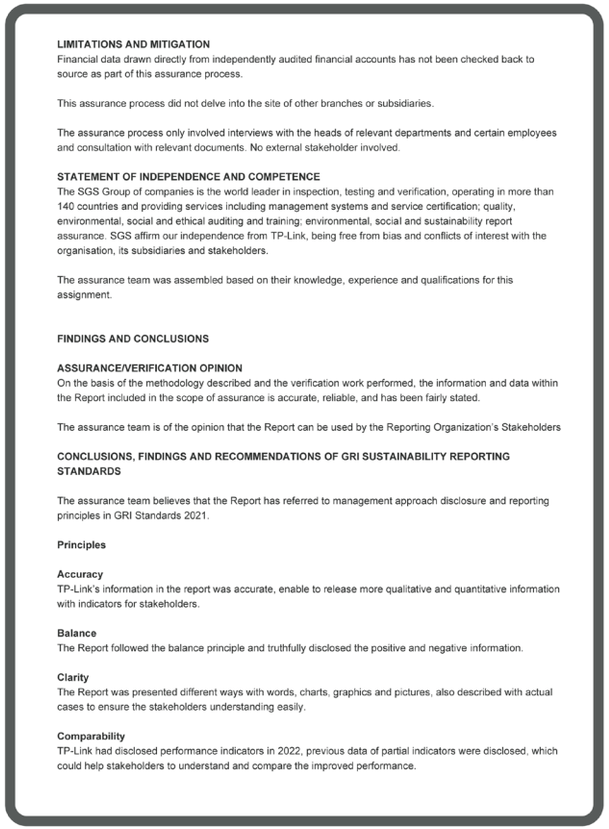
ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE
The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognised assurance guidance and standards including the principles and reporting processes contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) GRI 1: Foundation 2021 for report quality, GRI 2: General Disclosure 2021 for organisation's reporting practices and other organizational detail, GRI 3 2021 for organisation's process of determining material topics, its list of material topics and how to manage each topic, and the guidance on levels of assurance contained within the AA1000 series of standards.

The assurance of this report has been conducted according to the following Assurance Standards:
- SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)

Assurance has been conducted at a moderate level of scrutiny.

SCOPE OF ASSURANCE AND REPORTING CRITERIA
The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below and evaluation of adherence to the following reporting criteria:
- GRI Standards 2021 (Reference)

ASSURANCE METHODOLOGY
The assurance comprised a combination of pre-assurance research, interviews with relevant employees onsite at the office building of TP-Link International Shenzhen CO. Ltd, No.198, Kelian Road, Guangming District,Shenzhen City,Guangdong Province, P.R.China; documentation and record review and validation with external bodies and/or stakeholders where relevant



LIMITATIONS AND MITIGATION
Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

This assurance process did not delve into the site of other branches or subsidiaries.

The assurance process only involved interviews with the heads of relevant departments and certain employees and consultation with relevant documents. No external stakeholder involved.

STATEMENT OF INDEPENDENCE AND COMPETENCE
The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from TP-Link, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment.

FINDINGS AND CONCLUSIONS

ASSURANCE/VERIFICATION OPINION
On the basis of the methodology described and the verification work performed, the information and data within the Report included in the scope of assurance is accurate, reliable, and has been fairly stated.

The assurance team is of the opinion that the Report can be used by the Reporting Organization's Stakeholders

CONCLUSIONS, FINDINGS AND RECOMMENDATIONS OF GRI SUSTAINABILITY REPORTING STANDARDS

The assurance team believes that the Report has referred to management approach disclosure and reporting principles in GRI Standards 2021.

Principles

Accuracy
TP-Link's information in the report was accurate, enable to release more qualitative and quantitative information with indicators for stakeholders.

Balance
The Report followed the balance principle and truthfully disclosed the positive and negative information.

Clarity
The Report was presented different ways with words, charts, graphics and pictures, also described with actual cases to ensure the stakeholders understanding easily.

Comparability
TP-Link had disclosed performance indicators in 2022, previous data of partial indicators were disclosed, which could help stakeholders to understand and compare the improved performance.

Completeness
The Report included coverage of material aspects and boundaries, to reflect significant economic, environmental, social and governance impacts and enable stakeholders to assess the organization's performance in the reporting period.

Sustainability Context
TP-Link had presented the efforts on sustainability development related to economic, environmental, social and governance aspects and combined the performance in the wide context as well.

Timeliness
The Report is the first sustainability report disclosed by TP-Link, and the future sustainability report is scheduled to be disclosed annually. Verifacation shown that the reported data and information were timely and effective in the reporting period.

Verifiability
The data and information can be traced and verified.

Management Approach
The Report had disclosed the management approach of identified material topics.

General Disclosures
The general disclosures were partly presented in accordance with GRI 2: general disclosures 2021.

Topic-Specific Disclosures
TP-Link's topic-specific disclosures related to the material topics in economic, environmental, social and governance areas were in accordance with GRI Standards.

Findings and recommendations
Good practices and recommendations for sustainability report and management process were described in the internal management report which has been submitted to the management of TP-Link for continuous improvement.

Signed:

For and on behalf of SGS-CSTC

David Xin
Sr. Director – Knowledge
16/F Century Yuhui Mansion, No. 73, Fucheng Road, Beijing, P.R. China

Apr. 21, 2023
WWW.SGS.COM