



China Telecom Corporation Limited

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Create a
Better Future with
Digital Technologies

Corporate Social Responsibility
Report 2022

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CHAIRMAN'S STATEMENT



Ke Ruiwen
Chairman and Chief Executive Officer

In 2022, a new round of technological revolution and industrial transformation has experienced in-depth development, and digital development has swept the world. The 20th National Congress of the Communist Party of China (the “CPC”) has drawn up a grand blueprint for building a modern socialist country in an all-round way and promoting the great rejuvenation of the Chinese nation in an all-round way with Chinese-style modernisation. China Telecom has assumed the responsibility of a central enterprise, comprehensively implemented the “Cloudification and Digital Transformation” strategy, strengthened reform, opened up and innovated, promoted the high-quality development of the Company, empowered the digital transformation of the economy and society, and injected new impetus for sustainable development.

Taking responsibility through digital empowerment. The Company has continued to consolidate the digital foundation and accelerate the construction of the intelligent integrated digital information infrastructure with cloud-network integration as its core feature. We have implemented the national project of "East-to-West Computing Resource Transfer", continued to optimise the layout of the ubiquitous computing infrastructure, with the total scale of computing power reaching 3.8EFLOPS, representing an increase of 81% year-on-year. We have fully built the world's first co-built and co-shared superior 5G SA network with the largest scale and fastest network speed, activated 1 million 5G co-shared base stations, and our Gigabit fibre network covered more than 250 million households. The Company has empowered the digital transformation of the economy and society by creating industry applications in key areas such as 5G + smart manufacturing, smart agriculture and smart healthcare, and launching various scene-based applications such as digital home and smart community. The Company has promoted the building of digital government with government administration cloud as the core to create a social governance platform and promote the enhancement of regional governance capabilities. We have achieved industry-leading overall satisfaction throughout the year by strengthening intelligent service capabilities and promoting customer-oriented mechanism construction and process reform.

Adding impetus through innovative development. The Company insists on sci-tech self-reliance and self-improvement, enhances the sci-tech innovation system, consolidates the foundation of sci-tech talents team, and strives for breakthroughs in key core technologies of digitalisation. The Company's China Telecom Cloud 4.0 computing power distribution network platform, "Xirang", was selected as one of the "2022 Top 10 Super Projects of Central Enterprises". The Company led the establishment of the World Broadband Association (WBBA) to build an international cooperation and exchange platform for cloud-network technology innovation. The Company has comprehensively deepened system and mechanism reform aiming at meeting the digital needs of customers. We have continued to promote organisation and mechanism reforms in areas of government and enterprise service, sci-tech innovation, and professional companies to adapt to digital transformation, continuously enhance market-oriented operation mechanisms, and further release vitality in operation and development. The Company has continued to enhance its corporate governance, regulate its corporate operations and promote improvements of corporate governance systems of its subsidiaries. We have enhanced the vitality of operation and development and ensured that corporate operations are in line with the long-term interests of the Company and all shareholders.

Achieving sustainability through green and security development. The Company has been actively addressing climate change and implementing the "1248" dual-carbon action plan in conjunction with the national "dual-carbon" goal. We promoted low-carbon corporate operations and built the first "zero-carbon datacentre" in Qinghai with PUE below 1.2. We have reduced greenhouse gas emissions by more than 13 million tons through co-building and co-sharing as well as various energy-saving initiatives, with a 20.6% year-on-year reduction in greenhouse gas emissions per unit of information flow. We have empowered economic and social green development, created a low-carbon digital platform, and provided customers with new solutions for energy saving and carbon reduction, ecological protection, etc. We have enhanced the network and information security work mechanism, optimised the integrated security capability system of cloud, network, edge and terminal, and launched security products and services to meet customer needs in the digital environment. We have provided communications assurance for earthquake rescue and disaster relief in Luding, Sichuan and other areas, and successfully provided communications assurance for the 20th CPC National Congress, the Beijing Winter Olympics and other major events. We have promoted supply chain compliance, strengthened supplier management and safeguarded the safety of the supply chain. We have strengthened compliance and risk management, and enhanced management of work safety. We have continued to promote integrity building and anti-corruption, financial and audit supervision, and have taken multiple measures to prevent and resolve major risks.



Chairman's Statement

Building harmony through openness and inclusiveness. The Company cares for employees, protects their rights and interests, cares for their lives, and helps them grow, and the general staff's sense of gain, well-being, security has been enhanced. The Company has been serving rural revitalisation and orderly promoting targeted assistance and industry support to bridge the digital divide. We have promoted universal service, provided diversified products and services truly suitable for the elderly, so that different people can share the fruits of digital development. The Company has been actively carrying out social welfare activities and helping the underprivileged. 96 "Caring Stations" have been awarded the title of "Most Beautiful Trade Union Outdoor Worker Service Station" by the All-China Federation of Trade Unions. The Company insists on open and cooperation, and works with the industry and industry chain partners to build an ecology of national cloud and prosper the digital technology ecology to build a community of shared interests. The Company has been involved in building digital information infrastructure in countries along the "Belt and Road" to promote global network inter-connection and inter-communications and support local community development.

In the new era and on the new journey, China Telecom will firmly fulfil its missions and responsibilities in building Cyberpower and Digital China as well as maintaining network and information security, seize new opportunities arising from digital development, comprehensively and deeply implement the "Cloudification and Digital Transformation" strategy, accelerate the construction of a world-class enterprise, and make new and greater contributions to the sustainable economic and social development.





ABOUT CHINA TELECOM



Company Profile and Company Strategy

COMPANY PROFILE

China Telecom Corporation Limited (“China Telecom” or “the Company”) is a leading and large-scale full-service integrated intelligent information service operator in the world, whose principal business is the provision of fundamental telecommunications businesses such as wireline and mobile communications services, as well as value-added telecommunications services such as Internet access services, information services and other related businesses. The Company’s A Shares and H Shares are listed on the Shanghai Stock Exchange and the Main Board of The Stock Exchange of Hong Kong Limited respectively.

The Company actively embraces the opportunities of digital transformation by cultivating customer needs and use cases, fully implementing the “Cloudification and Digital Transformation” strategy, building new information infrastructure based on cloud-network integration, operation support system and sci-tech innovation core strength with 5G and cloud as the core, deepening system and mechanism reform, and creating differentiated advantages through innovation and convergence. China Telecom is committed to providing flexible and diversified, converged and convenient, secure and reliable integrated intelligent information services with quality experience for individual (To C), household (To H), and government/enterprise (To B/G) customers.

COMPANY STRATEGY

Adhering to the mission and vision of “as the main force for building Cyberpower, Digital China and maintaining network and information security” and “becoming a leading integrated intelligent information service operator”, China Telecom comprehensively and thoroughly implements the “Cloudification and Digital Transformation” strategy. With a customer-oriented mindset, China Telecom strengthens the core capabilities of sci-tech innovation, speeds up the construction of new information infrastructure based on cloud-network integration, greenness and security. It consolidates the foundation of green development and network and information security, builds a digitalised platform hub, creates a win-win cooperation ecology, deepens the system and mechanism reform, accelerates development with higher quality, promotes sci-tech innovation to a higher level, deepens the reform more comprehensively, steps up efforts on open cooperation, places more emphasis on risk prevention and works together in more practical ways, makes every effort to build a service-oriented, technology-oriented and secured enterprise and earnestly enhances the enterprise’s core competitiveness, to accelerate to become a world-class enterprise.





KE RUIWEN

Executive Director, Chairman and Chief Executive Officer



SHAO GUANGLU

Executive Director, President and Chief Operating Officer



LIU GUIQING

Executive Director and Executive Vice President



TANG KE

Executive Director and Executive Vice President



XIA BING

Executive Director and Executive Vice President



LI YINGHUI

Executive Director, Executive Vice President, Chief Financial Officer and Secretary of the Board

THE STATEMENT OF THE BOARD OF DIRECTORS



Adhering to the principles of sustainable development, service strategy, complete integration and harmonic co-creation, the Board of Directors (the “Board”) of the Company is responsible for formulating the Company’s environmental, social and governance (ESG) management policies and strategies including evaluating, prioritising and managing the Company’s ESG-related matters, to ensure that the Company has established an effective ESG risk management and internal control system. The Board oversees ESG matters with the assistance of the Audit Committee. The Company has established a dedicated internal working group and authorised the working group to be responsible for the implementation of the Company’s ESG strategies. The working group regularly reports to the Audit Committee on the ESG material topics, revision on indicator system, negative indicators management and other aspects of the Company, and makes recommendations in this regard. By regularly listening to the Company’s reports on ESG-related work, reviewing the Company’s performance, providing the management and internal working group relevant optimisation opinions, and reviewing the disclosures in the Company’s ESG report, the Board and the Audit Committee ensure the continuous enhancement of the Company’s performance in ESG aspects.

The Board of the Company has participated in the evaluation, prioritisation and management of ESG-related matters, including risks of the Company’s business. During the reporting period, the Board reviewed the Company’s original ESG indicator system and the level of completion of key performance indicators, considered the working group’s suggestions on the adjustment and optimisation of various original indicators in accordance with relevant requirements of the Listing Rules of the Hong Kong Stock Exchange, and finally approved the 2022 version of the ESG indicator system and the disclosure plan of key performance indicators. The Board attaches great importance to risk management and has incorporated key ESG risks into the Company’s comprehensive risk management system. The Company regularly keeps track of negative indicators and leverages risk assessment, risk process management and control, and response to risk incidents to promote comprehensive risk management and control covering all processes and all employees. The Board has reviewed various negative indicators, noted relevant management measures adopted by the Company and made recommendations on the effectiveness of the management measures.

With reference to United Nations Sustainable Development Goals (SDGs) and the Global Reporting Initiative (GRI) Standards, the Company has evaluated important ESG issues related to the Company’s business operations from two dimensions, i.e. the degree of concern of stakeholders and the degree of impact of such issues on the Company’s business operations based on the characteristics of the telecommunications industry, selected material topics and set ESG-related goals relevant to business operations. The Board has reviewed and discussed the material topics and ESG-related goals, and provided disclosure recommendations.

This Corporate Social Responsibility (CSR) Report has strictly complied with relevant requirements of the ESG Reporting Guide set out in Appendix 27 to the Listing Rules of the Hong Kong Stock Exchange. Please refer to the index of this report for the compliance of the relevant reporting guide.

This report has been reviewed and approved for publication by the Board.





SOCIAL RESPONSIBILITY MANAGEMENT

The Board of Directors of China Telecom attaches great importance to the supervision and control over the work on Environmental, Social and Governance (ESG), supervises ESG issues with the assistance of the Audit Committee, and is responsible for developing ESG-related policies and strategies, including evaluating, prioritising and managing ESG-related matters to ensure that effective ESG risk management and internal control systems are in place. The Board and the Audit Committee also regularly receive briefings from the Company on ESG issues, conduct performance review on the Company, provide advice and instructions to the management and relevant departments on optimisation and review and approve the disclosures in ESG reports to ensure the Company's performance in fulfilling responsibility is continuously improving. We reported the work plan to the Board during the preparation stage of this report and also reported to the Board upon the finalisation of this report. This report was reviewed and approved by the Board.

RESPONSIBILITY PERFORMANCE FRAMEWORK

Adhering to the concept of “Create a Better Future with Digital Technologies”, China Telecom is actively building a service-oriented, technology-oriented and secured enterprise, serving the people and empowering thousands of industries with sci-tech innovation as the core. We work together with our partners to enhance complementary strengths, build an open and win-win ecology, make the world greener, more secure and more inclusive, and contribute to the sustainable development of the economy, society and environment.

We make efforts on 4 areas, namely taking responsibility through digital empowerment, adding impetus through innovative development, achieving sustainability through green and security development, and building harmony through openness and inclusiveness.

We fulfil 6 responsibilities, i.e. our inherent corporate responsibilities, as well as our responsibilities towards shareholders, customers, employees, the environment and social welfare.



MANAGEMENT SYSTEM

China Telecom establishes an ESG working group which is managed by senior management, while our Corporate Strategy Department is responsible for coordinating relevant departments in the headquarters, provincial branches, professional companies and units directly under the headquarters participating in ESG related work. ESG working group is authorised by the Board to be responsible for implementing the Company's ESG strategies, promoting ESG performance management and information disclosure and relevant fundamental work. The working group regularly reports to the Audit Committee on the revision of the ESG indicator system, ESG information collection and monitoring, and makes recommendations in these regards.



The Company established its own system of ESG indicators, set up the information statistics system for ESG performance, refined procedures on ESG data's collection, review and application, prepared the disclosure plan for key performance indicators, and regulated the disclosure of detailed information on responsibility performance. During the reporting period, the Board regularly tracked the progress of work, listened to the reports on ESG issues, suggestions on the disclosure of key indicators, amendments to the indicator system, and the level of completion of key performance, etc., reviewed the performance of the Company, considered the working group's suggestions on the adjustment of various original indicators, and finally approved the 2022 version of the ESG indicator system and the disclosure plan of key performance indicators.

Social Responsibility Management

COMMUNICATIONS WITH STAKEHOLDERS

China Telecom promotes communications with its investors, customers, employees, government and regulatory authorities, communities and other stakeholders through various channels including announcements, reports, meetings, seminars, visits, service hotlines, questionnaires and events. The Company earnestly listens to the expectations and needs of the stakeholders, sorts out the opinions and suggestions from all parties and actively responds to the concerns raised.

The Company's management has been actively attending results announcement conferences. We provide important information to the capital market and media, respond to investors' concerns and promote stakeholders' understanding of our business and the overall development of the industry through various forms of activities such as analyst meetings, press conferences, global investor conference calls and investor roadshows.

The Company has been actively using diversified channels to improve daily communications with its stakeholders. The Company has provided a dedicated service hotline of investor relations and an investor relations section on the official website to facilitate daily communications and interaction between stakeholders and the Company. At the same time, we have launched a public investor relations WeChat account, so that followers can obtain the latest news of the Company in a timely and convenient manner through the social platform.

STAKEHOLDERS' EXPECTATIONS ON THE COMPANY AND OUR RESPONSE

Stakeholders	Communications Mechanism and Methods	Expectations on China Telecom	Our Response
Investors	<ul style="list-style-type: none"> • Statements and announcements • Visits • Daily communications • Investor conferences 	<ul style="list-style-type: none"> • Asset value retention and appreciation • Regulating corporate governance • Operational risk prevention • Regulating information disclosure 	<ul style="list-style-type: none"> • Operate steadily and continue to create value for shareholders • Enhance corporate governance level and continuously enhance internal control system • Protect the rights of investors, especially small and medium investors, in accordance with laws • Strictly comply with the disclosure requirements of corporate information
Customers	<ul style="list-style-type: none"> • Customer service hotline • Customer manager's visits • Customer surveys • Customer communications activities 	<ul style="list-style-type: none"> • Suitable and good business products • Enhancement of service quality • Tariff reduction • Harmful information prevention • Personal privacy protection 	<ul style="list-style-type: none"> • Promote business and products innovation • Promote transparent consumption • Set reasonable and preferential tariff • Regulate value-added service cooperation management • Protect customer information in accordance with laws
Employees	<ul style="list-style-type: none"> • Employee representative congress • Employee-management conversations • Employee opinion surveys • Complaints and grievances 	<ul style="list-style-type: none"> • Legal rights protection • Realisation of professional development • Management participation • Caring for employees 	<ul style="list-style-type: none"> • Regulate labour management • Optimise income distribution and welfare protection mechanism • Reinforce employee training and enhance career development • Count on the function of employee representative congress • Enhance work conditions

Social Responsibility Management

Stakeholders	Communications Mechanism and Methods	Expectations on China Telecom	Our Response
Government and Regulatory Authorities	<ul style="list-style-type: none"> • Meetings • Statements or reports • Briefings and visits 	<ul style="list-style-type: none"> • Compliance with laws and regulations • Government management requirement implementation • Facilitation of industry development • Promotion of employment 	<ul style="list-style-type: none"> • Govern the Company in accordance with laws, and operate with integrity • Pay taxes in accordance with laws, and foster employment opportunities • Innovate informatisation products and services, promote high-quality economic development • Actively provide advice and suggestions
Supply Chain	<ul style="list-style-type: none"> • Business communications • Business trainings • Seminars or forums 	<ul style="list-style-type: none"> • Equal and mutually beneficial cooperation • Co-creation of value • Promotion of industry development 	<ul style="list-style-type: none"> • Cooperate with integrity, create mutual benefit and achieve win-win • Actively create an industrial ecosphere and promote industry development
Peers	<ul style="list-style-type: none"> • Forums or conferences • Dispute coordination and resolution • Special topic working groups • Visits 	<ul style="list-style-type: none"> • Lawful and fair competition • Reinforce communications and cooperation, promote healthy development of the industry 	<ul style="list-style-type: none"> • Actively communicate and exchange experience • Promote inter-connection and inter-communications • Actively engage in co-building and co-sharing
Community	<ul style="list-style-type: none"> • Community communications activities • Community co-building activities • Social welfare activities 	<ul style="list-style-type: none"> • Environment protection • Telecommunications universal services • Emergency communications assurance • Assisting vulnerable groups 	<ul style="list-style-type: none"> • Implement energy conservation and carbon reduction as well as environmental protection measures • Actively promote universal services • Maintain smooth communications • Promote poverty alleviation and help the disabled and people in need

ANALYSIS OF MATERIAL ISSUES

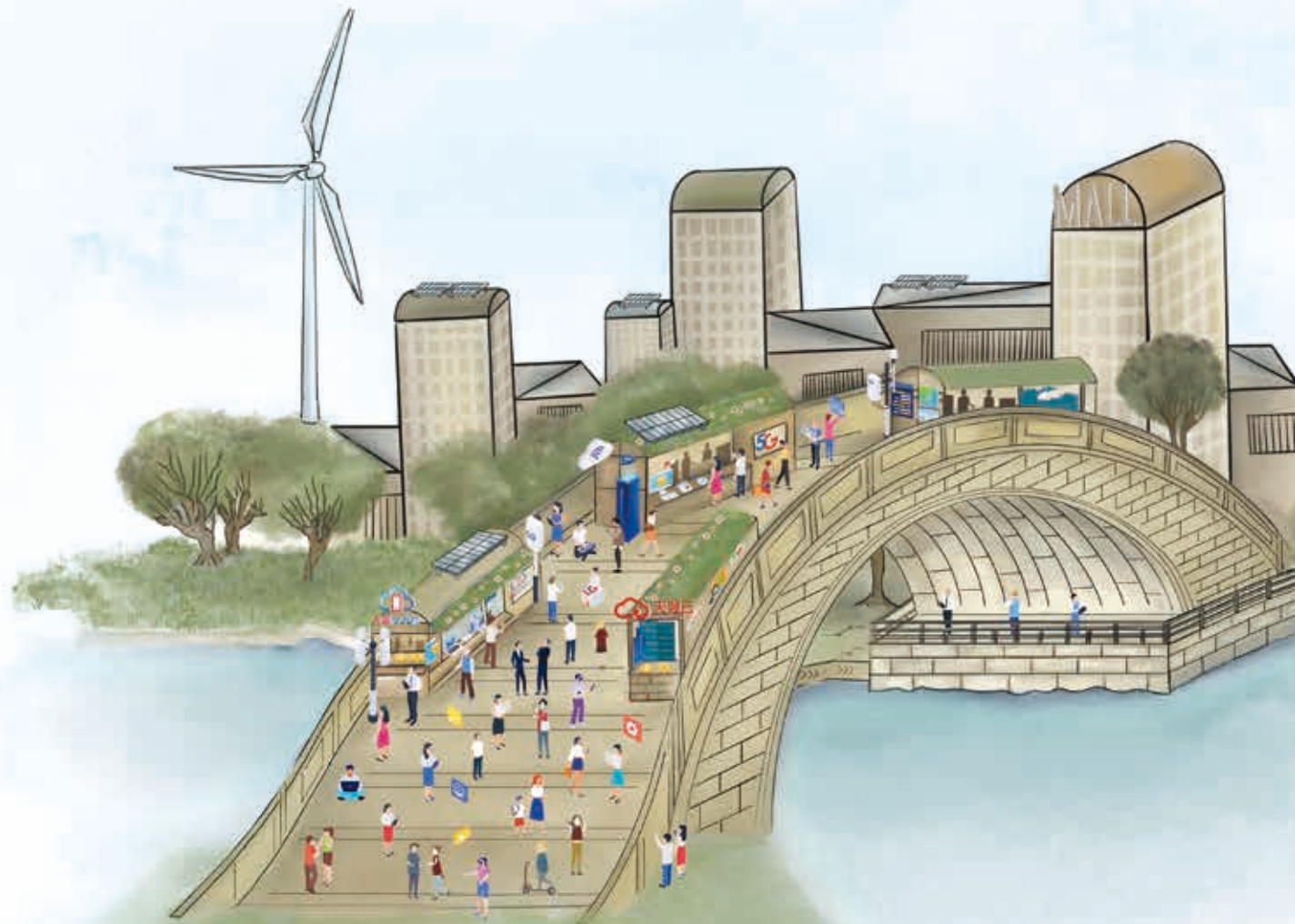
In accordance with the ESG subject areas contained in the *Environmental, Social and Governance Reporting Guide* as set out in Appendix 27 to the Listing Rules of the Hong Kong Stock Exchange, with reference to the United Nations SDGs and the GRI Standards, while taking into consideration the expectations and needs of stakeholders based on the characteristics of our business and the industry as well as the impact of our business operations on the economy, environment and society, China Telecom assesses ESG issues that are relevant and material to the Company’s business operations from the dual perspectives of its importance to stakeholders and its impact on the Company’s business operations, and selects 22 issues and establishes a materiality matrix (see below) as the basis for this report’s disclosure.



TAKING RESPONSIBILITY THROUGH DIGITAL EMPOWERMENT



TAKING RESPONSIBILITY THROUGH DIGITAL EMPOWERMENT



China Telecom is committed to fulfilling its missions and responsibilities in building Cyberpower and Digital China while maintaining network and information security. Adhering to the customer-oriented approach, the Company endeavors to develop intelligent integrated digital information infrastructure with cloud-network integration as the core feature, to promote the deep integration of digital technologies and the real economy, and thus to provide China with new momentum for economic development and livelihood assurance.

Taking Responsibility through Digital Empowerment

CONSOLIDATING DIGITAL FOUNDATION

China Telecom further reinforces the development of cloud-network integration 3.0, focuses on support for industrial digitalisation development and accelerates the construction of the intelligent integrated digital information infrastructure with cloud-network integration as the core feature.

Developing ubiquitous computing power

The Company consistently implemented the national project of “East-to-West Computing Resource Transfer”, continued to optimise the “2(2)+4+31+X+O” ubiquitous computing power infrastructure layout and built a four-level intelligent computing power system, pursuant to which, 1.7EFLOPS of computing power was increased for the China Telecom Cloud, with the total scale of computing power reaching 3.8EFLOPS, representing an increase of 81% over the previous year.

In terms of computing power infrastructure, the Company has built a new generation of cloud foundation, China Telecom Cloud 4.0, which supports large scale and multiple availability zones (AZs) in central nodes of regions of Beijing-Tianjin-Hebei, Yangtze River Delta, Guangdong-Hong Kong-Macau and Chengdu-Chongqing, providing users with highly available cloud services. The Company built “One-City-One-Pool” nodes in 241 cities, providing customers with better distributed cloud service featuring data localisation and ultra-low latency. It strengthened the construction of industry-dedicated cloud and customers’ private cloud capabilities to create a secured and reliable cloud foundation for digital transformation of numerous walks of life. More than 700 IDC sites, 800 edge DCs and 36,000 integrated access offices have been built across the country, forming a “centre + edge” integrated layout of datacentres. The total number of IDC cabinets reached 513,000, with an increase of 45,000 during the year, maintaining the industry-leading position in terms of scale.



Taking Responsibility through Digital Empowerment



[Lingang Information Park – Building a new highland of the global network hub]

The Lingang Information Park is a key project for China Telecom to implement the national projects of building new information infrastructure and the “East-to-West Computing Resource Transfer”, and is also an important node to support Shanghai to become a global digital highland. Relying on China Telecom’s cloud-network integration capabilities, the Lingang Information Park capitalises on cloud, AI, Big Data and IoT technologies to build a smart site with “digital and intelligent management” and create a green, low-carbon, smart and open high-quality information park.



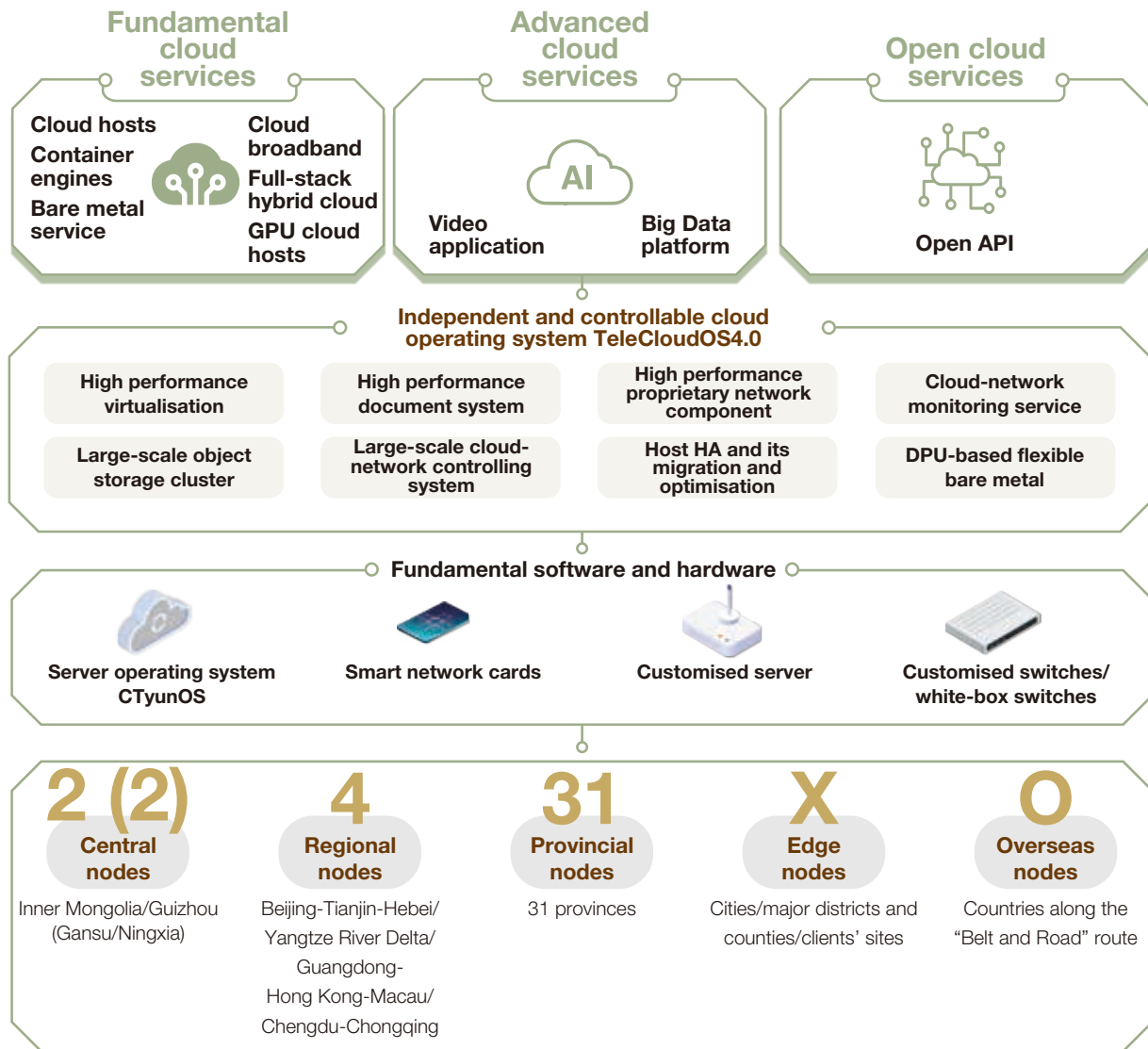
[Successful topping-off of the Qingyang cloud computing big data centre, a hub node in Gansu under the national integrated big data centre project]

On 24 November 2022, the topping-off of civil construction of Qingyang cloud computing big data centre, a hub node in Gansu under the national integrated big data centre project, was successfully completed. The total planning site of the project is about 200 mu, with a planned GFA of 400,000 square metres, providing a total capacity of approximately 40,000 cabinets. In particular, this phase of the project covers an area of 14 mu with a GFA of 17,400 square metres, which will be able to provide a capacity of about 2,000 8kW cabinets.

In terms of cloud capabilities, the Company achieved breakthroughs in a series of key core technologies such as cloud operating system and distributed databases, and independently developed the TeleCloudOS4.0, with integrated cloud foundation, distributed cloud capabilities and trusted cloud platform as core, to form full-stack cloud product capabilities. Zijin DPU (Data Processing Unit) realised breakthroughs in the network and storage offload acceleration technology to significantly improve computing power and efficiency. The Company also successfully achieved breakthroughs in key technologies of cloud terminal, enabling the provision of full-chain localisation and IT innovative application related solutions. In Shanghai and Sichuan, the Company pioneered in achieving the trial commercialisation of the 5G Core three-layer decoupled network based on proprietary virtualisation, promoting network cloudification continuously, and creating a benchmark for innovation in the industry. The Company deepened the construction of the new generation cloud-network operating system, promoted the integrated and intelligent channelling of cloud-network and realised cloud-led network resource allocation and cloud-led network channelling, providing customers with intelligent and agile cloud-network integration service capabilities.



Taking Responsibility through Digital Empowerment



[Consolidating the computing power foundation of China Telecom Cloud]

Guizhou branch and China Telecom Cloud joined hands to build the "2+9+X" cloud datacentre infrastructure in Guizhou, equipping the China Telecom Cloud Guizhou resource pool with 1.5 million core of computing power resource that are available for channelling and nearly 1,600PB of storage. Gui'an Information Park has made deployment in 23 core cities across the country with direct connection circuits, providing users in the eastern China with secure, high-speed and convenient network interconnection channel.



Reinforcing the network foundation

The Company accelerates the construction of dual-Gigabit networks. In terms of mobile network, the Company completed the construction of the world's first co-built and co-shared superior 5G SA network with the largest scale and fastest network speed. The number of activated 5G co-shared base stations reached 1 million. The Company realised technological breakthroughs in multi-frequency coordination involving high, medium and low frequencies. It has basically achieved contiguous outdoor coverage in developed townships and above, hotspot coverage in high-traffic administrative villages, and deep indoor coverage in medium and high business scenes, providing application demonstration for the global 5G SA deployment. In terms of broadband network, the Company completed the construction of the world's largest Gigabit fibre network with 2,500,000 newly-built 10G PON ports, and the Gigabit fibre network covers more than 250 million households, effectively supporting the development of Gigabit services in thousands of cities.

The Company accelerated the upgrade of all-fibre network. The Company operated ChinaNet, the world's leading broadband Internet, and completed a new plane for the superior CN2 carrying networks with a 23% latency reduction on average. It has built a domestic optical cable backbone network with a total length of over 330,000 cable kilometres, and developed the world's largest, converged all-fibre ROADM network. Besides, it completed the construction of the first full G.654E landline optical backbone cable in China connecting Shanghai and Guangzhou, acted as the pioneer in China to complete the experiment of the ultra-long distance WDM transmission system at the speed of 400Gb/s, realised powerless relay transmission of over 1,900 kilometres and built a nationwide superior OTN network for government and enterprise customers.



[Accelerating the construction of direct fibre optic cable for the “East-to-West Computing Resource Transfer” project]

Our regional branches in Guizhou, Guangxi and Guangdong provinces cooperated to speed up the construction of direct fibre optic cable from the Guizhou node (the national computing hub) to the node in the Guangdong-Hong Kong-Macau, using the new G.654E fibre optic cable throughout the entire route to meet the demand for low latency, high capacity and high reliability cloud-network connection between the nodes under the “East-to-West Computing Resource Transfer” project and to support the high-quality development of the digital economy.



[Completing full 5G coverage in newly built subway stations]

In December 2022, Shanghai branch completed the full network coverage for Metro Lines 14 and 18 in just over 20 days, applying dual-band 5G network for the first time, expanding 5G capacity and providing smooth network experience for users.



Taking Responsibility through Digital Empowerment



[Creating a city enjoying 5G VoNR ultra-high definition video calls]

Based on the full coverage of 5G signal, the Shenzhen branch pioneered in achieving full coverage of VoNR capability, which makes Shenzhen one of the first batch of cities to realise 5G VoNR (ultra-high definition video calls) by China Telecom. The ultra-high definition video calls through application of the 5G VoNR technology of the Company has various advantages, which include, among others, instant connection upon dialing, ultra-high definition without lagging, and no need to download and install software.

EMPOWERING DIGITAL ECONOMY

Focusing on major areas such as smart manufacturing, smart agriculture and smart healthcare, China Telecom accelerates platform development and data application, promotes the integration of 5G with cloud, AI, security and digital platforms, assists informatisation development with digitalisation, and promotes enterprises in conversion of the old and new dynamics and their industrial transformation and upgrading as well.

In 2022, the Company recorded more than 3,200 new 5G customised network projects, representing a year-on-year increase of over 150%, with the cumulative number of 5G customised network projects exceeding 4,800 and 5G DICT projects reaching 15,000. Based on the NICES1.0 product system for 5G customised network, with the 5G customised network operating platform and 5G capability magic cube as the core, the Company focused on new products and services such as network enhancement, end-to-end security, 5G terminals and applications-on-demand to build and enhance the NICES2.0 product system.

5G+smart manufacturing



[Developing a full 5G-connected smart factory]

Giving full play to the advantages of industrial Internet, Big Data, smart simulation and other technologies, Hubei branch worked together with Midea Group to build a full 5G-connected smart factory, which enables the factory to achieve an increase of 52% in labour productivity, a reduction of 25% in lead time, a reduction of 64% in quality defects and an increase of 11% in customer satisfaction. The full 5G-connected smart factory reflects the latest achievements in industry digital transformation and has been selected as one of the 8th batch of “Global Lighthouse Network” by the World Economic Forum in 2022.



Taking Responsibility through Digital Empowerment



[Empowering a smart textile factory]

By fully capitalising on its own technical advantages, Jinjiang branch helped Fujian Yongu Group to build a 5G+textile smart park. In 2022, the park set up a dedicated 5G network to fully realise intelligent supervision of textile machines in the workshop, automatic machine insert, closed-loop management of temperature and humidity in plants, intelligent management of production energy efficiency and other intelligent upgrades. The product pass rate increased to 97% and overall operating costs decreased by 15%.

5G+smart agriculture



[5G+cloud+AI enables paddy to talk]

China Telecom uses the Xinghe AI empowerment platform (星河AI赋能平台), the Tianshu 5G UAV platform (天枢5G无人机平台) and the China Telecom Cloud to facilitate standardised paddy production at the Taihe Farm in Nanjing, Jiangsu Province. Through AI deep learning, the Company continuously optimises the prediction model and identification algorithm of paddy at different growth stages, makes accurate analysis and provides feedback, and achieves intelligent link with the irrigation and drainage monitoring system in real time to understand the “words” of paddy. The yield of organic paddy per mu increased by 40%, the cost of cultivation decreased by about 50% and the income per mu increased by 50%.



[Building smart agriculture use cases]

Yunnan branch accelerated the construction of digital information infrastructure featuring cloud-network integration, continued to promote the development of Gigabit broadband network and 5G network in rural areas, and used information technologies such as cloud computing, Big Data and IoT to empower agricultural production through customised dedicated networks and high-speed 5G wireless network, thereby creating multiple smart agricultural use cases integrating production, operation management and services, providing functions such as real-time monitoring data, data of transaction, planting guidance, agricultural product management and smart equipment management, and providing powerful support for the modernisation of agriculture and rural areas.



Taking Responsibility through Digital Empowerment

5G+smart healthcare



[Building an integrated 5G+care platform for acute and critical illness]

China Telecom gave full play to its technology advantage in building “an integrated 5G+care platform for acute and critical illness”, pursuant to which, 5G technology is utilised to transmit patient information and vital signs in real time, realising that “information arrives ahead of the patient”. Moreover, video can be transmitted in real time from the ambulance, realising “hospitalisation upon getting on the ambulance” through remote command and consultation for medical treatment, which greatly shortens the response time for resuscitation. At present, the platform has linked the acute and critical care centre with six specialist centres, including chest pain, stroke, trauma, poisoning, neonatal and high-risk maternity, to achieve the whole process management of patients from call to treatment, inpatient to discharge.

5G+smart education



[5G interactive online teaching facilitating the balanced development of urban and rural education]

Shandong branch cooperated with the People’s Government of Zibo Municipality to develop “an interactive online teaching system”. Lively and interesting “online classes” were held simultaneously in the classrooms of primary schools in rural villages and the county townships, where famous teachers’ lessons can be shared among the children with no delay nor lag throughout the whole class, effectively promoting the balanced development of urban and rural education.



[5G dedicated networks empowering new smart education application]

Shaanxi branch, together with Xi’an Jiaotong University, made use of the pilot project of “5G+Smart Education” launched by the Ministry of Education and the Ministry of Industry and Information Technology to develop the networking solutions of 5G customised dedicated networks integrating wireline, wireless, IoT and 5G for the first time, and built new smart education application scenes featuring three-dimension, full-scenes and intelligence, so as to realise the target of sci-tech innovation in teaching, examination, evaluation and management and establishing demonstration application of smart education. Through integration of resources in “government, enterprises, academia, research and application”, the Company accelerated the transformation of sci-tech achievements, and promoted the establishment of an industry chain driven by convergence of education and 5G.



5G+smart culture and tourism



[Leveraging 5G+MEC+VR technologies to experience the culture of the Xia dynasty]

China Telecom used 5G+MEC, cloud and XR digital technologies to turn Luoyang Erlitou Archaeological Site Museum into the first 5G+MEC smart site museum in China, and guided the audience to "travel" through time and space to participate in the process of discovering, identifying, exploring and restoring cultural relics through multiple digital means such as immersive digital projection space, semi-landscaping three-dimensional digital theatres and radar interactive projection walls based on the 5G+4K ultra-high definition immersive VR digital technology.



[Developing a comprehensive culture and tourism service platform named "Enjoying a wonderful tour in Gansu with one mobile phone"]

Gansu Province is located on a prime section of the Silk Road, which preserves a large number of valuable caves and temples, Great Wall passes, buildings, monuments, ancient city relics and historical heritages. China Telecom offered assistance to the Department of Culture and Tourism of Gansu to build a comprehensive culture and tourism service platform named "Enjoying a wonderful tour in Gansu with one mobile phone", which utilised Big Data, cloud computing, XR and other emerging technologies to provide tourists with catering, accommodation, transportation, shopping and entertainment integrated services under the basic positioning of "premium tour guide, caring butler, cultural tutor, all-round shopping guide". The platform not only provided travel convenience for tourists, but also promoted the tourism development in Gansu.



Taking Responsibility through Digital Empowerment

SERVING DIGITAL SOCIETY

China Telecom adapts to the new trend of full integration of digital technology with social interactions and daily lives, and launched various scene-based digital services and applications to build a better digital life for the whole society.

Upgrading digital home

Relying on its cloud-network integration capabilities, the Company upgraded its digital home products system to meet the increasing needs of users for a better life and to benefit thousands of households and industries. Focusing on the three major needs, namely network connectivity, home security and convenient living, it provided users with home networking solutions with Gigabit high-speed, full-coverage, and scene-based whole-home WiFi, to effectively solve the problems of low speed, poor coverage and difficult networking. It created e-Surfing HD digital entertainment centre to provide a large-screen viewing experience with quality video, education and games contents. The Company conducted comprehensive upgrade in whole-home smart products and cloud storage products, and launched various smart household products and whole-home customised solutions focusing on scenes such as home security, elderly care, home appliance control and digital assets.



[Breakthrough was made in the scale development of household business]

The e-Surfing Housekeeper App, China Telecom's unified portal for digital home service, has over 130 million subscribers. The total number of whole-home WiFi subscribers exceeded 100 million, while the number of e-Surfing HD subscribers reached 140 million. The number of household ubiquitous smart terminal connections exceeded 300 million. The picture shows that on 27 April 2022, an employee of the Company and the 100 millionth registered user of e-Surfing Housekeeper App took a photo to commemorate the moment.



Constructing smart communities

Leveraging on the smart community platform, the Company provides video viewing, entrance management, property management fee payment, smart CPC development, convenient services and other informatisation applications for streets, communities, properties and residents, empowering the digital governance of grassroot-level governments while meeting the digital needs of residents. The number of serviced streets and communities exceeded 64,000.



[Building smart community bases]

Jiangsu branch actively promotes the construction of smart communities in the province and three smart community bases were built in Zhenjiang, Nanjing and Suzhou respectively, which effectively created a link among the government, properties and households, and strongly supported the development and operation of smart communities in the province. 9,000 communities have been contracted in the province in 2022, and 3,697 new standard smart communities have been served to meet the needs of the government, properties and residents for community informatisation.

Developing the e-Surfing Internet of Video Things (IoVT)

The Company makes active efforts in building the e-Surfing IoVT, the fifth network of the Company, based on the nationwide cloud-network integration resources foundation and with its capabilities in video access, storage and AI intelligent analysis to meet daily video viewing, video convergence, unified supervision and other basic needs of various customers. It also provides services such as face recognition, mask recognition, drowning prevention and monitoring to meet customers' personalised intelligent management needs.



[Promoting the development of e-Surfing IoVT]

Zhejiang branch has developed the "Sunshine Series" applications such as Kitchen Monitoring and Sunshine Factory, promoted applications for "rural areas and communities" such as cultural halls and garbage sorting, and developed over 10 standardised IoVT applications at the provincial level. An additional of 450,000 subscribers were secured in 2022.



SUPPORTING DIGITAL GOVERNMENT ADMINISTRATION

China Telecom strengthens data application, promotes the construction of digital government with government administration clouds as the core, participates in the construction of government administration clouds and digital platforms of various provinces and cities, and applies cloud, Big Data and AI technologies in areas such as government administration and urban management, further enhancing the market position of China Telecom Cloud in the government administration sector.



[Data products supermarket served Hainan Free Trade Port]

China Telecom actively cooperated with the People's Government of Hainan Province to build a data supermarket. Leveraging on its proprietary data trading platform, the Company carried out data product development and production, supply and demand matching, circulation and trading through the orderly opening of public data resources and integrating social data resources. Currently the supermarket accesses to over 100 billion pieces of government administration data and over 1 billion pieces of social data, with more than 800 data products available to serve the construction of the Hainan Free Trade Port.

The Company focuses on the nation's overall objective and requirement for social governance modernisation, deeply integrates the existing informatisation construction achievements around the country, widely shares and aggregates data and information from the government, society and the public, and builds a social governance platform that integrates "intelligent supervision, intelligent services, intelligence-assisted decision-making, public participation and governance on specific areas" to promote regional governance capability. Currently, the social governance platform covers 31 provinces and more than 240 municipalities across China, covering all levels of provinces, cities, counties, districts, townships and streets, and rural communities, assisting the building of a safe China and the rule of law in China.



[Big Data and AI intelligent analysis enables modernised social governance]

Quanzhou branch joined hands with the Nan'an Political and Legal Affairs Commission to build a social governance platform in Nan'an. Focusing on solving problems in grassroots-level social governance which included overlapping management, repeated construction, insufficient coordination between various departments, and weakly coordinated governance, the branch explored the operation models featuring "CPC development + grid", "online + offline", "human defence + technical defence" to develop a new grid-based grassroots-level social governance system in Nan'an.



PROVIDING HEARTFELT SERVICES TO CUSTOMERS

China Telecom adheres to the philosophy of “Customer First, Service Foremost” and strengthens service awareness to protect customers’ rights and interests in accordance with the law, enhances customer experience, and comprehensively fosters a brand image of “China Telecom is trustworthy”.

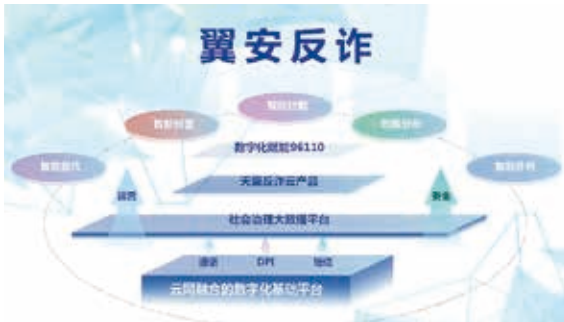
Protecting the rights and interests of customers

The Company conscientiously implements the relevant laws and regulations, such as the *Civil Code of the People’s Republic of China*, the *Law of the People’s Republic of China on Protection of Consumer Rights and Interests* and the *Advertising Law of the People’s Republic of China*, enhances the internal system relating to brand publicity such as the *Administrative Measures for China Telecom on Brand Publicity*, provides products and services in compliance with laws and regulations, regulates tariff management, continuously optimises the service registration displayed to customers, strengthens digital management capability, enhances the integrated review and approval procedure relating to the price of goods, and makes prompt response to market and customers demands. It also further strengthens the compliance management of advertising and publicity, regulates wording for publicity, and clearly stipulates that false publicity, exaggerated publicity, and comparative publicity are strictly prohibited, thus maintaining a good brand image.

The Company carries out integrated governance on communications fraud, harassing calls and spam text messages. During the year, the Company intercepted a total of 3.176 billion harassing calls and 2.85 billion spam text messages by continuously enhancing its technical prevention capabilities, strengthening control of communications resources for major businesses, and optimising the complaint handling process. The Company also promoted the application of e-Surfing Anti-Harassment, a harassment-call intercepting service that can be set up by individual users, with a user base of 270 million. Through measures such as the further enhancement of technical prevention capabilities and the strengthening of monitoring and treatment for major businesses, a total of 499 million messages suspicious of fraud were intercepted in the year. Besides, 5,982,100 domain names suspicious of fraud were blocked and 19,400 numbers involved were shut down. The integrated online and offline fraud-prevention campaigns carried out by the Company cumulatively covered 24 million person-times. In 2022, the Company’s phone numbers involved in frauds were the lowest in the industry, and the number of harassing calls and spam text messages reported continued to remain low in the industry.



Taking Responsibility through Digital Empowerment



["96110 e-Surfing Security Anti-fraud (96110翼安反诈)" service]

The "96110 e-Surfing Security Anti-fraud" service provides early warning and interception of fraudulent calls and messages, including daily intelligent promotion, precautionary alerts, fraudulent website interception and countermeasures, precautionary fraud message clue analysis, 96110 anti-fraud dissuasion cloud call-out. More than 8,000 models were introduced to identify fraudulent websites. The efficiently-centralised platform has provided services to 73 regions in 19 provinces.



[Digital capabilities enhance anti-fraud effectiveness]

Zhangzhou branch fully utilised cloud resources and Big Data technology to build the "Zhangzhou Anti-Fraud Big Data Platform", and enhanced the effectiveness of anti-fraud practice with multi-dimensional data models, automated processing processes, differential shutdown and restore and other digital means, assisting the municipal anti-fraud centre to enhance the ability of targeted combat and effectively curb the high incidence of telecom and Internet fraud offences. As at 31 December 2022, it participated in the early warning and dissuasion efforts for a total of 86,742 parties.



Enhancing customer experience

Adhering to the customer-oriented principle, the Company further promoted the “customer-centric” system development and procedure transformation. It continued to carry out “upgrade service satisfaction action” during the year, with a focus on the shortcomings in mobile and broadband services, and pushed forward the hot region rectification, poor digitalisation restoration, transparent consumption, and proactive services through the green channel mechanism. The Company proactively launched six “Good Service as You Wish” service initiatives, targeted at customers’ major rights and interests as well as their concerns, explored proactive solutions for customers, and promoted the transformation of service attitude from passive response to proactive provision. The 10009 hotline for government and enterprise customers was launched to support the rapid development of the new core businesses, while the customer hotline 10000 achieved continuous enhancement in terms of digital and intelligent service capabilities including efficiently-centralised operation, online business handling and cross-province handling. The Company’s leading advantage in customer service was hence consolidated, achieving a leading position in the overall customer satisfaction in 2022, with the lowest user complaint rate and the lowest complaint rate of mobile number portability.



[Digitalisation of China Telecom App]

In 2022, China Telecom App completed its brand upgrade, which enabled AI digital human verbal interaction and age-appropriate caring services. It also realised full online cross-provincial services handling, enabling users to handle broadband and other businesses for their parents in hometowns at far. It was granted the “APP Security Certification” issued by the China Cybersecurity Review Technology and Certification Centre (CCRC) to assure network and information security. The Company applied the “e-Surfing Connect (翼相連)” function from the innovative technology of P-RAN to realise inter-user connection, as well as sharing, access and relay of data traffic.



[Ensuring a high-quality Internet experience]

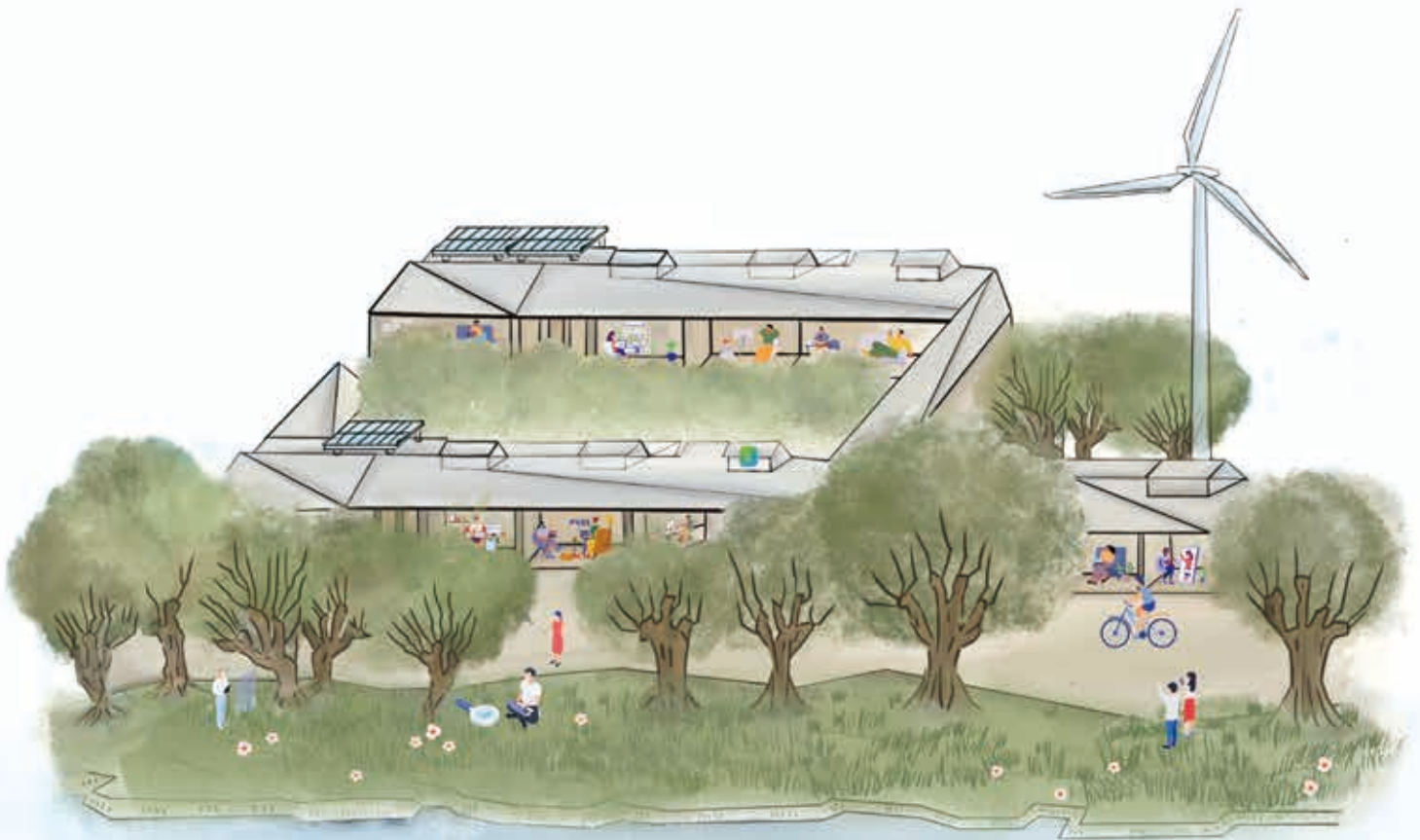
Based on the AI-backed intelligent troubleshooting capability, the Digital Life Company supported Hunan branch to carry out special action on rectifying poor quality, targeting at 10,000 users suffering from poor experience in Changsha, and the elimination rate of poor quality reached 95%, solving customers’ poor Internet experience problems and improving the same effectively.



ADDING IMPETUS THROUGH INNOVATIVE DEVELOPMENT



ADDING IMPETUS THROUGH INNOVATIVE DEVELOPMENT



China Telecom adheres to innovation-driven development, and takes sci-tech self-reliance and self-improvement as the strategic support for its development. With meeting the digital demands of customers as the core, it deepens reform and innovation and promotes the reform of organisation and mechanism to adapt to digital transformation. China Telecom keeps enhancing corporate governance and uplifting its corporate governance capability, injecting new impetus to its high quality development.

Adding Impetus through Innovative Development

SCI-TECH INNOVATION TO PROMOTE DEVELOPMENT

China Telecom attaches great importance to the key role of sci-tech innovation in promoting the high-quality development of economy, society and the Company. It focuses on four major research and development (R&D) directions, namely forward-looking research, cloud-network integration, network and information security and digitalised platform. China Telecom systematically promotes sci-tech innovation in aspects such as deepening system and mechanism reform, enhancing the construction of sci-tech talent team, exerting more efforts on achieving breakthroughs in core technologies and promoting cooperation on sci-tech research.

Enhancing sci-tech innovation system

The Company continues to enhance its sci-tech innovation system. It has fully completed the layout of R&D system based on fundamental research (Research, hereafter refers to R), application technology R&D (Development, hereafter refers to D) and operational development (Operation, hereafter refers to O), and developed an innovation system which deeply integrates industry, academia and research, so as to enhance its independent innovation capabilities constantly. During the year, the Company was awarded the title of “Enterprise with Outstanding Contribution to Sci-tech Innovation” by the State-owned Assets Supervision and Administration Commission (SASAC). In the field of R, China Telecom deployed key topics and pursued innovation on exploration projects with a focus on fundamental research and cutting-edge technologies; in the field of D, China Telecom built its internal R&D chain, and units which were in charge of the chain took the lead in integrating upstream and downstream resources to achieve breakthroughs in key core technologies with united efforts; in the field of O, China Telecom optimised the process of achievements transformation, put more efforts on the transformation of operation and development personnel, and promoted the scale application of achievements. China Telecom continuously optimised the structure of investment in R&D management, and enhanced the incentive mechanism for sci-tech research. It introduced top talents, and set up a nomination pool for chief experts, according to which 15 chief experts were appointed and re-appointed to lead key projects. A chief technical officer system was developed and more dedicated honours and awards for sci-tech innovation were introduced, to recognise individuals and teams who have achieved significant innovation results. China Telecom established a systematic sci-tech innovation organisation to create a good atmosphere for sci-tech innovation, and set examples to the promotion of sci-tech innovation. Under the leadership of China Telecom Science and Technology Association, 45 branches of China Telecom Science and Technology Association have been established. It successfully held the second Science and Technology Festival of China Telecom, owing to which the Company was selected as an Excellent Unit for Organising Activities in the National Science and Technology Day.



Sci-tech self-reliance and self-improvement

The Company strengthens the strategic supporting role of sci-tech innovation, leading to increasing influence in the industry. As one of the first origin units, the Company accelerated the construction of the source of original cloud computing technologies. China Telecom Cloud has achieved breakthroughs in key core technologies in the fields of cloud operating system, elastic computing, cloud storage, distributed database, CDN, etc. TeleCloudOS4.0 overcame open source restrictions, and “Xirang”, the computing power distribution network platform of China Telecom Cloud 4.0, was selected as one of the “2022 Top 10 Super Projects of Central Enterprises”. The Company constructed and launched “Hefei Quantum Metropolitan Network”, the largest quantum metropolitan network in the country. The number of proprietary achievements and small and micro achievements of employees reached 84 and around 1,500, respectively. Revenues from services including Intelligent Video Cloud, e-Surfing Webcam and CDN reached the level of RMB1,000 million, revenues from seven services including China Telecom Cloud Desktop and Cloud Dam reached the level of RMB500 million, and revenues from six services including Website Security Expert and e-Surfing Security Brain reached the level of RMB100 million. Seven achievements including the Intelligent Operating System for the co-building and co-sharing network were selected into the “Recommendation Catalogue for Sci-tech Innovation Achievements of Central Enterprises (2022)” by SASAC.

The Company has achieved breakthroughs in sci-tech awards, patents and international standards. The 5G technology patents of the Company won the Silver Award of China Patent Award for the first time. The Company was granted the second prize of National Standard Innovation Contribution Award in the encoding and decoding of machine vision. Achievements in all-fibre backbone network was selected as one of the “World Leading Internet Scientific and Technological Achievements”. In 2022, the number of domestic invention patents and PCT patent applications of the Company was 1.4 times and 2 times, respectively, over the same period last year. Currently, the Company has 55 employees holding important positions in the International Organisation for Standardisation and 4 serving as the vice-chairperson of ITU-T working groups.



[China Telecom took the lead in establishing the World Broadband Association (WBBA)]

With persistent efforts, the World Broadband Association (WBBA) was officially established, which strives to build an international cooperation and exchange platform in cloud-network technology innovation, thus enhancing international influence.

[China Telecom took the lead in developing 18 R17 technical specifications in the field of 3GPP RAN]

In June 2022, the 96th meeting of 3GPP RAN (wireless networks) announced the freezing of 3GPP R17 specifications, marking the official completion of the second evolving specifications of 5G. During the R17 specifications study and development cycle which lasted for 2 years and 3 months, the China Telecom Research Institute, on behalf of the Company, took the lead in developing 18 technical specifications including super uplink enhancement, network coverage enhancement, co-building and co-sharing evolution, networking of non-public networks and cancellation of system interference in 3GPP RAN area. It submitted over 1,000 technical proposals, which was among the global operators with most contributions to specification development.



Adding Impetus through Innovative Development

Enhancing cooperation on sci-tech research

The Company stepped up efforts on industry-academia-research cooperation, and strengthened the integration of upstream and downstream innovative resources. It cooperated with renowned universities including Tsinghua University and scientific research institutes including Chinese Academy of Sciences as well as industrial chain partners including Huawei to carry out joint technology research and propelled the deployment and application of major research achievements in the fields of quantum, cloud-network, security and AI. National projects were jointly undertaken during the year, and a series of theoretical and prototype breakthroughs were achieved in cutting-edge technologies such as privacy computing, data confirmation right, intelligent computing framework and 6G integrated sensing and communication.

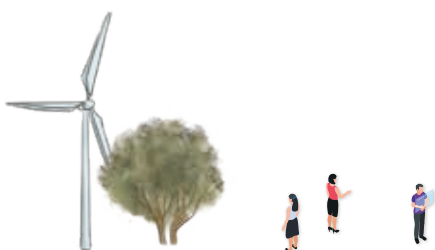


[China Telecom and Tsinghua University launched the Joint Research Centre of Next Generation Internet Technology]

On 8 March 2022, the launching ceremony of Tsinghua University-China Telecom Joint Research Centre of Next Generation Internet Technology was held at Tsinghua University. Leveraging the research centre, China Telecom and Tsinghua University will further make use of their respective advantages in sci-tech research, technology, talent and industry, and carry out extensive cooperation to seek for long-term development and achieve mutual benefits and win-win results.

Protecting intellectual property

The Company continued to establish a sound intellectual property management system and strengthened the protection of intellectual property. The Company has issued operational guidelines on intellectual property management covering the whole-life cycle of products, and organised training and promotion for the protection and requirements of use of intellectual property in respect of pictures, fonts and video and audio materials used in corporate operation and management. In 2022, focusing on 13 R&D chains, the Company continuously stepped up the application for invention patents in key areas concerning cloud, security, 5G, cloud-network operation and etc., increased efforts on the patent protection for key core technologies and products, and strengthened the layout and application of overseas patents, to enhance the international influence and competitiveness of its intellectual property, and build a moat for intellectual property rights.



Adding Impetus through Innovative Development



[First Intellectual Property Forum by China Telecom]

26 April 2022 was the World Intellectual Property Day, on which China Telecom held its first Intellectual Property Forum and carried out the “National Intellectual Property Promotion Week” and other activities to promote the rule of law and to raise the awareness on intellectual property rights among all employees.

DEEPENING REFORM TO ENHANCE GOVERNANCE

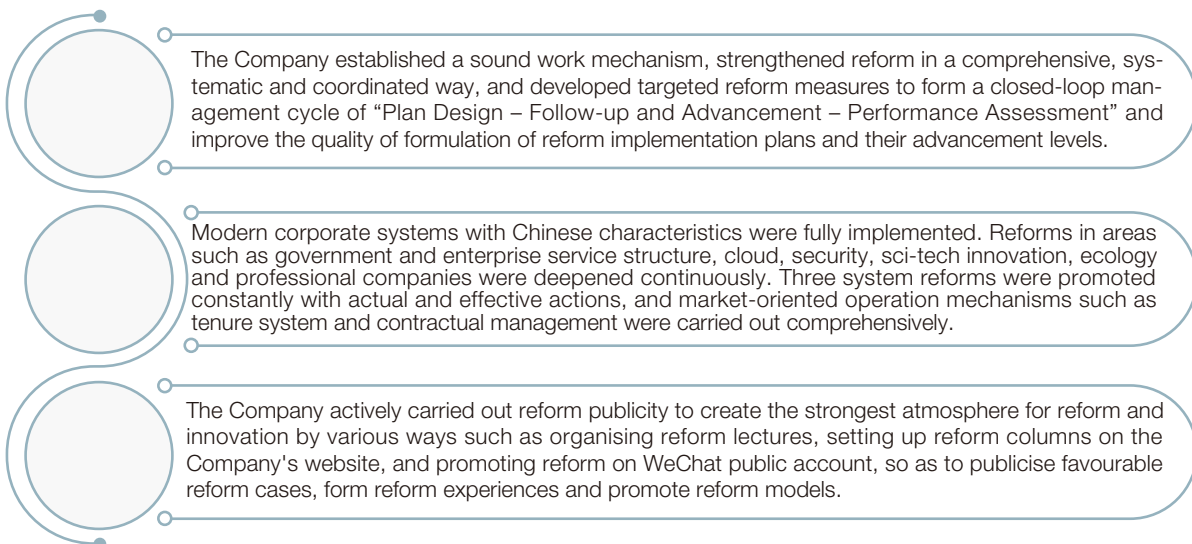
Adhering to the excellent, prudent and effective corporate governance principles, China Telecom keeps enhancing its corporate governance methodology, and deepening reform, enabling its corporate deployment to further optimise and its governance system and governance capability to leap to a new level.

Deepening reform comprehensively

With meeting the digital demands of customers as the core, the Company deepens the reform of systems and mechanisms, and continues to enhance the market-oriented operation mechanism, so as to uplift its core capabilities and effectively stimulate corporate vitality.

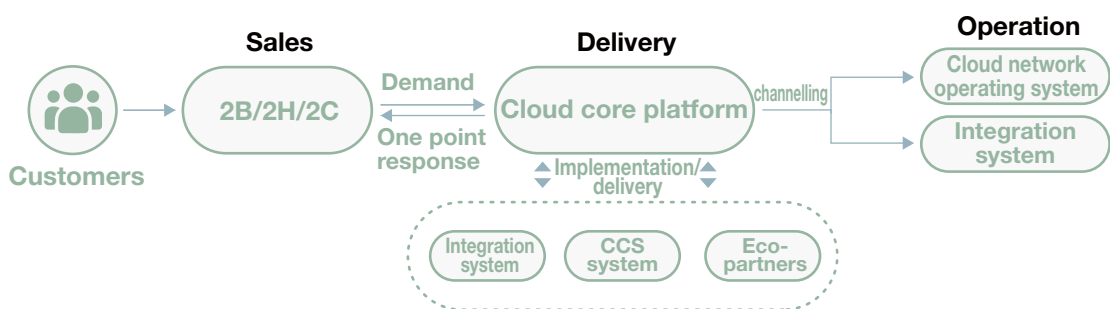


Adding Impetus through Innovative Development



The Company accelerated the implementation of reform measures in important areas and key procedures, continued to deepen the reform of government and enterprises service structure, strengthened the construction of industrial research institutes, and put the cloud core platform of provincial and municipal companies into full operation. The reform of professional companies was expedited and intensified. Big Data and AI centre achieved corporatisation, the shareholdings of cloud company were diversified and cloud, security and IoT companies were selected as model companies for “sci-tech reform”. The Company intensified its efforts on the layout of “aerial-ground in one” business and optimised the management system of satellite research institute. It adapted to the requirements for building a service-oriented, technology-oriented and secured enterprise by enhancing management systems in areas such as product operation and production safety.

Focusing on customer’s digitalisation demand, to promote enterprise service reform with cloud as the core



Enhancing corporate governance

The Company continuously enhances its corporate governance methodology, regulates its operations, strengthens its internal control mechanism, implements sound corporate governance and disclosure measures, and ensures that the Company's operations are in line with the long-term interests of the Company and its shareholders as a whole. In 2022, the shareholders' meeting, the Board and the Supervisory Committee operated soundly and efficiently. The Company was dedicated to lean management while ensuring stable and healthy operation, and elevated its high-quality development to a new level, while continuously optimising its internal control system and comprehensive risk management in order to effectively ensure steady operation of the Company. In 2022, the Company convened 11 Board meetings, seven Audit Committee meetings, one Remuneration Committee meeting and three Nomination Committee meetings. The level of the Company's corporate governance continued to raise which effectively protected the best long-term interests of shareholders.

As at 31 December 2022, the Board of the Company consisted of nine Directors with four Executive Directors, one Non-Executive Director and four Independent Non-Executive Directors. There is no relationship (including financial, business, family or other material or relevant relationship) among the Board members. The Audit Committee, Remuneration Committee and Nomination Committee under the Board consist solely of Independent Non-Executive Directors, which ensures that the committees are able to provide sufficient checks and balances and make independent judgements effectively to protect the interests of the shareholders and the Company as a whole.

In August 2013, the Company implemented the Board Diversity Policy. The Company strongly believes that board diversity will contribute significantly to the enhancement of the overall performance of the Company. In determining the composition of the Board, the Company takes into account diversity of the Board from a number of perspectives, including but not limited to gender, age, educational background, professional experience, skills, knowledge, duration of service and time commitment, etc. All appointments made or to be made by the Board are merit-based, and candidates are selected based on objective criteria taking full consideration of board diversity. Final decisions are comprehensively made based on each candidate's attributes and the consideration for his/her valuable contributions that can be made to the Board. The Nomination Committee oversees the implementation of Board Diversity Policy, reviews the existing policy as and when appropriate, and recommends proposals for revisions for the Board's approval. Currently, the Board comprises experts from diversified professions such as telecommunications, accounting, finance, law, banking, regulatory, compliance and management and there is one female Director on the Board, with diversification in terms of gender, age, duration of service, etc., which in turn advanced the enhancement of management standard and the further standardisation of corporate governance practices, resulting in a more comprehensive and balanced Board structure and decision-making process.

The Company promoted the optimisation of the corporate governance systems of its subsidiaries, enhanced their market-oriented operation mechanisms, and strengthened the delegation of authority to enhance the vitality of development and operation and transform system advantages to governance efficiency. The governance structures of the Company's subsidiaries were further optimised, and the governance models of their board of directors were reasonably set according to their business characteristics and development stages with optimised director composition. In 2022, 17 subsidiaries of the Company have established additional dedicated committees under their board of directors. 10 subsidiaries have adjusted the number of their board seats, and the subsidiaries at all levels have appointed or removed 91 person-times of directors during the year. The subsidiaries of the Company had more standardised corporate governance practices and continued to enhance their institutional systems centring on articles of association. More support was provided to the performance of duties by directors and the exercise of rights by the management was safeguarded. In 2022, the Company's subsidiaries at all levels formulated over 300 regulatory documents related to corporate governance. The performance of duties by directors was guaranteed with measures such as proactive provision of production and operation information to external directors, establishment of normal communication mechanism and reporting significant events to external directors irregularly. The standardised management before, during and after board meetings was optimised to enhance the quality of board decisions. The Company's subsidiaries at all levels have comprehensively established systems for the board of directors to delegate authority to the management and the management to report to the board of directors, thus stimulating the vitality of the management in operations to enhance operation efficiency.



ACHIEVING SUSTAINABILITY THROUGH GREEN AND SECURITY DEVELOPMENT



ACHIEVING SUSTAINABILITY THROUGH GREEN AND SECURITY DEVELOPMENT



China Telecom firmly adheres to the principles of green development and is committed to implementing the national “dual-carbon” strategic goals, actively responds to climate change by promoting low-carbon operation and empowering the society to pursue sustainable growth. Meanwhile, the Company is making great efforts to strengthen its security foundation for high-quality development, enhance its security capabilities in the digital environment, and provide customers with top-quality security products and services.

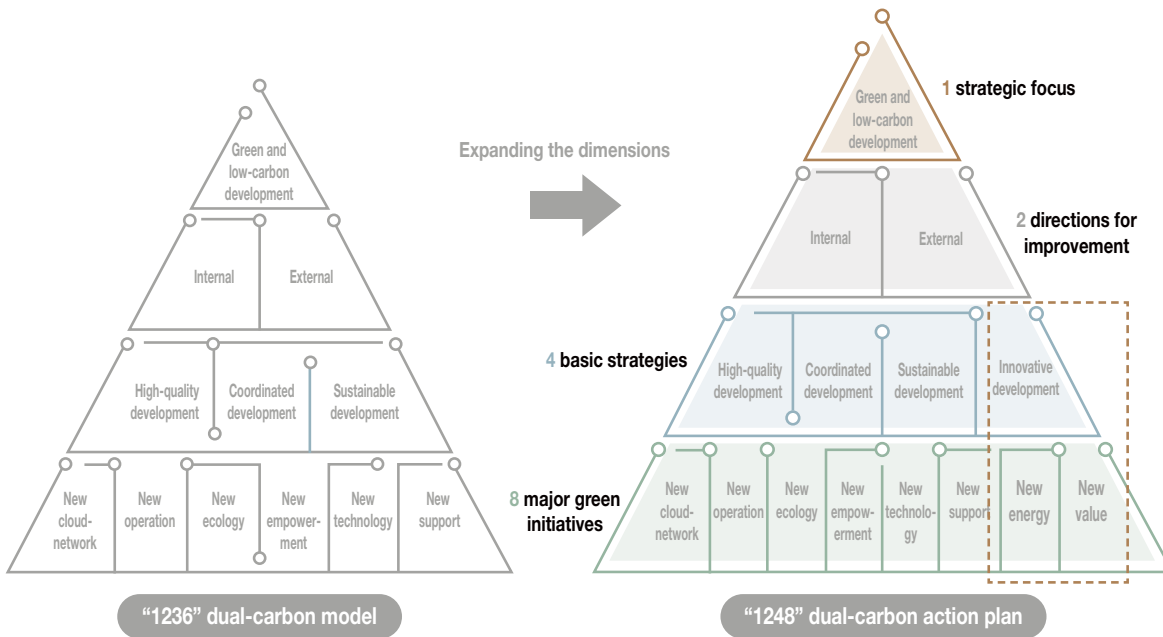
Achieving Sustainability through Green and Security Development

ADVOCATING AND PRACTICING GREEN AND LOW-CARBON

China Telecom is actively responding to the national “dual-carbon” strategic goals and industry requirements for green and low-carbon development, by accelerating the dual improvement of energy efficiency and management capabilities and promoting the dual transformation of energy structure and product innovation, resulting in significant breakthroughs in green and low-carbon development.

Addressing climate change

The Company closely aligns with the national “dual-carbon” goal and its own strategic objectives, vigorously promotes “elements upgrading and integrated innovation,” emphasises on innovative development, and comprehensively promotes the green and low-carbon corporate transformation through the expansion and upgrade of the “1236” dual-carbon model into a more comprehensive “1248” dual-carbon action plan with eight major green initiatives and corresponding key measures.



Achieving Sustainability through Green and Security Development

The Company has established a “carbon dioxide peaking and carbon neutrality” leadership group, led by the Chief Executive Officer, who is responsible for overseeing the group’s daily activities, promoting the implementation of the Company’s green and low-carbon strategy, as well as researching and making key decisions related to “carbon dioxide peaking and carbon neutrality”.

The Company has formulated the *China Telecom Carbon Dioxide Peaking Action Plan* and the *China Telecom 2022 Work Requirements and Assessment Methods for Carbon Dioxide Peaking and Carbon Neutrality*, which outline the Company’s management framework and departmental responsibilities for addressing climate change and propose goals, specific actions, plans and measures for China Telecom to address climate change and achieve carbon dioxide peaking and carbon neutrality.

Governance level	Accountable department	Composition and main responsibilities
Decision-making level	“Carbon Dioxide Peaking and Carbon Neutrality” leadership group	Establish a carbon neutrality management system to promote the implementation of green and low-carbon strategies, taking a leadership role in green development work, as well as studying and making decisions on important matters related to the management of “carbon dioxide peaking and carbon neutrality” initiatives.
Management level	Green Development Taskforce	Focus on green and low-carbon transformation, formulate key tasks for green development, promote the implementation of green development work, and integrate energy-saving and emissions-reduction requirements into all aspects of production and operation activities, including network planning, procurement, construction, operation, and office management.
Implementation level	The departments responsible for energy-saving and emissions-reduction and related business departments of each unit	Track climate change-related risks and opportunities in real-time, and provide recommendations to management and decision-making levels based on practical experience.

In 2022, the Company achieved significant results in energy saving and carbon reduction through various measures, such as co-building and co-sharing, renovation of old facility rooms, retirement of obsolete equipment, and AI energy saving, resulting in a reduction of over 13 million tons of greenhouse gas emissions for the year, as well as a 21.5% year-on-year decrease in comprehensive energy consumption per unit of information flow and a 20.6% year-on-year decrease in greenhouse gas emissions per unit of information flow. The Company has set a clear target for 2023 to maintain a double-digit reduction in greenhouse gas emissions per unit of information flow, and aims to reduce greenhouse gas emissions by at least 27 million tons during the 14th Five-Year period through co-building and co-sharing as well as various energy-saving measures.

The Company proactively responds to climate change by integrating climate-related risk management into its overall risk management system, enabling a closed-loop management process for risk identification, risk assessment, analysis of key risks, risk response, and risk monitoring and tracking. The Company considers multiple factors in analysing the identified risks, including the strategic and financial impact, and proposes response measures accordingly.



Achieving Sustainability through Green and Security Development

Climate change-related risks faced by China Telecom and its corresponding response measures

Risk	Type of risks	Risk description	Major financial impacts	Time frame	Degree of impact	Response measures
Transformation risk	Emerging regulatory risks	<p>Since its commitment to “carbon dioxide peaking and carbon neutrality”, China has been actively promoting “dual carbon” work, and more industry policies are expected to be introduced in the future. As a large-scale central enterprise and a leading company in the information and communications industry, China Telecom will face stricter regulatory requirements and policies in the future. Currently, China Telecom Beijing branch has been included in the carbon emissions trading pilot program in Beijing, and it is expected that in the future, with the maturation of the national carbon market and more industries included, China Telecom may be required to comply with relevant policies and regulations of the national carbon market.</p> <p>As a leading company in the industry, China Telecom may face potential assessments of its green energy consumption in the future, as the primary regulatory authorities are imposing increasingly high energy efficiency requirements on datacentres. All of these may result in additional compliance costs.</p>	Higher operating costs	Long-term	Medium	<ul style="list-style-type: none"> Regularly track and analyse relevant policies, evaluate the extent of China Telecom’s compliance with emerging regulations and policies on a monthly basis, study the impact of emerging policies on China Telecom, and alert relevant risks. Conduct a carbon inventory audit to understand the carbon footprint and evaluating any potential compliance risks. Conduct green power research to assess the feasibility and cost of green power acquisition.
	Technology risks	<p>In the short term, significant investment of time and resources is required for sci-tech innovation, especially in the area of green and low-carbon frontier technologies, which demands that we increase our resource investment. This situation puts a higher demand on our innovation capability and requires China Telecom to fully analyse the current application and development of green and low carbon technologies for new technology development and application.</p>	Higher operating costs	Short-term	Medium	<ul style="list-style-type: none"> Financial evaluation of various energy saving and carbon reduction technologies. A dedicated team takes the lead in developing the overall technical system for energy saving and carbon reduction, as well as research and development of energy saving and carbon reduction technologies.
Physical risks	Acute risks	<p>Extreme weather such as flooding may damage our infrastructure and equipment, resulting in asset write-off losses. Additionally, extreme weather would cause communication interruptions, resulting in additional operating costs such as repair fees, energy costs, and labour costs to ensure smooth communication. The emergency repairs during extreme weather and subsequent restoration efforts of infrastructure and equipment will result in a significant increase in operating expenses and place higher demands on China Telecom’s ability to respond quickly.</p>	Higher capital expenditures	Medium-term	High	<ul style="list-style-type: none"> Actively strengthen the advanced warning and risk prevention and control of meteorological disasters and their secondary hazards, regularly assess the impact of extreme weather by the Cloud Network Operations Department, formulate a sound plan to tackle extreme weather, reinforce the resilience of infrastructure facilities, and improve communication security measures. Study and establish an annual budget to address risks posed by extreme weather.
	Chronic risks	<p>Climate change will result in more frequent extreme heat waves and longer summers in the future. As a telecom operator, China Telecom’s equipment is sensitive to temperature and may be affected by high temperatures, leading to increased costs for air conditioning, cooling, and equipment maintenance in the future.</p>	Higher capital expenditures/ operating costs	Long-term	Medium	<ul style="list-style-type: none"> Regularly analyse and monitor energy consumption-related indicators and provide risk alerts.



Promoting low-carbon operation

Under the guidance of the national “Dual Carbon” goal, the Company has been actively promoting low-carbon operations by building a green cloud-network, promoting green offices, green procurement, recycling, and optimising energy structures, and taking multiple measures to increase energy efficiency and reduce carbon emissions.

Green cloud-network

The Company continues to build green and innovative datacentres. Taking into full consideration factors such as layout and site selection, PUE design, energy-saving technology applications, and green energy utilisation, the Company built the country’s first “zero-carbon datacentre” in Qinghai, actively introduced green elements, utilised a combination of grid power and high-voltage DC, took advantage of natural cooling sources to deploy chilled water and indirect evaporative water cooling, as well as applied advanced technologies such as AI intelligent operation to achieve a PUE lower than 1.2. The project was recognised as a high-quality development case of big data centres by the China Association of Communication Enterprises and an excellent case of green “dual carbon” technology application in the digital industry by the China Communications Industry Association.



[China Telecom Digital Qinghai Green Big Data Centre put into operation]

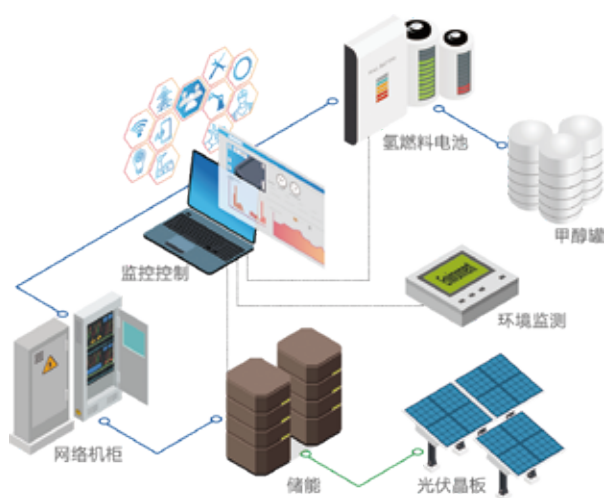
On 14 July 2022, the Digital Economy and Clean Energy Deep Integration Development Summit Forum cum China Telecom Digital Qinghai Green Big Data Centre Launching Ceremony were held in Qinghai. The “China Telecom – Zero Carbon Qinghai” initiative was launched at the ceremony, which proposed the establishment of an industrial alliance for the integration and development of the digital economy and clean energy, to accelerate the implementation of the “East-to-West Computing Resource Transfer” project, fulfil Qinghai Province’s “dual carbon” goal, establish a “dual carbon” example, and construct a green and low-carbon circular economic development system.



Achieving Sustainability through Green and Security Development

The Company continues to promote the use of advanced energy-saving technologies in datacentres. The Beijing Yizhuang Cloud Computing Hub Building has undergone comprehensive energy-saving renovations through the application of indirect evaporative cooling technology, CO₂ cold storage technology, and waste heat recovery technology, reducing the PUE from 1.4 to 1.3, achieving a significant reduction in overall energy consumption of the cooling system. To address the challenges of few choices of energy-saving methods and high operation and maintenance costs for traditional facility rooms, the Company has introduced new technologies such as AI, Big Data, and IoT, which integrated with the business scenes of facility room energy consumption, and independently developed a nationwide standardised intelligent energy saving system for facility rooms, with cooling energy-saving rate exceeding 15%.

The Company continues to promote base station energy-saving efforts and has proprietarily researched and developed a 4/5G base station smart energy-saving system based on Big Data and AI technologies, forming a network-wide, depth-aware AI real-time energy-saving decision-making brain and control network, achieving secured, automatic, and optimal precision energy-saving for 4/5G base stations, saving costs while increasing efficiency. In 2022, the base station smart energy saving system has covered 31 provinces, with 5G energy saving efficiency of no less than 16%, annualised electricity saving of 600 million kWh, resulting in a direct reduction of over 300,000 tons of carbon dioxide emissions per year.



[Constructed the first integrated “photovoltaic and hydrogen” power system in China]

On 9 December 2022, the first communications base station in China to adopt an integrated “photovoltaic and hydrogen” zero-emission and pollution-free power source was completed and put into operation on Butterfly Island in Fangchenggang City, Guangxi (廣西防城港市蝴蝶島). Butterfly Hill Island (蝴蝶嶺島) base station is one of the pilot projects for universal telecommunications services. Based on the resource characteristics and base station coverage requirements of the island, China Telecom Research Institute combined its resources and technical advantages to not only avoid the difficulties of building new cross-sea power lines and subsequent high maintenance costs but also effectively protect the island’s environment. This project provided new ideas for communications power supply scenes for islands and other regions.



[Implemented the innovative 5G automatic on/off energy-saving technology pilot project]

Hunan branch has collaborated with ZTE Corporation to deploy 100 base stations equipped with 5G AAU automatic on/off energy-saving innovative technology in Zhangjiajie, resulting in a reduction of the power consumption to less than 5W for on/off status during the idle period. The Zhangjiajie scenic area experiences significant fluctuations in call volume, with the night time period being non-operational. It is estimated that the application of the automatic on/off technology can reduce carbon dioxide emissions in Zhangjiajie by nearly 300 tons annually.



Achieving Sustainability through Green and Security Development

The Company has comprehensively deepened its co-building and co-sharing cooperation with China Unicom, reducing the duplicated construction of 4/5G base stations and significantly enhancing the utilisation rate of existing base stations, while protecting the natural environment and landscape, and saving land, energy, and raw material consumption. Meanwhile, The Company continues to deepen its co-building and co-sharing of infrastructure such as pole lines, pipelines, and optical cables. In 2022, over 300,000 5G base stations were newly activated for the two parties, with the cumulative number of activated co-shared 5G base stations exceeding one million. The number of co-shared 4G base stations exceeded 440,000, with the cumulative number of activated co-shared 4G base stations exceeding 1.1 million. The Company provided more than 13,500 kilometres of co-shared pole line and more than 800 kilometres of co-shared pipeline. 4/5G co-building and co-sharing has led to over RMB270 billion savings in network construction investment, over RMB30 billion in annualised operating cost savings, and over 17.5 billion kWh in annual electricity savings for the two companies.

The Company has formulated the *Administrative Measures for China Telecom on Electromagnetic Environmental Protection of Telecommunications Base Stations (Trial Version)*, established a sound electromagnetic radiation management system and risk prevention mechanism, taken various proactive environmental protection measures such as environmental assessment and consolidated the foundation for environmental protection in response to concerns in telecommunications engineering construction from the government and the public, such as farmland protection, equipment pollution, construction impact and electromagnetic radiation to ensure compliance with the government's regulatory requirements and to actively communicate with the public.



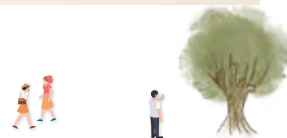
[China Telecom and China Unicom fully deepened co-building and co-sharing work]

On 5 January 2022, China Telecom and China Unicom fully deepened their co-building and co-sharing work to promote the deployment, with the participation of the management and key persons in charge of relevant departments of both parties.



[China Telecom and China Unicom jointly built a cross-operator 5G operation and channelling system]

China Telecom, together with China Unicom, takes blockchain as the technical foundation and adopts a fully proprietary approach to fully leverage the cloud, Big Data and existing system capabilities of both parties to achieve unified deployment, cross-cloud chain integration, and jointly build a secure, trustworthy, efficient and intelligent co-built and co-shared blockchain channelling platform, realising the 4/5G co-built and co-shared network data visualisation and manageability and efficient channelling of operation resources of China Telecom and China Unicom.



Achieving Sustainability through Green and Security Development



[Actively carried out electromagnetic environmental monitoring and popular science promotion]

China Telecom has implemented nationwide 5G electromagnetic radiation monitoring to ensure that the level of electromagnetic radiation in residential areas, school, hospital, office and other places complies with the national standard *Electromagnetic Environment Control Limits* (GB8702-2014) to continuously improve the quality of electromagnetic environment. At the same time, the Company actively carried out electromagnetic environmental popular science promotion and information disclosure, to strengthen community communications and new media publicity, and accept public supervision.

Green Office

The Company promotes water conservation, strives to reduce the water consumption per unit operating revenue, actively promotes and advocates water conservation by posting reminders regarding water conservation near water facilities and appliances. The Company continually strengthens the management on water usage, carries out sewage disposal and treatment, promotes the reuse of water in production, actively uses reclaimed water as an alternative source of water in place of tap water while meeting the requirements on the use of water. The Company promotes and popularises the use of water-saving appliances and performs regular checks and repairs on each part of the water supply system to prevent water leakage and wastage. In 2022, the water consumption per unit operating revenue decreased by 11.3% compared to last year. The Company sets the target of total water consumption for 2023 to be no more than the annual average water consumption for the years of 2017 to 2019.

The Company encourages paper saving by actively promoting reduction of paper use in operation and office facilities sites. The Company encourages paper saving and reduces paper use through adopting technological and systematic measures. We actively promote double-sided printing of documents, reduce colour printing, accelerate the digital transformation of the procurement supply chain, vigorously promote the application of electronic procurement and electronic orders to realise the paperless operation of the whole process of the supply chain. We also continually promote electronic accounting files management, VAT electronic invoice, e-reimbursement and filing of e-invoice and paperless operation, and promote automatic process of tax declaration in order to reduce paper usage. The annual office paper usage dropped 10.7% year-on-year.



Achieving Sustainability through Green and Security Development

Green Procurement

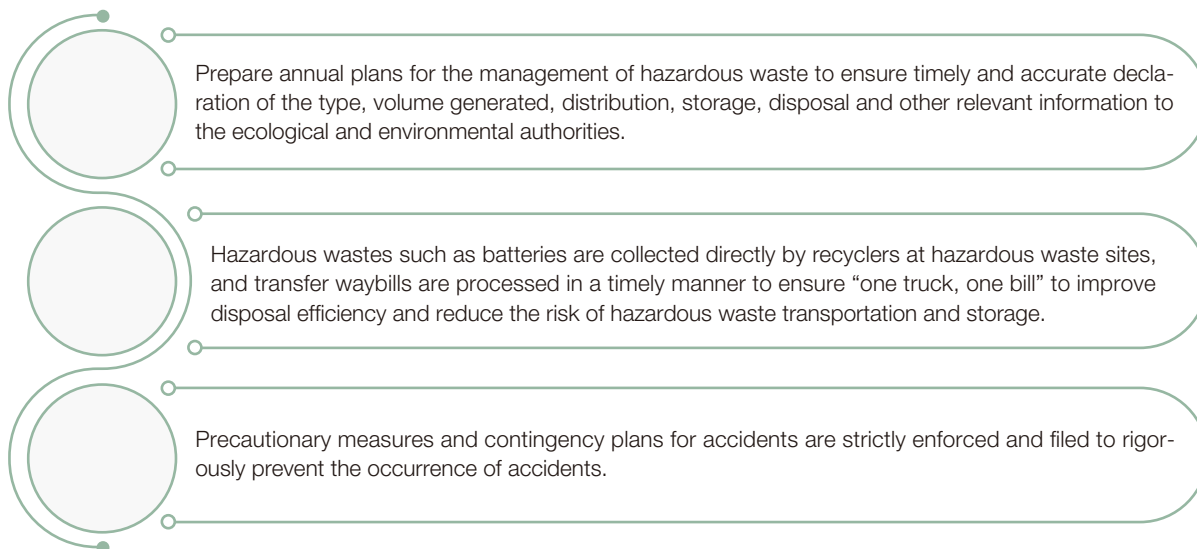
The Company has encouraged suppliers to jointly respond to climate change by preferentially purchasing resource-saving and environmental-friendly products. To actively build a green supply chain, the Company incorporates green and low-carbon factors into the supplier evaluation system, carries out full life cycle cost management of the supply chain, and increases the application of energy-saving and low-carbon products. The Company promotes the application of green procurement indicators in the procurement process and includes environmental impact factors into the procurement evaluation scoring, so as to encourage suppliers to enhance their awareness and capability in environmental protection. For products that may have environmental risks in the production process, we included ISO 14000 environmental management system certification, government environmental assessment reports, the “Green Factories” list of the Ministry of Industry and Information Technology and other environmental evaluation criteria into the procurement evaluation scoring. Whether the production waste is treated in a green manner to meet emission standards, environmental assessment reports, environmental monitoring reports, green packaging, green processes, etc. are mandatory areas of inspection of suppliers. In 2022, China Telecom issued the *China Telecom Procurement Supply Chain Green Packaging Evaluation Standards (Trial)* to actively advocate the use of green packaging by suppliers and gradually promote the use of green packaging as a commitment standard by suppliers.

Recycling

The Company enhances the recycling, disposal and utilisation of waste and used materials to conserve resources as much as possible and reduce environmental pollution. During the year, we revised the *Administrative Measures on Waste and Idle Materials Recycling and Disposal*, further clarified the requirements for environmental protection compliance in the disposal of used and waste materials, specified the guidelines, division of responsibilities and management of the recycling and disposal of used and waste materials and the qualifications of recyclers, standardised the forms and procedures of disposal, and refined the approval authority and process of disposal decisions. The Company carried out clean-up of hazardous and non-hazardous wastes and exchange of experience in this respect in an efficient manner, to effectively prevent disposal risks.



Achieving Sustainability through Green and Security Development



In 2023, the Company will continue to strengthen the professional management of waste, adhere to the principle of “recycling as much as possible”, further establish and enhance the system of recycling and disposal of waste and old idle materials, implement public auction and disposal of waste and old cables, waste and old batteries, etc., strengthen the management of environmental protection compliance, enhance the disposal revenue, and build a module for the disposal of waste and old idle materials, so as to integrate fixed asset management, material use, scrapping, recycling, disposal and other related sections, and realise the closed-loop management of the disposal of the Company’s waste and old idle materials.

Optimise the energy structure

The Company continues to enhance the efficient and clean use of energy and accelerate the transformation and optimisation of its energy structure. In 2022, the Company expanded the scale of distributed energy construction in datacentre parks, communications facility rooms and base stations, and promoted the pilot application of new technologies such as proprietary safe lithium and hydrogen energy storage to maximise energy utilisation efficiency. At the same time, the Company actively participated in the market-oriented trading of renewable energy, and achieved breakthroughs in the cross-province trading of green power with “license and power in one”, and the consumption ratio of green power doubled year-on-year.



Empowering green development

The Company accelerates the green and low-carbon transformation of its business development mode, advocates green consumption by launching products and services such as cloud computers, cloud mobile phones, smart energy-saving applications and green IoT. The Company creates green IDC, green cloud hosts, smart cities and other products and services, accelerates the promotion and application of energy-saving and carbon-reducing technologies, and facilitates the formation of a green and low-carbon information and communication lifestyle.



[Launching a green score system for carbon reduction behaviours]

In order to further encourage the public to participate in green and low-carbon actions, China Telecom launched a green score system for carbon reduction behaviours, where users get virtual “green energy” for public transportation, online subscriptions, online payments, etc. which can be exchanged for rural agricultural products, green data packages, etc.

The Company actively empowers the green development of the economy and society, continues to promote digital technology innovation, and provides customers with new digital solutions for energy saving, carbon reduction, pollution prevention and ecological system protection.



[Supporting Jiangxi Jinghao Salt Chemical to build an intelligent factory]

By constructing “one cloud, one network, one platform + eight intelligent applications”, Jiangxi branch supported Jiangxi Jinghao Salt Chemical Co., Ltd. (江西晶昊鹽化有限公司) to build a smart factory, which reduced maintenance costs, coal consumption, steam consumption and ammonia consumption by 15%, 20,905 tons/year, 28,500 tons/year, and 271 tons/year, respectively, resulting in direct economic benefits of about RMB13.86 million/year. The smart factory has won several recognitions from the Ministry of Industry and Information Technology and Jiangxi Province for its strength in driving traditional enterprises with high energy consumption and high labour intensity to achieve a great leap towards green development, low carbonisation and intelligence.



Achieving Sustainability through Green and Security Development



[Digital “intelligence” to protect the green mountains and rivers of Qinling Mountain]

Shaanxi branch takes advantage of its “cloud, network, Big Data, business, security and terminal” strengths to construct a “smart mountain management” system in cooperation with the Qinling Ecological Environment Protection Bureau (秦嶺生態環境保護管理局), leveraging intelligent networks, drones, night vision cameras and other IoT equipment to monitor key areas, realising full-process checking, visualisation and control, thus building a safety “protection network” for the daily conservation and management, flood prevention and safety management and emergency management of Qinling Mountain.



["Intelligent sky dome" safeguarding the Yangtze River]

Nantong branch, in conjunction with Nantong Agriculture and Rural Bureau (南通市農業農村局), has constructed the “intelligent sky dome” information system to enable intelligent identification of vessel information, accurate identification of vessel actions, rapid delivery of alerts, automatic capture and uploading of photos to the intelligent application platform. With the information tools, a “tight encirclement” by technical defence and human defence covering over 600 square kilometres of the Yangtze River estuary was built, contributing to the realisation of the Yangtze River fishing ban source management, multi-governance and long-term supervision.



ENSURING SECURED AND SMOOTH COMMUNICATIONS

China Telecom strove to strengthen the security foundation for high-quality development, firmly maintaining network and information security, ensuring emergency communications, advancing supply chain management, strengthening compliance and risk management, and taking multiple measures to prevent and resolve major risks.

Maintaining network and information security

The Company has strictly complied with laws and administrative regulations relevant to network and information security, enhanced network and information security mechanisms, and strove to become a secured enterprise.



[Held a network and information security ecological cooperation forum]

On 30 December 2022, China Telecom Digital Technology Ecosystem Conference – Network and Information Security Ecological Cooperation Forum was held online with the objective of conducting in-depth exchanges and discussions with various partners in the industry chain on hot topics such as network and information security industry, product and service capabilities, to further strengthen the collaboration of multiple parties and jointly create a good security environment, thus promoting the high-quality development of the network and information security industry. The *China Telecom Cloud Security White Paper* was released during the forum, which fully explained the security development vision of the Company's China Telecom Cloud.



Achieving Sustainability through Green and Security Development

The Company has built a “VCERT (Virtual Community Emergency Response Team) + two-level SOC (Security Operation Centre)” security operation system and formed a “headquarters – provincial branches” two-level information content release audit and control system from. The Company continued to enhance the integrated security capability system of the cloud, network, edge and terminal, with a security capability pool of 194 nodes covering 150 key cities across China and an anti-DDoS capability of 9.7T, maintaining its position in the first-tier camp in the country. The Company also built a network-wide integrated security datacentre and situation awareness system, and preliminarily built a security core platform, which significantly enhanced the detection, analysis and disposal capabilities of security incidents.

The Company has launched the Cloud Dam platform for government and enterprise customers covering more than 10 industries such as government administration, finance, education, energy, transportation and logistics, and commerce, etc., with the Security Brain serving tens of thousands of customers in education, government administration, finance, healthcare and other industries. For individual customers, e-Surfing Anti-harassment business provides professional services in blocking harassment calls, marketing calls and customised numbers. For household customers, the security butler business focuses on Internet security protection for household broadband.

The Company proactively implemented the requirements of laws and regulations including the *Data Security Law of the People’s Republic of China* and the *Personal Information Protection Law of the People’s Republic of China*, optimised the *Administrative Measures of China Telecom on the Protection of Personal Information of Users*, safeguarded the security and rights of users in their personal information processing activities, deeply promoted the governance of app infringement on users’ rights, proactively explored the ability to protect personal information of users based on different scenes. The Company established a catalogue of important data and core data of enterprises, enhanced the ability to independently discover risks, with data security risk self-discovery rate reaching 99.9%. The Company has taken active action to protect personal information and developed functional products related to personal information protection to serve the people well.



[Launched Privacy Guard product]

Based on mobile application fingerprint database and automated detection technology, China Telecom’s Privacy Guard product deeply digs into the privacy risks of apps in mobile phones, generates visualised personal privacy detection reports, provides risk disposal capabilities such as excessive seeking of authorisation, and enables users to accurately prevent, identify and dispose app privacy risks.



Emergency communications assurance

The Company faithfully fulfilled its mission of ensuring secured and smooth communications, made every effort to fight against natural disasters such as earthquakes, typhoons, floods and landslides and provided communications assurance for major activities. China Telecom provided disaster relief and communications assurance for the 6.8 magnitude earthquake in Luding, Sichuan; and provided disaster relief and communications assurance against floods and typhoons in Zhejiang, Fujian, Liaoning, Guangdong, Guangxi, Gansu and other provinces. The Company focused on key regions and coordinated the whole network, and conducted online and offline coordination. Communications assurance work for 11 major events including Beijing Winter Olympics and the 20th National Congress of the CPC was successfully completed. In 2022, more than 800,000 person-times, 270,000 vehicle-times, and 100,000 sets of communications equipment were dispatched for emergency communications.



[All-out effort to assure smooth network for the Winter Olympics]

During the 2022 Winter Olympic Games, Beijing branch set up 10 professional assurance teams, a 24/7 on-call team and a communications technology operation expert team consisting of 114 people, and made every effort to the network assurance work for the Winter Sports Event. During the period, the Company provided communications assurance services to more than 200 critical protection areas, with a total dispatch of nearly 13,000 person-times, over 2,000 supporting vehicle-times, and 20 emergency communications vehicle-times.



[Safeguarded communications lifeline in disaster areas]

An earthquake of magnitude 6.8 struck Luding County, Ganzi Prefecture, Sichuan at 12:52 p.m. on 5 September 2022, causing partial damage to communications in Luding County, Ganzi Prefecture and Shimian County, Ya'an City. After the earthquake, Sichuan branch insisted on life first and demonstrated the taking up of responsibilities as a central enterprise. It immediately initiated emergency plans, set up an emergency communications command centre, fully leveraged the advantages of satellite communications, aerial base stations and other information technologies, and dispatched multiple emergency rescue teams to the disaster area to protect the communications lifeline in the disaster area.



Achieving Sustainability through Green and Security Development



[Fully ensured the success of the Party's 20th Session of National Congress]

From 16 to 22 October 2022, the 20th National Congress of the CPC was successfully held in Beijing. China Telecom firmly implemented the deployment of the higher authorities and successfully completed the communications assurance task with the highest standards, strictest requirements and most practical measures to ensure smooth communications network, secure and reliable network, no incident in safety production, no major complaints in customer services and no major public opinion incidents.

Promoting supply chain management

The Company consistently adhered to supply chain management concepts focusing on value-added, transparent and green procurement, committed to building trusted relationships with suppliers to achieve win-win situations and proactively communicated with and encouraged its suppliers to fulfil social responsibilities together. The Company strictly followed the *Bidding Law of the People's Republic of China* and other procurement-related laws and regulations, implemented regulations and systems such as the *Administrative Measures for China Telecommunications Corporation on Procurement*, proactively responded to the adjustment of national policies, and continuously enhanced the construction of supply chain system. In 2022, the parent company formulated regulations such as *China Telecom Supply Chain System Management Measures* and the *China Telecommunications Corporation Procurement Disagreement Handling Measures (Trial)* to continuously enhance the construction of the procurement system and revised and issued the *China Telecommunications Corporation Supplier Management and Assessment Measures*, which systematically regulate supplier selection, performance assessment and evaluation, supplier security management, classification and grading management, supplier eco-cooperation, malpractice and exit management, and supplier basic management.



Achieving Sustainability through Green and Security Development

Facing the complex business environment, the Company attached great importance to the safety of its supply chain and formulated systems such as the *China Telecom Supply Chain Risk Prevention, Control and Emergency Management Measures*, *China Telecom Supply Chain Safety Management Measures* and *China Telecom Supply Chain System Management Measures* to strengthen the early warning and response to supply chain risks, enhanced risk response strategies and strove to enhance the resilience of the supply chain. The Company strengthened business continuity management (BCM) for suppliers and implemented application software security testing and certification and intellectual property audits.

The Company continues to carry out supplier assessments as a routine task. Through on-site inspections of the overall situation, production equipment, testing equipment, raw materials, quality control, green energy conservation and environmental protection, and supply safety of our suppliers, the Company obtained multi-dimensional production management information of suppliers and put emphasis on and evaluated the risk resistance capabilities of various critical devices and software, which helped to enhance the support for cloud-network integration services. Through supplier assessments, the Company elevated the objectivity of its procurement evaluation criteria.



[Cloud-based supplier assessment]

China Telecom proactively applied digital technologies to its assessment work and explored the implementation of cloud-based supplier assessments, which allowed the Company to remotely check and confirm various information about suppliers, reducing assessment costs, and improving work efficiency.

In 2022, the Company constantly promoted open procurement and tendering, and took multiple measures according to the internal management system requirements to encourage the suppliers to enhance their performance and services. Positive incentives were introduced to recognise outstanding suppliers by setting up honorary awards, with 187 supplier-times receiving awards. For all suppliers, we strictly implemented the misconduct management system, with 129 cases of misconduct handled during the year, and took measures to prohibit or restrict the procurement from suppliers involved in accordance with the rules, effectively penalising misconduct. The Company optimised the misconduct management process, strengthened the notification of supplier accreditation and supplemented the relevant objection management mechanism, and continued to carry out information sharing of illegal and discredited suppliers with major domestic fundamental telecommunications operators.



Achieving Sustainability through Green and Security Development

Risk prevention in compliance with laws and regulations

The Company persists in operating in accordance with laws and integrity and complies with relevant national laws and regulations, regulatory requirements, industry regulations, as well as the requirements of the *Articles of Association* and relevant rules and regulations. The Company has comprehensively strengthened its compliance management, enhanced its risk prevention capability, and integrated compliance management, safety production, integrity development and anti-corruption, financial and audit supervision with corporate operation and reform to ensure high-quality corporate development. The Company comprehensively carried out risk identification and assessment, and strengthened risk tracking and control. During the year, the Company maintained a development trend with stable operation and controllable risks, and no major risk incidents occurred.

The Company continued to promote operation in accordance with laws and regulations and enhanced the compliance management capability and level. The Company strove to practise the concept of “compliance by everyone, in everything and every moment”, thoroughly carried out the work of “Year of Strengthening Compliance Management”, continuously enhanced the compliance management system, strengthened organisational leadership, enhanced system construction, optimised the operation mechanism, gave full play to the role of “three defence lines”, strengthened team construction and continuously cultivated a compliance culture. At the same time, the Company focused on compliance management in key areas, focused on the “Cloudification and Digital Transformation” strategy, continued to strengthen compliance management in the fields of network and information security, anti-monopoly and overseas operations, and promoted the integration of compliance management into the Company’s production and operation, so as to provide the Company with “safety belts” and “protective clothing” and ensure sustainable and healthy corporate development.

The Company conscientiously and strictly implemented the *Work Safety Law of the People’s Republic of China* and other laws and regulations on production safety, and formulated internal systems such as the *Implementation Opinions on the Standardisation of Production Safety for China Telecom (Trial)* and the *Measures for Reporting and Rewarding Production Safety for China Telecom (Trial)* during the year. The Company has further strengthened the organisational management system for production safety, with a focus on centralised and unified leadership, as well as established a dual-director system for production safety committee, and refined and enhanced the responsibility system for production safety. The Company has concluded and established the overall principles of “managing safety with business, managing safety with production and operation, and managing safety with assets,” as well as the principle of “whoever appoints people is responsible for safety, whoever constructs is responsible for safety, whoever uses is responsible for safety, whoever operates is responsible for safety, and whoever outsources is responsible for safety.” The Company has established a building safety management system with building managers taking responsibility, and strictly enforces production safety responsibility level-by-level, profession-by-profession and zone-by-zone. The Company has also enhanced the dual prevention mechanism of safety risk classification and control, and hidden danger investigation and rectification. The Company carried out safety risk and hidden danger thorough investigation and rectification, to comprehensively prevent and resolve major safety risks and ensure the safety of employees’ lives and property.



Achieving Sustainability through Green and Security Development

Publicity and education

- Carry out production safety knowledge publicity, education and training and emergency drills to continuously enhance staff safety awareness and emergency response capabilities.

Supervision and inspection

- Conduct safety hazard investigation and rectification, 100 days of special rectification action, special action to comprehensively prevent and resolve major safety risks, and special action to investigate and rectify fire safety hazards in high-rise buildings and key buildings, establish a risk and hazard ledger, and timely implement closed-loop rectification of hazards.
- Strengthen the management of engineering construction and comprehensive maintenance operations cooperation units, strictly implement regulatory responsibilities to curb the occurrence of major accidents and ensure safety and stability.

Digital empowerment

- Launch a pilot construction of a “fire safety cloud platform”, leverage digital empowerment to enhance the technical defence networking capability of communications facility rooms.

Standardisation

- Carry out China Telecom pilot work on the standardisation of production safety to strengthen the basic management of production safety.



Achieving Sustainability through Green and Security Development

The Company firmly adheres to integrity governance and anti-corruption. The Company has earnestly complied with the laws and regulations on integrity governance and anti-corruption such as the *Supervision Law of the People's Republic of China*, and its parent company has formulated internal systems such as the implementation measures for strengthening the culture of integrity, so as to establish and optimise five major mechanisms including anti-corruption education and prevention, system monitoring, discipline and accountability, fault tolerance and correction, and inspection and check. The Company strictly prohibits any form of corruption such as bribery, extortion, fraud and money laundering. During the year, the Company continued to create the public account called “China Telecom with Integrity” on new media platform to create an atmosphere of carrying out business with integrity. The Company also launched a “China Telecom with Integrity” micro videos collection and promotion campaign to promote the building of a corporate integrity culture. The Company carried out integrity education and legal education for its management and employees, and distributed relevant training materials, such as the *Toolkit on Directors' Ethics* and the *Anti-Corruption Programme – A Guide for Listed Companies* prepared by The Hong Kong Independent Commission Against Corruption (ICAC), to all directors. The Company continued to consolidate and deepen the rectification achievements from the central inspection and internal inspection, guided and supervised the subordinate enterprises to achieve full coverage of inspection, and continued to push forward the special rectification of exploiting the Company for his/her own personal gain. The Company set up a whistleblowing postal mailbox and hotline to address any whistleblowing, allegations and relevant complaints against its employees as well as relevant criticism, opinions and recommendations on integrity construction and anti-corruption work. The Company strictly implemented the *Work Rules for Discipline and Supervision Organs in Handling of Reports and Accusations*, handled related accusations and charges in accordance with the rules, disciplines and regulations and strictly put the confidentiality requirements into effect, so as to effectively safeguard the rights of accusers.

The Company practically strengthened its financial and audit supervision. The Company continuously enhanced the internal control system and revised the internal control processes in a timely manner according to changes in the internal and external environment and the management requirements of the Company. The Company also enhanced the internal control system to match the corporate governance structure and strengthened the effectiveness of internal control construction. Leveraging a financial risk prevention and control system based on Big Data, the Company established a financial risk prevention and control system through the building and optimisation of financial risk control models, cross scanning of Big Data and intelligent multi-dimensional analysis. The Company continued to promote the digitalisation of financial operations and enhanced its management capabilities through the use of digital tools. The Company sincerely implemented the new requirements of the Central Government and the State on internal audit work, with the objective of “preventing risks, ensuring implementation, promoting development and enhancing value”, and gave full play to the “economic inspection” function of auditing to ensure that enterprises operate in compliance with the law and contribute to their high-quality development. In 2022, the Company launched 246,000 audit projects, proposed 3,468 management suggestions, and promoted the enhancement of 3,981 systems.



Strengthen the construction of internal audit system

- Establish a sound internal audit leadership system, strengthen company-wide consistent management and control of audit work, and enhance synergy with professional departments and corporate internal supervision efforts to enhance supervision effectiveness.

Strengthen audit monitoring and rectification

- Ongoing enhancement of audit monitoring of the effectiveness of internal control, compliance and risk management systems.
- Ensure full audit coverage for three years while strengthening inspections of key units and key fields.
- Strengthen the rectification of audit findings, consolidate the rectification responsibility, promote the substantial rectification of key issues, and transform the results of audit rectification into governance effectiveness.

Advance the digital transformation of auditing

- Proactively utilise new technologies such as AI and Big Data to gradually develop a routine risk monitoring capability and promote quality and efficiency in audit work.

Enhance accountability system

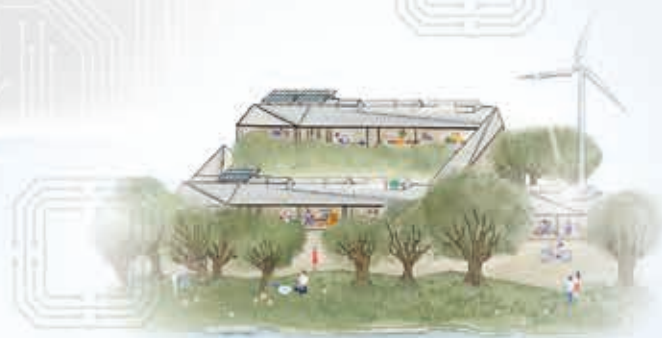
- Enhance the non-compliant operation and investment accountability system, carry out accountability investigations in accordance with laws and regulations, as well as common problem inspections to enhance the compliance operation awareness and bottom-line awareness of management at all levels.



BUILDING HARMONY THROUGH OPENNESS AND INCLUSIVENESS



BUILDING HARMONY THROUGH OPENNESS AND INCLUSIVENESS



Insisting on the “people-oriented” principle, China Telecom cared for employees and strove to achieve the common growth of employees and the Company. It supported rural revitalisation, narrowed the digital divide and enthusiastically participated in social welfare activities to share the accomplishments in digital development with people. At the same time, the Company adhered to open cooperation, proactively built an open ecology with partners and facilitated interconnection of global networks, proactively fulfilled overseas social responsibilities, supported the development of local communities, and supported the creation of a bright future for the mankind as a whole.

Building Harmony through Openness and Inclusiveness

CARING FOR EMPLOYEES

China Telecom protected the rights and interests of employees in accordance with the law, focused on establishing harmonious labour relations, cared for employees' well-being, supported the labour union to perform its functions, encouraged employees to participate in management, and proactively helped employees to enhance their capabilities, thus striving to achieve the common growth of employees and the Company.

Protecting employees' rights and interests

The Company protected the labour rights, democracy rights and spiritual and cultural rights of employees in accordance with the law, enhanced labour management, and conducted workforce employment in accordance with laws and regulations. The Company adhered to the principles of equality, voluntariness and consensus, and implemented the *Notice on Issuing of the Labour Contract of China Telecommunications Corporation (Template)* and other documents in accordance with relevant laws and regulations regarding labour and the protection of the employees' rights and interests including the *Civil Code of the People's Republic of China*, the *Law of the People's Republic of China on Labour Contracts* and the *Trade Union Law of the People's Republic of China*. The Company entered into written labour contracts with employees, specified in detail the circumstances under which employees may terminate labour contracts and implemented the contracts in accordance with laws and regulations, to protect their basic rights and perform the obligations of both parties.

The Company valued the labour of employees, attached great importance to employees' health, full paid remuneration and social security insurance in a timely manner, implemented the paid leave system, specified working hours, rest and vacation, to protect the legal rights of employees.

The Company continually enhanced the business operation models and job role classification for labour dispatch, clearly determined the employment form of each role, standardised the designated agreements signed with labour dispatch units. The Company checked and supervised these dispatch units and the signing of employment contracts by dispatch workers, and paid remuneration and social security insurance in a timely manner.



Building Harmony through Openness and Inclusiveness

The Company recruited talents from the whole society with full compliance with the *Employment Promotion Law of the People's Republic of China*, making job opportunity information available on the Company's website, official account, third-party recruitment websites and such other channels with due respect to fairness, openness and impartiality, to solicit various outstanding talents through a number of channels and diversified recruiting approaches. The Company offered equal opportunities to all applicants in its recruitments without discrimination against ethnicity, race, gender, age, region, marital status or physical condition, and offered suitable jobs to the disabled according to their characteristics. The Company adhered to equal pay for equal work, provided employees with promotion in their positions and smooth career development paths. The Company handled and used its employees' personal information in strict compliance with the applicable laws and regulations, showed high respect to their privacy and ensured security of such information.

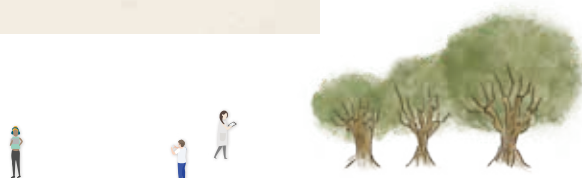
The Company attached great importance to occupational health management of its employees, established and optimised the *Interim Measures for Labour Protection of Female Employees of China Telecommunications Corporation* and other internal occupational health and labour protection policies in accordance with the *Occupational Disease Protection Law of the People's Republic of China* and such other laws and regulations related to occupational safety and health. The Company launched the Employee Assistance Program (EAP) to protect the occupational safety and physical and mental health of its employees.

The Company strictly implemented the relevant requirements of the *Regulations on the Prohibition of Child Labour*, prohibited child labour and forced labour in accordance with laws, and specified the age requirements of candidates in accordance with the recruitment management measures to avoid child labour. In 2022, no instances of child labour or forced labour was found.



[Negotiating the *Collective Contract* together]

In order to establish a harmonious and stable labour relationship within the Company, safeguard the legitimate rights and interests of its employees, and promote the healthy development of the Company, our Shaanxi branch, in accordance with the latest laws and regulations, made necessary revisions to the *Collective Contract*, *Collective Salary Negotiation Agreement* and *Special Contract for the Protection of Female Employees' Rights and Interests* of China Telecom Shaanxi branch which was signed and approved at the Third Session of the Third Employees' Congress, with the aim of protecting the legitimate rights and interests of its employees by means of standardised employment contracts.



Building Harmony through Openness and Inclusiveness

Caring for employees' well-being

The Company continued to strengthen communications with its employees, understand their needs and increase its care for them to enhance their sense of gain, happiness and safety.

Strengthening communications with employees

- The Company organised its labour unions at all levels to ensure the full-time and part-time labour union officials, labour union team leaders and employee representatives play their roles properly, as an effort to understand its employees' needs and difficulties, listen to their opinions and suggestions, and maintain harmonious relations with them.
- The Company carried out a questionnaire survey on its employees known as "Happiness and Motivation (幸福心動力)", summarised and analysed the reports on the ideological status of its employees in different provinces, and reported them to the senior management of the Company, as an effort to expedite the solving of the critical problems of its employees.

Enhancing the working environment of employees

- The Company initiated campaigns for the construction of "Beautiful Branches" and "Beautiful Courtyards" within the Company to continuously enhance the working and living environment of its frontline employees.
- The Company organised a vote for the exemplary units in terms of construction of the "four small facilities", i.e. small canteens, small bathrooms, small toilets and small recreational rooms, and selected 100 benchmark units from the grass-roots and front-line units at the county branch level and below to publicise and promote their good practices and experiences.

Improving the physical and mental health of employees

- The Company operates a psychological service hotline for its employees to regularly analyse their psychological status while holding online seminars on psychological empowerment to address their concerns, as an effort to provide psychological counselling and comforting for them.
- The Company makes realistic efforts to care for its female employees by strengthening protection for them, and optimising the environment and facilities of the mother and baby rooms.
- The Company regularly organised recreational and sports activities such as photography, singing, dancing, entertainment, badminton and table tennis games to help its employees maintain a good work-life balance, and enhance their sense of happiness.

Strengthening the assistance and caring work

- In response to the strikes of pandemic, earthquakes, floods, rainstorms, and summer heat, etc., the Company took immediate actions to understand the situation of its employees suffering from the disasters, provided guidance to and showed care for the frontline staff engaged in disaster relief, emergency repair and customer services, and carried out caring related works.
- The Company showed sincere care for its overseas employees and their families, regularly contacted them to understand their situation and solved their problems, and visited and expressed greetings to the families of the dispatched employees during holidays such as the Spring Festival, Dragon Boat Festival, Mid-Autumn Festival and National Day; the Company maintained regular registration of the children of employees who are studying abroad, and established a platform to offer remote medical consultation services for a total of 1,577 overseas students.



Building Harmony through Openness and Inclusiveness



[Recognising outstanding staff with family warmth and affection]

On 8 May, 2022, the Mother's Day, the Company's Jincheng branch invited the family members of model employee representatives to take part in the "Annual Commendation Conference", during which, the Jincheng branch presented flowers and other gifts to those family members to thank them for their understanding of the employees' hard work and their support for the Company's development.



[Colourful cultural and sports activities]

From 28 June to 13 July, 2022, our Yanbian branch organised the 4th "Tianyi Cup" Basketball Game for the purpose of strengthening the physical fitness of its employees, enriching their lives at leisure time, and enhancing team spirit and teamwork.



[The "March 8th" International Women's Day Activities]

On 8 March, 2022, the labour union of Jiangsu branch organised a flower arrangement and manicure party for their female employees under the theme of "Charming Ladies' Showcase on Women's Day (巾幗展風采、魅力伊人節)" to celebrate the "March 8th" International Women's Day.



[The "Celebrating National Day by Running (慶國慶·跑步打卡)" Activity]

On 1 October, 2022, the global company organised dozens of its young employees who are keen on long-distance running to join the "Celebrating National Day by Running" activity in Hong Kong, China, during which the runners took photos to record the moment at the "Chinese Red" decorations that could be seen everywhere. While exercising their bodies, our employees demonstrated their patriotic enthusiasm, with a greatly enhanced sense of belonging to their family and country.



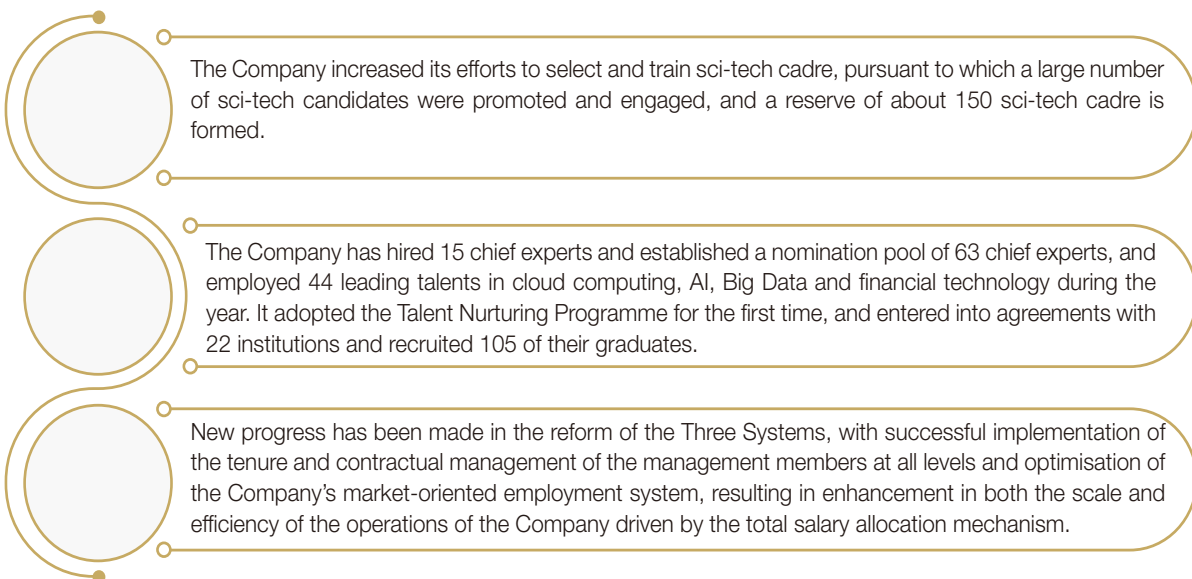
Building Harmony through Openness and Inclusiveness

Supporting employees' development

The Company continued to promote the development of the cadre and talent team, strengthened employees' training, promoted the spirit of model workers, encouraged employees to participate in management, further enhanced the skills and values of the workforce.

The Company solidly pushed forward the establishment of a high-quality cadre team and set clear talent allocation orientated to hard work and entrepreneurship. The Company selected candidates and established teams with a focus on corporate high-quality development, while continuously optimising the age and professional structure of the management team, making greater efforts to select and train young and outstanding cadre as well as sci-tech cadre, aiming to establish a reserve of sci-tech talents. The Company strove to foster correct ideals and beliefs among its managers, encouraging them to take necessary responsibilities, aiming to lay a solid foundation for the successful implementation of its "Cloudification and Digital Transformation" strategy, as well as the acceleration of the building of a world-class enterprise with high-quality development.

Adhering to the principle that science and technology constitute the primary productive force, talent is the primary resource, and innovation is the primary driver, the Company constantly advanced its "Outstanding Enterprise Powered by Talent" project by holding sci-tech talent work conferences, releasing the "14th Five-year" sci-tech talent development outline, aiming to raise four sci-tech talent teams, i.e. a team of strategic scientists, a team of technological leaders and innovators, a team of outstanding engineers, and a team of young sci-tech talents. The Company further advanced the reform of its talent development system and mechanism, while promoting the establishment of talent cloud, talent work station, special talent pools and such other mechanisms, so as to ignite the team's vitality.



The Company increased its efforts to select and train sci-tech cadre, pursuant to which a large number of sci-tech candidates were promoted and engaged, and a reserve of about 150 sci-tech cadre is formed.

The Company has hired 15 chief experts and established a nomination pool of 63 chief experts, and employed 44 leading talents in cloud computing, AI, Big Data and financial technology during the year. It adopted the Talent Nurturing Programme for the first time, and entered into agreements with 22 institutions and recruited 105 of their graduates.

New progress has been made in the reform of the Three Systems, with successful implementation of the tenure and contractual management of the management members at all levels and optimisation of the Company's market-oriented employment system, resulting in enhancement in both the scale and efficiency of the operations of the Company driven by the total salary allocation mechanism.



Building Harmony through Openness and Inclusiveness

The Company continued to strengthen employees' training. The Company kept abreast of the development trend of the digital economy, comprehensively promoted its "Cloudification and Digital Transformation" strategy, held 27 sessions of "Cloudification and Digital Transformation Seminar" series and four sessions of "the Way of Transformation" lecture series throughout the year, with more than 2 million person-times. The Company further strengthened the empowerment of its cloud expert team, and promoted its cloud empowerment system through the integration of "learning zone of China Telecom Cloud empowerment + key topic learning + China Telecom Cloud certification + train the trainers + labour contest + training camp", covering nearly 70,000 cloud professionals. The Company also organised large-scale talent trainings at different layers and levels, aiming to extensively foster three teams of engineers specialised in Industrial Digitalisation, R&D, and cloud-network through "Practice + Certification", which are open to the front-line workforce, with skill certification exams covering 40 majors in various professional lines and 370,000 person-times, promoting the transformation of skilled talents into outstanding engineers.



[Built a talent training system to help employees grow]

Anhui branch took various measures to continuously foster talents development and management. Through the establishment of a regular and extensive talent training and certification system, as well as the implementation of projects such as the "CBRS High-end Talent Fostering Program" and "Little Eagle Program (雏鹰计划)", the capabilities of its employees have been significantly enhanced. Particularly, three of them were certified as national model workers, one was certified as a national technical expert, nine were certified as provincial model workers, and many of them won the first prize in the national technical skill contests within the industry, with waves of outstanding technical talents emerging.



[Created an organisation keen on learning leveraging "Spring Rain" Mini Classroom]

In order to further deepen the building of an organisation keen on learning and create a good atmosphere for team learning, Chongqing branch opened a "Spring Rain" Mini Classroom in 2022 aiming to enhance the overall quality and ability of employees. The "Spring Rain" Mini Classroom holds classes once a month. Any of its employees may apply voluntarily to be a lecturer and there is no restriction on the subjects. This offered a platform for employees to showcase themselves, and created an agreeable atmosphere for them to keep learning.

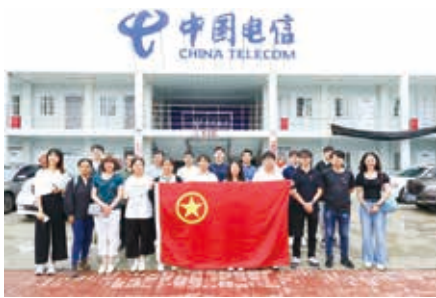


Building Harmony through Openness and Inclusiveness



["The Days We Grow in (成年的歲月)" Speech Contest]

On 23 September, 2022, our Shanxi branch held a speech contest known as "The Days We Grow in (成年的歲月)", kicking off themed promotional activities under the name of "Celebrating The 20th National Congress of the CPC with Twenty Years of Accomplishments". More than 170 employees participated in the contest who, bearing in mind the Company's history of development and their own experience, told touching stories of their struggle with affection, strikingly explained the spirit of entrepreneurship, innovation and creativity, and exhibited their charm along their course of struggle.



[The themed event of "Taking the Road to Digital Intelligence When We Are Still Young (走青春數智之路)"]

On 9 August, 2022, the Youth League Committee of our Tianjin branch organised a themed event known as "Taking the Road to Digital Intelligence When We Are Still Young" at the Beijing-Tianjin-Hebei Big Data Intelligent Computing Power Centre, during which young representatives visited the simulation sand table and the "Road of Construction" gallery while watching drones sending back the images of the park to understand the overall picture of the construction and operation of the project, and visiting the IDC server room. The young representatives were truly impressed by the strong computing power of the Intelligent Computing Centre during their tour.

The Company vigorously promoted the spirit of model worker, work spirit, and craftsmanship spirit, won 15 national honours and 117 provincial and ministerial honours in 2022.



[Won the "National Labour Day Certificate"]

On 28 April, 2022, the "May 1st" International Labour Day Celebration cum Commendation Conference of Sichuan Province was held in Chengdu, at which our Sichuan branch was granted the National Labour Day Certificate, making it the only provincial-level branch in Sichuan's communications industry and within China Telecom to receive such a great honour.

The Company encouraged employees to participate in management. During the year, the parent company revised and optimised the terms of reference of its employee representative congress by formulating a plan on the re-election of the employee representatives as a step to organise and prepare for election of the second employee representative congress. The Company has been unwaveringly soliciting suggestions from its employee representatives, and has received over 100 suggestions, covering cloud-network integration, sci-tech innovation, green development, network and information security, customer service, enterprise operation and management, workforce development, and care for its employees, etc. Since the first employee representative congress held in 2017, the Company's democratic management, democratic participation, and democratic supervision mechanisms have been further enhanced, and employees' rights to know, participate, express, and supervise have been effectively guaranteed, indicating that their involvement in the Company's democratic management has reached a new level.



SHARING DEVELOPMENT ACHIEVEMENTS

China Telecom took prudent steps to consolidate and expand its achievements in poverty alleviation and effectively link it with rural revitalisation, and persisted in giving full play to the role of the digital information infrastructure in empowering economic and social development, with the aim of narrowing the digital divide and enhancing digital inclusion, so that all people may enjoy the achievements of digital development.

Serving rural revitalisation

2022 is the year for the deepening of the consolidation and expansion of achievements in poverty alleviation and its effective linkage with rural revitalisation. The Company maintained its supporting efforts and gave full play to its corporate strengths to advance its key tasks such as targeted assistance and industrial assistance in a solid and orderly manner.



[Officials from the National Rural Revitalisation Administration meeting with their counterparts from China Telecom]

On 24 February, 2022, the National Rural Revitalisation Administration held talks with China Telecom on consolidating and expanding its achievements in poverty alleviation and linking it effectively with rural revitalisation. Liu Huanxin, Secretary of the Party Group and Director of the National Rural Revitalisation Administration, and Ke Ruiwen, Chairman of China Telecom, attended the meeting and delivered speeches. Ke Ruiwen said that the Company will thoroughly implement the decisions and deployments of the Central Committee of CPC, concentrate its efforts in targeted assistance without any relaxation, and maintain its investment of funds, talents, projects and other resources. It will continue to enhance network coverage in rural areas, and provide preferential communications and information services. It will focus on the construction of digital villages, build a number of digital village demonstration sites in terms of agricultural production, farmers' livelihood, rural governance and such other fields, and empower agricultural and rural modernisation.



Building Harmony through Openness and Inclusiveness

Throughout the year, the senior management of the Company carried out all-round supervision, inspection and study of the four targeted poverty alleviation counties and two targeted support counties (hereinafter referred to as “4+2” poverty alleviation counties), facilitated the introduction of free assistance funds of RMB18.99 million, and the training for 53,441 cadre-times and talents in the “4+2” poverty alleviation counties. The Company proactively carried out poverty alleviation through consumption, helping the characteristic industries of the “4+2” poverty alleviation counties and over 1,400 poverty alleviation sites of enterprises at all levels to develop and grow, effectively consolidating and expanding the achievements of poverty alleviation, supporting comprehensive rural revitalisation.



[Carrying out study on rural revitalisation efforts]

From 22 to 25 August, 2022, Shao Guanglu, President of China Telecom, and his entourage went to Liangshan, Sichuan to study the rural revitalisation efforts. They visited Muli County and Yanyuan County of Liangshan Prefecture, the targeted counties of our poverty alleviation assistance, and studied the construction sites of the projects supported by China Telecom, meeting with and expressing solicitude to our front-line employees. They also met local party committees and governments to jointly study how to consolidate and expand our achievements in poverty alleviation and link them effectively with the rural revitalisation efforts.



[Helping to boost the sales of characteristic agricultural products in the poverty alleviation areas]

In 2022, China Telecom upgraded its “Credit Points Support Mall” with new features such as special point redemption for its “4+2” poverty alleviation counties, and uploaded it to multiple channels for vigorous publicity in order to promote sales of agricultural products in the poverty alleviation areas. During the Spring Festival, the Autumnal Equinox (farmers’ harvest festival) and the end of the year, three special theme activities featuring credit point assistance were carried out respectively, achieving a sales revenue of over RMB75 million in total through credit points support during the year, representing an increase of nearly two times year-on-year.

The Company vigorously promoted the construction of digital villages as an important step to deepen its industrial assistance and targeted assistance efforts, aiming to create a model for digital empowerment in facilitating the “Five Revitalisations” in the rural areas. The Company continued to advance the integration and application of modern information technologies in various fields and sections of the agriculture and rural areas. Relying on the digital village platform, it provided capabilities such as cloud monitoring, cloud broadcasting, and AI applications as well as informatisation applications such as smart CPC development, village and government administration as well as convenience services for township governments and villagers, aiming to solve the “last-mile” bottleneck in the informatisation of grassroots-level governance, and achieved new progress in the rural revitalisation and agricultural and rural modernisation campaign.



Building Harmony through Openness and Inclusiveness



[Opened up the industry chain channel for “Xinjiang Fruits”]

Agriculture is an important economic pillar of Shufu County, while the forestry and fruit industry is a microcosm of Shufu County’s characteristic agriculture. China Telecom followed its guiding thoughts of industrial assistance known as “expanding scale, increasing value, and promoting integration”, insisted on promoting the development of the forestry and fruit industry in Shufu County by linking up all processes of planting, processing, storage, transportation, sales, branding and after-sales service of Xinjiang Fruits, while proactively expanded their agricultural industry chain and value chain, and continuing to develop smart agriculture and enhance their brand influence, and the quality of their products, in turn expanding their market shares. In addition, we have supported the local Kashi Jiangguoguo Agricultural Technology Co., Ltd. (喀什疆果果農業科技有限公司) to grow into a leading enterprise in Xinjiang’s agricultural industrialisation campaign, with a sales exceeding RMB220 million in 2022, to help the people in Shufu County enhance their living conditions with their own products.



[Facilitated the development of local characteristic industries]

Guangxi branch went deep into Dikou Village to conduct research and came up with a precise assistance solution known as “one village, one case”, which involved active exploration in areas such as planting and processing, brand image building, village collective economic development, industrial integrated development, marketing method innovation and digital application based on the village’s rich natural resources, aiming to create a mature industrial chain covering planting, processing, brand registration, sales, etc. through measures such as land integration and hiring of workers. The output value of the selenium-rich rice and yam planting in Dikou Village has exceeded RMB12 million, effectively boosting the upgrade of local industries and increasing production and income of local residents.



[Characteristic paddy fields empowered the collective economy]

In line with the unique advantages in soil, landforms, and mountains and rivers of Henggang Village, Xiangdong District, our Jiangxi branch helped Henggang Village Cooperatives build a special paddy field combining rice planting with shrimp breeding, which adopted an industrial support model featuring “company + cooperative + farmers”, under which they have reclaimed and transferred 350 mu of winter paddy fields that have been idle for ages into a rice planting and shrimp breeding base, which not only reduced idling fields, but also enhanced local employment by helping the surrounding farmers and households which had just been lifted out of poverty or under close monitoring to find jobs nearby, further enhancing their feeling of gain, happiness and security.



Building Harmony through Openness and Inclusiveness

Narrowing the digital divide

The Company has been undertaking the task of universal telecommunications services for seven consecutive years, from laying optical cables to building base stations, and continuously enhancing network coverage in border and remote areas, striving to narrow the “digital divide” between regions. In 2022, the Company continued to carry out the seventh batch of universal services by building nearly 4,000 4G base stations, providing high-speed information and communications services for around 3,800 remote administrative villages and border areas covering nearly 1,600 square kilometres in our country.



[Completed the seventh batch of universal services]

Our Tibet branch adhered to their original aspiration and proactively carried out universal services. Since 2016, it has accomplished a communications coverage of 3,204 administrative villages and 108 frontier stations by conquering numerous difficulties and challenges in terrains and weather, fulfilled its responsibilities as a central enterprise in terms of consolidating and prospering border areas as well as enriching residents. By 2022, our Tibet branch has completed the construction of the seventh batch of 146 base stations, and started the construction of the eighth batch of universal services, striving to guarantee Tibet’s long-term stability and high-quality economic development by means of informatisation services.

The Company proactively promoted the traditional virtues of filial piety and respect for the elderly, earnestly fulfilled its social responsibilities as a central enterprise by helping the senior people to cross the “digital divide”. During 2022, the Company continued to optimise and promote the transformation of telecommunications services for the elderly by combining traditional services with intelligent innovation, and online services with offline channels, focusing on the recurring matters in the daily life of the elderly, and providing more convenient, caring, and high-quality information and communications services and exclusive services for the elderly, aiming to solve the difficulties faced by the elderly in using intelligent technology, and facilitate their use of intelligent products and services. During the year, our 10000 service hotline offered warm-hearted services to the elderly by answering about 22.9 million phone calls from them which were directly connected to the elderly caring attendants, in addition to the completion of over 95,000 times of remote counter and video customer service from our outlets.



Building Harmony through Openness and Inclusiveness



[Developed 5G smart phone for the elderly]

Our terminal company has developed a model of 5G smart phone that is especially designed for the elderly. It is China Telecom's first self-developed 5G smart phone for the elderly with completely independent intellectual property rights. It is designed to be applicable, easy to use, durable, practical and economical, with certain elderly-caring functions such as larger fonts, larger icons, higher volume, and strong binding with their children's cell phones, as well as pre-installed apps, aiming to effectively protect the safety of the elderly with all-round care and help them blend into the digital life faster.



["Caring for the Seniors during the Chongyang Festival" with a visit to the seniors university]

On 3 October, 2022, which coincided with the Chinese Chongyang Festival, the "Caring Station" of our Taizhou branch organised its volunteers to hold a public-interest lecture on smart phone usage for the elderly at the Sunset Seniors University. The lecturers focused on the difficulties and pain points encountered by the elderly while using their cell phones, and offered targeted guidance to them.

Enthusiastically participating in social welfare

The Company enthusiastically participated in social welfare activities, and consistently implemented the *Law of the People's Republic of China on Public Welfare Donations* and other laws and regulations, as well as the *Measures for the Management of External Donations of China Telecommunications Corporation*. It supported the development of science and technology, education, culture, sports and health and hygiene through various forms such as public welfare donations and relief donations, and proactively provided relief to the poor, disabled and vulnerable people taking into account the donation recipients and the needs for social development based on the principles of "voluntary participation, division of power and responsibilities, doing what is possible, being honest and trustworthy". It encouraged employees to promote the spirit of volunteering, give full play to the service concepts of the voluntary service brand "Love from e-Surfing", and proactively participated in various forms of voluntary service activities.



Building Harmony through Openness and Inclusiveness



[Carried out voluntary service activities of civilised transportation]

At the end of July 2022, Jilin branch proactively integrated the service concepts of “Love from e-Surfing” into the practice of voluntary service activities across the province, and started a 7-day voluntary service activities of civilised transportation. Wearing “red vests” and holding small red flags, volunteers helped the traffic police to educate those who violated traffic rules such as cross-line parking, running red lights, and riding electric motorcycles without wearing a helmet, which became a beautiful scenery in the crowd.



[Conveyed warmth and love together with Bear Paw Coffee]

In October 2022, Shanghai branch joined hands with the popular charity brand, Bear Paw Coffee, to launch the activity of “Small Hands in Big Hands, Having a Beautiful Home Together (小手拉大手·翼起‘美好家’)” in Xindong Store, Caoxi Store and Chuanbei Store. With the theme of “Spreading Public Welfare Love and Conveying Warmth and Positive Energy”, the event included the “Beautiful Home” themed painting exhibition for autistic children, flash live-streaming featuring the “Children’s Singing in Chorus to Bless the Country and Homes”, the “Bear Paw Relay Happiness (熊爪接力美好)” activity and the “Beautiful Home” themed family portrait shooting. At the same time, a public welfare donation area was set up for the audience who visited the exhibitions and watched the live-streaming and performances to offer their warmth to children living in remote rural areas and children with special needs.





[The donation of emergency rescue drones]

Yanyuan County of Liangshan Yi Autonomous Prefecture, Sichuan Province is a targeted assistance county of China Telecom. Under the coordination of Sichuan branch, Jiangsu branch and Shunfeng Express Co., Ltd. donated 2 sets of M30T special drones to Yanyuan County for regular inspection and emergency response in forest fire prevention, flood prevention and disaster control in the county, so as to ensure the safety of people's lives and property, and strongly promote rural revitalisation. The pictures above show that in 2022, Jiangsu branch and Jiangsu Shunfeng Express Co., Ltd. jointly held a launching ceremony for the donated drones to Yanyuan County.

The Company continued to promote the construction and operation of the “Caring Stations”, played the role of small station but large platform, to care for special social groups with warm services. The Company helped to strengthen the development of barrier-free and safe information, and continued to enhance the quality of public welfare care. The Company expanded the service coverage and outreach of the “Caring Stations”, which includes launching the “Let's Meet on Tuesday (相約星期二)” public welfare service day, establishing a connected and integrated care model of “online public welfare live streaming and offline station service”, regularly providing services for outdoor workers to rest and refresh, regularly organising micro-lectures to help the elderly to better use the smart applications, launching the police-enterprise collaborated anti-fraud publicity campaign for the whole society, carrying out a series of themed care activities, such as “bring coolness in summer”, “bring warmth in winter” and “paying respect to the elderly in the Chongyang Festival”, to constantly enhance the innovative service capabilities and range of the Caring Stations. In 2022, more than 10,000 Caring Stations were built to provide services for residential communities and other areas with high demand. 43,000 lectures on how to use digital products were held. At the same time, over 6 million people were benefited from our caring service. In 2022, 96 Caring Stations won the title of “Most Beautiful Trade Union Outdoor Worker Service Station (最美工會戶外勞動者服務站點)” by the All-China Federation of Trade Unions, continuing to rank No.1 in terms of the number of commended stations among stations provided by enterprises.



Building Harmony through Openness and Inclusiveness



[Caring Stations offered “Let’s Meet on Tuesday” caring for the outdoor workers]

In August 2022, Xiamen branch successively carried out activities to care for outdoor workers in eight major sales outlets, and cooperated with takeaway enterprises to set up “love tea stalls” in Jiangtou and Binbei sales outlets to provide riders with services such as resting in the outlet for coolness, easy charging, giving out summer drinks and other services, and guided riders to download the National Anti-Fraud Center app to enhance anti-fraud awareness and enhance prevention capabilities.



[Caring Stations brought exceptional warmth]

Hengshui branch has set up “Caring Stations” in 32 sales outlets under their management in 13 districts and counties to establish special services facilities to care for outdoor workers and the elderly. It also provided heartwarming services to outdoor workers including heating, hot water, rest and regularly organised workshops teaching the elderly on how to use smart products to increase their understanding of the digital world and enabling them to enjoy the convenience brought by it.



[“Police Officers from the Capital Teaches You to Fight against Frauds” public welfare live broadcast]

In 2022, Caring Stations launched a nationwide public welfare live broadcast with professionals such as police officers, firefighters, doctors, and experts from the Consumer Association in the live broadcast room to disseminate and popularise knowledge and skills such as anti-fraud, fire safety, consumer rights protection, as well as answering questions online, with over 300 live broadcasts having been carried out. The picture shows that on 17 September 2022, the capital’s anti-fraud police demonstrated what usually happens in online dating scams, and explained anti-fraud techniques in layman’s terms.



CO-BUILDING AN OPEN ECOLOGY

China Telecom has always adhered to the principle of open cooperation, and dedicated itself to bringing together a digital industry ecology, contributing its wisdom to the cloud-network broadband development, and establishing a global cloud ecology cooperation plan regarding cloud, network, edge, terminals and so on. The Company continued to enhance the resilience of the supply chain and the industrial chain and strove to build a “Community with a Shared Future” with global broadband network operators, suppliers, cloud service providers, industrial capitalists and other stakeholders so as to form a co-building, co-sharing and win-win cooperation digital ecosystem.

Co-developing the national cloud ecology

The Company has been proactively implementing the national strategy, and aggregating ecological forces with the aim of becoming “the best domestically and first-class globally” in order to build the national cloud with unique endowment and capabilities and a secure and controllable industrial chain. The first round of investment introduction of China Telecom Cloud was approved by SASAC in September 2022, marking a solid step forward in the reform of equity diversification. The Company has also taken the initiative to build a fundamental public cloud for central enterprises, and started the construction of exclusive information and innovation resource pools, and comprehensively supported the digital transformation and intelligent development of state-owned central enterprises. It planned and constructed 24 industry clouds in association with several state-owned central enterprises, accounting for 60% of the approved in the first batch of industry cloud selection by the SASAC in 2022. Meanwhile, it built a SaaS application sharing service platform for central enterprises, assisted central enterprises to carry out SaaS application adapting to information technology application innovation to gradually achieve full business coverage, and empowered state-owned central enterprises to innovate the informatisation construction model.



[The 5th Digital China Summit Cloud Ecosystem Conference]

On 24 July 2022, during the 5th Digital China Summit, the SASAC of the State Council, the People’s Government of Fujian Province, China Telecom, China Electronics Technology and China Electronics jointly hosted the 2022 Cloud Ecosystem Conference, which comprehensively displayed the latest national practice achievements in the field of cloud computing. Meanwhile, the cloud state-owned central enterprise launching ceremony cum state-owned assets supervision cloud online ceremony were officially launched to further strengthen the consensus to build national cloud together, and enhance the agglomeration effect of the cloud industry, thus building an open and win-win cloud ecosystem as well as combining efforts to build a secure and trustworthy cloud computing information infrastructure.



Building Harmony through Openness and Inclusiveness

Expanding digital technology ecology

The Company implemented the strategy of expanding domestic demand based on resource endowment and conforming to the new consumption development trends. At the same time, it has been proactively exploring and fully releasing the new momentum of cloud-network integration. It has also been promoting the continuous integration of key digital technologies such as network, cloud computing, security, AI and new consumer platforms into all fields of economic and social lives in order to realise application innovation and cross-industry integration and efficiently meet new consumer needs. It has been working on the development of new consumer services for digital life with people's livelihood needs as the core to further expand the scale of new consumption and penetrate deeper into the supply chain and the industrial chain. Besides, it has continued to explore new business forms and new models to stimulate consumption potential and promote the healthy development of new consumption.

On 29 December, under the guidance from SASAC of the State Council, China Telecom held the 2022 China Telecom Digital Technology Ecosystem Conference. With the theme of "Digital Technology for a Better Future", the conference comprehensively displayed the latest achievements of the Company's implementation of its Cloudification and Digital Transformation strategy. Topics about new technologies in digital economy, prosperous new ecology of digital technologies and facilitating new consumption of digital life were explored at the conference. The conference released sci-tech innovation achievements, including the China Telecom Cloud White Paper, China Telecom Cloud Zijin DPU, Xinghe AI Platform and digital platforms in 8 major industries of the industrial digitalisation field, and simultaneously launched the 2023 Digital New Consumption Festival. Yuan Ye, member of the Party Committee and Deputy Director of SASAC, and Huang Yan, member of the Party Group and Deputy Director of the National Rural Revitalisation Bureau, attended the forum and delivered speeches. Ke Ruiwen, Chairman of China Telecom, delivered a keynote speech, and Shao Guanglu, President of China Telecom, released sci-tech innovation achievements.



[Held the 2022 China Telecom Digital Technology Ecosystem Conference]

On 29 December 2022, China Telecom held the 2022 China Telecom Digital Technology Ecosystem Conference. During which, the participating leaders and representatives of a number of enterprises jointly launched the 2023 Digital New Consumption Festival.



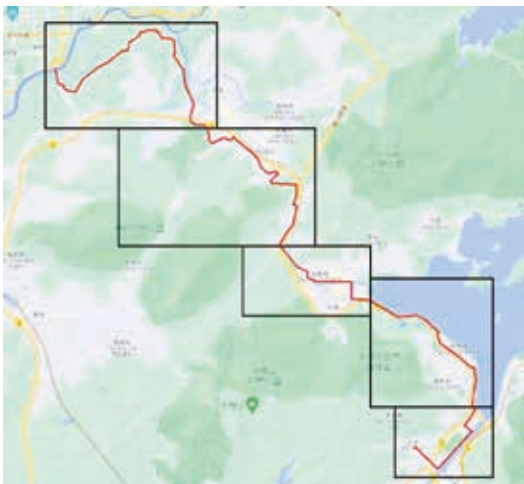
CO-WRITING THE OVERSEAS CHAPTER

China Telecom has long been committed to strengthening international cooperation in the field of information and communications, promoting the construction of global digital information infrastructure and network interconnection, effectively realising the quality development of digital information infrastructure in countries along the “Belt and Road”. It also proactively fulfilled social responsibilities by being involved in the lives of local people, and helping to build a community with a shared future.

Setting up the global cloud-network

As at the end of 2022, the Company has set up 50 branches in 41 countries/regions around the world to provide international value-added network services and interconnection services for global customers.

The Company proactively deployed global network resources with a 12% increase in the bandwidth of overseas transmission backbone relays throughout the year, adding 4.8T of transmission backbone relays in the direction of “Belt and Road”, and 13 new transmission nodes. As a result, its CTGNet’s global ranking enhanced rapidly. It proactively promoted the construction of overseas cloud resource capabilities, and accelerated the deployment of global cable resources to establish a global high-speed interconnected intelligent cloud-network resource system.

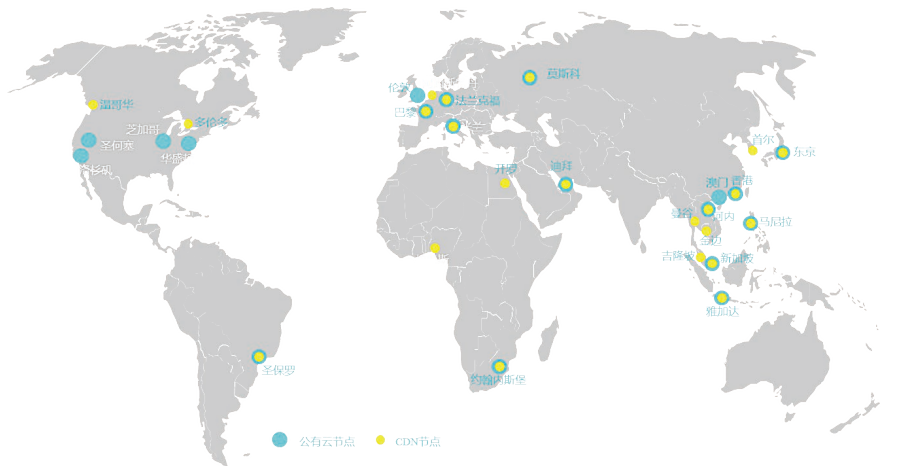


[Completion of the Shatin Lok Ma Chau optical cable]

On 23 June 2022, the global company successfully completed the official acceptance of the cross-border optical cable project from Sha Tin to Lok Ma Chau, Hong Kong. Since the China Telecom Western Channel Optical Cable and the Hong Kong-Zhuhai-Macau Bridge Cross-border Optical Cable were put into operation, the third ultra-low latency cross-border optical cable in Hong Kong independently built by Chinese-funded operators has been successfully delivered.



Building Harmony through Openness and Inclusiveness



[Continuing to promote the construction of China Telecom Cloud international stations]

As the foundation of the overseas business operation of China Telecom Cloud, in 2022, the international stations of China Telecom Cloud from China Telecom managed 5 public cloud pools of China Telecom Cloud and invested in the construction of 10 CDN overseas nodes. The international cloud-network platform has 30 inter-cloud high-speed nodes connected to 90 public clouds, and 106 SD-WAN nodes covering 43 cities around the world.

Supporting community development

The Company fully fulfilled its responsibilities as a Chinese enterprise, always stayed in touch with the developments of local communities, and proactively got involved in and integrated into local communities. It offered concern and care with practical actions, and provided assistance within its capacity, so as to transmit a steady stream of positive energy to the society.



Building Harmony through Openness and Inclusiveness

The Company has localised the employment of talents in overseas branches to drive the local economic development. Macau branch launched the “Smart Technology Talent Training Programme”, which aimed to open the door for young people in Macau to enter into the “new city, new technology” career and cultivated young local professionals in communications and new technology areas. South African branch proactively responded to the requirements of the South African Black Economic Revitalisation Act through carrying out black career development training and related services for black youth employment. The Company also provided one-year career development training courses for local black people and local unemployed black youth in South Africa through professional institutions to help them enhance vocational skills and employment competitiveness.



[Caring for the healthy growth of young people with learning difficulties]

In early October 2022, global company fully fulfilled its responsibilities as Chinese enterprises in Hong Kong and joined hands with the Hong Kong Career Development Services Office to organise volunteers to make cupcakes with youth with learning difficulties to enhance their self-confidence and communication abilities with the outside world, helping them build a platform for communication with the society, so as to better integrate into and adapt to social life.



[Working with stakeholders to pack love food]

In May 2022, China Telecom Americas organised a volunteer team to participate in the “Love Food Packing” event organised by the North Texas Food Bank (NTFB). Food for the event came from online donations from 262 partner organisations. Volunteers of China Telecom Americas worked with local volunteers to pack and deliver bread, compressed cookies, canned food and other non-perishable foods for the unemployed and homeless in 13 towns around north Texas. Through 5 hours of joint efforts, more than 7,000 boxes of food were delivered to poor families in nearby towns that day. These supplies would help some poor families in the local area to temporarily overcome the problem of food shortage.





TABLE OF THE INDICATORS

Issues	No.	Name of Indicators	Unit	Year 2022	Year 2021
Emissions	1.	Scope 1: Direct greenhouse gas emissions ¹	million tons CO ₂ e	0.20	0.28
	2.	Scope 2: Indirect greenhouse gas emissions ¹	million tons CO ₂ e	15.57	15.18
	3.	Total greenhouse gas emissions ¹	million tons CO ₂ e	15.77	15.46
	4.	Greenhouse gas emissions per unit operating revenue ¹	tons CO ₂ e/RMB million	32.76	35.18
	5.	Greenhouse gas emissions per unit of information flow	tons CO ₂ e/TB	0.0154	0.0194
	6.	Sewage emissions ²	million tons	28.69	29.55
	7.	SO ₂ emissions ³	tons	24.54	26.86
	8.	Non-hazardous waste produced ⁴	tons	23,296.69	23,243.50
	9.	Non-hazardous waste produced per unit operating revenue	tons/RMB million	0.05	0.05
	10.	Hazardous waste produced ⁴	tons	22,540.19	17,760.76
	11.	Hazardous waste produced per unit operating revenue	tons/RMB million	0.05	0.04
	12.	Electronic waste produced ⁴	tons	31,435.86	39,343.05
	13.	Electronic waste produced per unit operating revenue	tons/RMB million	0.07	0.09
Use of Resources	14.	Electricity consumption ⁵	MWh	26,598,676.90	25,870,117.27
	15.	Natural gas consumption ⁵	MWh	101,412.81	95,563.15
	16.	Coal consumption ⁵	MWh	13,108.48	14,644.36
	17.	Gasoline consumption ⁵	MWh	507,487.19	756,017.63
	18.	Diesel consumption ⁵	MWh	173,041.02	233,367.88
	19.	Purchased heat consumption amount ⁵	MWh	297,184.94	367,109.87
	20.	Overall energy consumption ⁵	MWh	27,690,911.34	27,336,820.16
	21.	Overall energy consumption per unit of information flow	MWh/TB	0.0270	0.0344
	22.	Overall energy consumption per unit operating revenue	MWh/RMB million	57.52	62.19
	23.	Power consumption per carrier frequency at base stations	kwh/carrier frequency	1,437.82	1,391.04
	24.	Water consumption ⁶	million tons	33.76	34.76
	25.	Water consumption per unit operating revenue	tons/RMB million	70.12	79.08
	26.	Reclaimed water consumption ⁶	tons	286,508.75	61,332.93

Table of the Indicators

Issues	No.	Name of Indicators	Unit	Year 2022	Year 2021
The Environment and Natural Resources	27.	Investment in energy saving and environmental conservation ⁷	RMB million	1,357.95	764.19
Product Responsibility	28.	Countries and regions of mobile data international roaming and roaming in Hong Kong, Macau and Taiwan	–	251	248
	29.	Domestic administrative village fibre broadband coverage	%	97	97
	30.	Domestic administrative village 4G network coverage	%	97	96
	31.	Internet backbone network interconnection bandwidth	Gbps	32,720.00	17,705.00
	32.	International interconnection bandwidth	Gbps	10,964.76	10,792.00
	33.	Call drop rate of mobile communication ⁸	%	0.03	0.03
	34.	Call completion rate of mobile communication network ⁸	%	99.24	99.14
	35.	Call completion rate for access line	%	91.72	92.25
	36.	Packet loss rate of broadband Internet ChinaNet backbone network	%	0.03	0.03
	37.	Mobile service satisfaction ⁹	points	81.53	81.56
	38.	Fixed broadband satisfaction ⁹	points	82.34	80.95
	39.	Wireline voice satisfaction ⁹	points	87.43	87.44
	40.	Percentage of in-time response to international customer repair reports ¹⁰	%	99.55	99.68
	41.	International customer satisfaction ¹¹	points	93.30	93.80
	42.	Number of new patents granted	–	602	505
	43.	Number of new invention patents granted	–	560	481
	44.	Number of phishing and fraud websites blocked	–	675	2,925
	45.	Number of customer complaints ¹²	person-times	52,600	64,492
	46.	Customer complaint rate ¹²	person-times/million users	75.00	96.20
Anti-corruption	47.	Number of anti-corruption education activities	–	23,574	24,997
	48.	Attendance of anti-corruption education and trainings	person-times	1,398,273	1,170,320
	49.	Number of corruption cases ¹³	–	1	0
Supplier	50.	Total number of suppliers ¹⁴	–	24,237	19,041
	51.	Number of suppliers in Mainland China ¹⁴	–	23,706	18,515
	52.	Number of suppliers in regions of Hong Kong, Macau and Taiwan of China ¹⁴	–	157	145
	53.	Number of suppliers from other countries and regions ¹⁴	–	374	381

Table of the Indicators

Issues	No.	Name of Indicators	Unit	Year 2022	Year 2021	
Employment	54.	Proportion of female managers	%	21.30	20.89	
	55.	Total number of employees ¹⁵	–	280,683	278,922	
	56.	Number of full-time employees ¹⁵	–	274,229	272,157	
	57.	Number of part-time employees ¹⁵	–	6,454	6,765	
	58.	Number of employees under the age of 30	–	41,058	37,728	
	59.	Number of employees aged 30-49	–	168,584	176,572	
	60.	Number of employees aged 50 and above	–	71,041	64,622	
	61.	Number of male employees	–	191,773	189,461	
	62.	Number of female employees	–	88,910	89,461	
	63.	Number of employees in Mainland China	–	278,483	276,781	
	64.	Number of employees in Hong Kong, Macau, Taiwan and overseas branches	–	2,200	2,141	
	65.	Percentage of ethnic minority employees ¹⁵	%	6.87	6.81	
	66.	Number of new employees ¹⁵	–	14,021	12,016	
	67.	Percentage of female among new employees ¹⁵	%	34.77	36.81	
	68.	Turnover rate of employees under the age of 30 ¹⁶	%	4.11	5.18	
	69.	Turnover rate of employees aged 30-49 ¹⁶	%	0.83	1.13	
	70.	Turnover rate of employees aged 50 and above ¹⁶	%	0.64	0.71	
	71.	Turnover rate of female employees ¹⁶	%	1.31	1.64	
	72.	Turnover rate of male employees ¹⁶	%	1.24	1.55	
	73.	Turnover rate of employees in Mainland China ¹⁶	%	1.27	1.59	
	74.	Turnover rate of employees in Hong Kong, Macau, Taiwan and overseas branches ¹⁶	%	0.55	0.47	
	Safety and Health	75.	Serious injury rate per 1,000 employees ¹⁷	number of serious injuries/ thousand	0.00	0.00
		76.	Loss of working days due to work-related injury ¹⁷	days	0.00	0.00
		77.	Number of participants in safety emergency drills	person-times	445,539	244,619
78.		Number of participants in health and safety trainings	person-times	670,461	353,057	
79.		Participation rate of employee health checkup ¹⁵	%	94.45	90.40	
80.		Number of work-related fatalities ¹⁷	–	0	0	
81.		Fatality rate per 1,000 employees ¹⁷	number of deaths/ thousand	0.0000	0.0000	

Table of the Indicators

Issues	No.	Name of Indicators	Unit	Year 2022	Year 2021
Training and Development ¹⁸	82.	Training expenses per employee	RMB/person	2,355.30	2,693.82
	83.	Number of internal trainers	–	13,280	14,289
	84.	Total number of participants trained	10,000 person-times	37.26	45.79
	85.	Number of senior management trained	person-times	497	499
	86.	Number of middle-level management trained	person-times	51,105	61,343
	87.	Number of general employees trained	person-times	321,030	396,054
	88.	Number of male employees trained	person-times	245,429	270,768
	89.	Number of female employees trained	person-times	127,203	187,128
	90.	Number of employees passed skill certification exams	person-times	24,602	20,794
	91.	Number of employees enrolled in online college	10,000 persons	24.96	22.69
	92.	Average training time per employee	hours/person	31.65	43.16
	93.	Average training time per senior management	hours/person	90.31	87.94
	94.	Average training time per middle-level management	hours/person	34.67	52.74
95.	Average training time per general employee	hours/person	31.14	41.95	
96.	Average training time per male employee	hours/person	30.93	37.75	
97.	Average training time per female employee	hours/person	33.24	54.56	
98.	Average training time in online college per employee	hours/person	57.15	40.73	
99.	Proportion of senior management participating in training	%	98.39	83.20	
100.	Proportion of middle-level management participating in training	%	50.87	74.70	
101.	Proportion of general employees participating in training	%	42.34	57.80	
102.	Proportion of male employees participating in training	%	41.62	58.70	
103.	Proportion of female employees participating in training	%	47.42	61.90	

Table of the Indicators

Issues	No.	Name of Indicators	Unit	Year 2022	Year 2021
Community	104.	Total service time of volunteers	10,000 hours	108.57	65.13
	105.	Number of participants in volunteering activities	10,000 persons	20.11	13.74
	106.	Number of volunteering activities	sessions	16,417	12,754
	107.	Volunteer service activities input amount	RMB million	16.44	19.02
	108.	Number of participated pole line co-built ¹⁹	kilometres	1,412	3,488
	109.	Number of provided pole line co-shared ¹⁹	kilometres	13,595	19,829
	110.	Number of co-built pipelines participated ¹⁹	kilometres	6,792	8,076
	111.	Number of co-shared pipelines provided ¹⁹	kilometres	896	1,210
	112.	Number of co-built indoor distribution systems participated ¹⁹	-	68,339	42,476
	113.	Personnel involved in emergency communication support	person-times	840,242	676,075
	114.	Number of emergency communication equipment dispatched	set-times	113,928	110,731
	115.	Number of emergency communication vehicles dispatched	vehicle-times	273,941	182,773
	116.	Number of emergency public service messages sent ²⁰	million pieces	27,543.32	17,911.36

Notes:

- Greenhouse gas is measured based on the *Greenhouse Gas Protocol – Enterprise Accounting and Reporting Standards* of World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* of Intergovernmental Panel on Climate Change (IPCC) and the *Fourth Assessment Report 2007* of Intergovernmental Panel on Climate Change (IPCC), etc.;

Scope I: direct greenhouse gas emissions include the greenhouse gas emissions from use of natural gas, coal, gasoline and diesel;

Scope II: indirect greenhouse gas emissions include the greenhouse gas emissions from purchased electricity and heating power, where the electricity emissions factors shall refer to the *Guidelines for Calculation Methods and Reporting of Enterprise Greenhouse Gas Emissions – Power Generation Facilities (2022 Revision)* (《企業溫室氣體排放核算方法與報告指南發電設施(2022年修訂版)》) released by Ministry of Ecology and Environment of the People's Republic of China; and the emissions factor for heat shall refer to the *Guidelines for Calculation Methods and Reporting of Greenhouse Gas Emissions from Industrial and Other Industries Enterprises (Trial)* (《工業其他行業企業溫室氣體排放核算方法與報告指南(試行)》) issued by the General Office of National Development and Reform Commission of the People's Republic of China;

Total greenhouse gas emissions shall be the sum of Scope I (direct greenhouse gas emissions) and Scope II (indirect greenhouse gas emissions).

- The quantity of sewage emissions is measured based on water consumption, and the wastewater discharge coefficient shall be based on GB50318-2017: *Code of Urban Wastewater Engineering Planning of the National Standards of the People's Republic of China* and relevant documents of National Bureau of Statistics of the People's Republic of China.
- SO₂ emissions refer to the SO₂ emissions arising from coal use, which are calculated using the material balance method by reference to the standard coal conversion coefficient in GB/T 2589-2020: the *National Standardised General Principles for Calculation of Comprehensive Energy Consumption of the People's Republic of China* (《中華人民共和國國家標準綜合能耗計算通則》).
- Non-hazardous waste includes domestic waste. The quantity of domestic waste produced is measured based on the per capita household waste output coefficient as specified in the guidance released by the State Council of the People's Republic of China. Hazardous waste only includes the volume of disposed waste batteries. Electronic wastes include waste telecommunications equipment, waste cables, waste terminals, and waste electronic office supplies.

5. Statistics on electricity consumption, natural gas consumption, coal consumption, gasoline consumption, diesel consumption, purchased heat consumption and overall energy consumption cover the Company's headquarters and 31 provincial branches; the conversion coefficient for each energy consumption shall refer to GB/T 2589-2020: the *National Standardised General Principles for Calculation of Comprehensive Energy Consumption of the People's Republic of China* (《中華人民共和國國家標準綜合能耗計算通則》).
6. The water source used by the Company comes from municipal tap water supply or purchased reclaimed water, and there is no problem in obtaining water source.
7. Investment in energy saving and environmental conservation comprises of two categories: the Company's contribution and contractual energy management.
8. VoLTE data was used for call drop rate of mobile communication and call completion rate of mobile communication network after the full commercial launch of VoLTE (based on 4G network calls) business in 2019.
9. The data sources of user satisfaction for the year of 2022 are from the Ministry of Industry and Information Technology of the People's Republic of China. In 2021, the Ministry of Industry and Information Technology optimised the Telecom Customer Satisfaction Index (TCSI) model, combining handset Internet access user and mobile voice user satisfaction into mobile service satisfaction, and the optimised model includes the mobile service user satisfaction, wireline Internet access user satisfaction and wireline voice user satisfaction.
10. Percentage of in-time response to international customer repair reports refers to the percentage of work orders which are completed by the global company within the required time limit of service recovery for customers to the total number of work orders.
11. The data sources of international customer satisfaction are from a third-party consultation company, who conducted annual satisfaction surveys on enterprise customers to whom the global company provided services during the survey cycle.
12. The data sources of number of customer complaints and customer complaint rate in 2022 are from the Ministry of Industry and Information Technology of the People's Republic of China.
13. Number of corruption cases refers to the number of corruption cases filed against the Company or its employees and the judgement of which has been received during the reporting period.
14. The total number of suppliers, number of suppliers in Mainland China, number of suppliers in regions of Hong Kong, Macau and Taiwan of China, number of suppliers from other countries and regions in 2022 refer to the centralised procurement suppliers of China Telecom. The global company was included in the statistical calibre during the year, and the 2021 data has been restated according to the same calibre.
15. The total number of employees includes the number of contract workers, part-time employees, dispatched employees and other employees, of which, contract workers are counted as full-time employees, whereas dispatched employees, part-time employees and other employees are counted as part-time employees;

The statistics on the percentage of ethnic minority employees cover the branches in Mainland China, and the statistical calibre is consistent with the total number of employees;

Number of new employees, percentage of female among new employees and participation rate of employee health checkup are calculated based on contract employees.
16. Turnover rate of employees = (number of employees turnover during the reporting year/number of employees at the end of the reporting period) *100%. The global company has not been included in the calculation of employees turnover during the reporting year.
17. Serious injury rate per 1,000 employees, loss of working days due to work-related injury, number of work-related fatalities and fatality rate per 1,000 employees are the number of work-related injuries, fatalities or rate of employees on contract terms resulting from safety liability accidents. In 2020, number of work-related fatalities was 1, and the fatality rate per 1,000 employees was 0.0036 deaths per thousand employees.
18. The statistical calibre of training and development related indicators are based on contract employees.
19. Number of participated pole line co-built, number of provided pole line co-shared, number of co-built pipelines participated, number of co-shared pipelines provided and number of co-built indoor distribution systems participated refer to the number of pole lines, pipelines and indoor distribution systems co-built and co-shared which are participated in or provided by the Company during the reporting period.
20. Emergency public service messages include public service messages in relation to natural disaster warning and important events support.



INDEPENDENT PRACTITIONER'S ASSURANCE REPORT



普华永道

2023/SH-0156

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English Translation for Reference Only

Independent practitioner's assurance report

To the Board of Directors of China Telecom Corporation Limited

We have been engaged to perform a limited assurance engagement on the selected 2022 key data as defined below in the 2022 Corporate Social Responsibility Report ("CSR report") of China Telecom Corporation Limited (the "Company").

Selected key data

The selected key data in the Company's 2022 CSR Report that is covered by this report is as follows:

• Scope 1: Direct greenhouse gas emissions (million tons CO ₂ e)	• Number of employees in Mainland China
• Scope 2: Indirect greenhouse gas emissions (million tons CO ₂ e)	• Number of employees in Hong Kong, Macau, Taiwan and overseas branches
• Total greenhouse gas emissions (million tons CO ₂ e)	• Percentage of ethnic minority employees (%)
• Greenhouse gas emissions per unit operating revenue (tons CO ₂ e/RMB million)	• Number of new employees
• Sewage emissions (million tons)	• Percentage of female among new employees (%)
• SO ₂ emissions (tons)	• Turnover rate of employees under the age of 30 (%)
• Non-hazardous waste produced (tons)	• Turnover rate of employees aged 30-49 (%)
• Non-hazardous waste produced per unit operating revenue (tons/RMB million)	• Turnover rate of employees aged 50 and above (%)
• Electricity consumption (MWh)	• Turnover rate of female employees (%)
• Natural gas consumption (MWh)	• Turnover rate of male employees (%)
• Coal consumption (MWh)	• Turnover rate of employees in Mainland China (%)
• Gasoline consumption (MWh)	• Turnover rate of employees in Hong Kong, Macau, Taiwan and overseas branches (%)
• Diesel consumption (MWh)	• Serious injury rate per 1,000 employees (number of serious injuries/thousand)
• Purchased heat consumption amount (MWh)	• Loss of working days due to work-related injury (days)
• Overall energy consumption (MWh)	• Participation rate of employee health checkup (%)
• Overall energy consumption per unit operating revenue (MWh/RMB million)	• Number of work-related fatalities
• Water consumption (million tons)	• Fatality rate per 1,000 employees (number of deaths/thousand)
• Water consumption per unit operating revenue (tons/RMB million)	• Training expenses per employee (RMB/person)
• Reclaimed water consumption (tons)	• Number of internal trainers

普華永道中天會計師事務所(特殊普通合夥)

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• Countries and regions of mobile data international roaming and roaming in Hong Kong, Macau and Taiwan	• Total number of participants trained (10,000 person-times)
• Internet backbone network interconnection bandwidth (Gbps)	• Number of senior management trained (person-times)
• Mobile service satisfaction (points)	• Number of middle-level management trained (person-times)
• Fixed broadband satisfaction (points)	• Number of general employees trained (person-times)
• Wireline voice satisfaction (points)	• Number of male employees trained (person-times)
• Percentage of in-time response to international customer repair reports (%)	• Number of female employees trained (person-times)
• International customer satisfaction (points)	• Number of employees passed skill certification exams (person-times)
• Number of new patents granted	• Number of employees enrolled in online college (10,000 persons)
• Number of new invention patents granted	• Average training time per employee (hours/person)
• Number of phishing and fraud websites blocked	• Average training time per senior management (hours/person)
• Number of customer complaints (person-times)	• Average training time per middle-level management (hours/person)
• Customer complaint rate (person-times/million users)	• Average training time per general employee (hours/person)
• Number of corruption cases	• Average training time per male employee (hours/person)
• Total number of suppliers	• Average training time per female employee (hours/person)
• Number of suppliers in Mainland China	• Average training time in online college per employee (hours/person)
• Number of suppliers in regions of Hong Kong, Macau and Taiwan of China	• Proportion of senior management participating in training (%)
• Number of suppliers from other countries and regions	• Proportion of middle-level management participating in training (%)
• Proportion of female managers (%)	• Proportion of general employees participating in training (%)
• Total number of employees	• Proportion of male employees participating in training (%)
• Number of full-time employees	• Proportion of female employees participating in training (%)
• Number of part-time employees	• Number of participated pole line co-built (kilometres)
• Number of employees under the age of 30	• Number of provided pole line co-shared (kilometres)
• Number of employees aged 30-49	• Number of co-built pipelines participated (kilometres)
• Number of employees aged 50 and above	• Number of co-shared pipelines provided (kilometres)
• Number of male employees	• Number of co-built indoor distribution systems participated
• Number of female employees	• Number of emergency public service messages sent (million pieces)

Our assurance was with respect to the year ended 31 December 2022 information only and we have not performed any procedures with respect to earlier periods or any other elements included in the 2022 CSR Report.

Criteria

The criteria used by the Company to prepare the selected key data in the 2022 CSR report is set out in notes to the “Table of Indicators” of the 2022 CSR report (the “basis of reporting”), which is based on the “ESG Reporting Guide”, Appendix 27 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (“Listing Rules”) by Hong Kong Exchanges and Clearing Limited (“HKEx”).



The Board of Directors' Responsibilities

The Board of Directors of the Company is responsible for the preparation of the selected key data in the 2022 CSR report in accordance with the "ESG Reporting Guide", Appendix 27 to the Rules Governing the Listing Rules by HKEx and the basis of reporting. This responsibility includes designing, implementing and maintaining internal control relevant to the preparation of the selected key data in the 2022 CSR report that is free from material misstatement, whether due to fraud or error.

Our Independence and Quality Management

We have complied with the independence and other ethical requirement of the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Practitioner's Responsibilities

It is our responsibility to express a conclusion on the selected key data in the 2022 CSR report based on our work.

We conducted our work in accordance with the International Standard on Assurance Engagements 3000 (Revised) "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information". This standard requires that we plan and perform our work to form the conclusion.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not express a reasonable assurance opinion about whether the Company's 2022 selected key data in the 2022 CSR report has been prepared, in all material respects, in accordance with the basis of reporting. Our work involves assessing the risks of material misstatement of the selected key data in the 2022 CSR report whether due to fraud or error, and responding to the assessed risks. The extent of procedures selected depends on our judgment and assessment of the engagement risk. Within the scope of our work, we have performed the following procedures in the Headquarter, Zhejiang Branch and Gansu Branch of the Company (We have not conducted work on other locations):

- 1) Interviews with relevant departments of the Company involved in providing information for the selected key data within the CSR Report; and
- 2) Analytical procedures;



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Practitioner's Responsibilities (continued)

- 3) Examination, on a test basis, of documentary evidence relating to the selected key data on which we report;
- 4) Recalculation; and
- 5) Other procedures deemed necessary.

Inherent Limitation

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measures and measurement techniques and can affect comparability between entities.

Conclusion

Based on the procedures performed and evidence obtained, nothing has come to our attention that causes us to believe that the 2022 selected key data in the 2022 CSR report is not prepared, in all material respects, in accordance with the basis of reporting.

Restriction on Use

Our report has been prepared for and only for the board of directors of the Company and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the content of this report.

PricewaterhouseCoopers Zhong Tian LLP

Shanghai, China

March 22, 2023



ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE IN APPENDIX 27 OF THE LISTING RULES OF THE HONG KONG STOCK EXCHANGE

Aspects	Content	Location in the Report
Mandatory Disclosure Requirements	The Statement of the Board of Directors	For details, please refer to “The Statement of the Board of Directors”
	Reporting Principles	For details, please refer to “About the Report”
	Reporting Scope	For details, please refer to “About the Report”
A1 Emissions	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	Addressing climate change Promoting low-carbon operation
	A1.1 The types of emissions and respective emissions data.	Table of the Indicators
	A1.2 Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Table of the Indicators
	A1.3 Total hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Table of the Indicators
	A1.4 Total non-hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Table of the Indicators
	A1.5 Description of emission target(s) set and steps taken to achieve them.	Addressing climate change
	A1.6 Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	Promoting low-carbon operation
A2 Use of Resources	General Disclosure Policies on the efficient use of resources, including energy, water and other raw materials.	Promoting low-carbon operation
	A2.1 Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Table of the Indicators
	A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Table of the Indicators
	A2.3 Description of energy use efficiency target(s) set and steps taken to achieve them.	Addressing climate change Promoting low-carbon operation
	A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	Promoting low-carbon operation
	A2.5 Total packaging material used for finished products (in tons) and, if applicable, with reference to per unit produced.	No significant correlation ¹

Aspects	Content	Location in the Report
A3 The Environment and Natural Resources	General Disclosure Policies on minimising the issuer's significant impacts on the environment and natural resources.	Promoting low-carbon operation
	A3.1 Description of the significant impacts of business activities on the environment and natural resources and the actions taken to manage them.	Promoting low-carbon operation
A4 Climate Change	General Disclosure Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	Addressing climate change
	A 4.1 Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Addressing climate change
B1 Employment	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Protecting employees' rights and interests
	B1.1 Total workforce by gender, employment type (e.g. full-time or part-time), age group and geographical region.	Table of the Indicators
	B1.2 Employee turnover rate by gender, age group and geographical region.	Table of the Indicators
B2 Health and Safety	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Protecting employees' rights and interests Risk prevention in compliance with laws and regulations
	B2.1 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	Table of the Indicators
	B2.2 Lost days due to work injury.	Table of the Indicators
	B2.3 Description of occupational health and safety measures adopted, and how they are implemented and monitored.	Protecting employees' rights and interests Risk prevention in compliance with laws and regulations

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Aspects	Content	Location in the Report
B3 Development and Training	General Disclosure Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. Note: Training refers to vocational training. It may include internal and external courses paid by the employer.	Supporting employees' development
	B3.1 The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Table of the Indicators
	B3.2 The average training hours completed per employee by gender and employee category.	Table of the Indicators
B4 Labour Standards	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	Protecting employees' rights and interests
	B4.1 Description of measures to review employment practices to avoid child and forced labour.	Protecting employees' rights and interests
	B4.2 Description of steps taken to eliminate such practices when discovered.	Protecting employees' rights and interests
B5 Supply Chain Management	General Disclosure Policies on managing environmental and social risks of the supply chain.	Promoting supply chain management Promoting low-carbon operation
	B5.1 Number of suppliers by geographical region.	Table of the Indicators
	B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	Promoting supply chain management
	B5.3 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Promoting supply chain management Promoting low-carbon operation
	B5.4 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Promoting supply chain management Promoting low-carbon operation

Aspects	Content	Location in the Report
B6 Product Responsibility	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	Maintaining network and information security Protecting the rights and interests of customers Promoting low-carbon operation
	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	No significant correlation ²
	B6.2 Number of products and service-related complaints received and how they are dealt with.	Table of the Indicators Enhancing customer experience
	B6.3 Description of practices relating to observing and protecting intellectual property rights.	Protecting intellectual property
	B6.4 Description of quality assurance process and recall procedures.	No significant correlation ²
	B6.5 Description of consumer data protection and privacy policies, and how they are implemented and monitored.	Protecting the rights and interests of customers Maintaining network and information security
B7 Anti-corruption General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Risk prevention in compliance with laws and regulations
	B7.1 Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	Table of the Indicators
	B7.2 Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	Risk prevention in compliance with laws and regulations
	B7.3 Description of anti-corruption training provided to directors and employees.	Risk prevention in compliance with laws and regulations
B8 Community Investment	General Disclosure Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure that its business activities take into consideration the communities' interests.	Serving rural revitalisation Narrowing the digital divide Enthusiastically participating in social welfare
	B8.1 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	Serving rural revitalisation Narrowing the digital divide Enthusiastically participating in social welfare
	B8.2 Resources contributed (e.g. money or time) to the focus area.	Table of the Indicators






Notes:

1. There is no significant correlation between the indicator of "packaging materials used for the finished products" and the Company's business. Through the identification of material issues, the Company mainly reported the recycling and reusing of the main resources such as storage batteries, cables, terminals that are used in operations and services. For more details, please refer to the "Promoting low-carbon operation" section.
2. There is no significant correlation between the indicator of "recalling products" and the Company's business. Through the identification of material issues, the Company mainly reported on maintaining network and information security and protecting the rights and interests of customers. For more details, please refer to the "Ensuring secured and smooth communications" section.

THE SDGs IN THE 2023 AGENDA FOR SUSTAINABLE DEVELOPMENT OF THE UNITED NATIONS

SDGs	China's National Plan Regarding SDGs	Location in the Report
 <p>1 NO POVERTY</p>	<ul style="list-style-type: none"> Implement precision poverty eradication and relief for rural poor population 	Serving rural revitalisation
 <p>2 ZERO HUNGER</p>	<ul style="list-style-type: none"> Ensure that everyone has safe, nutritious and sufficient food all year 	Supporting community development Serving rural revitalisation
 <p>3 GOOD HEALTH AND WELL-BEING</p>	<ul style="list-style-type: none"> Promote equality of and accessibility to basic medical and healthcare services 	Empowering digital economy
 <p>4 QUALITY EDUCATION</p>	<ul style="list-style-type: none"> Safeguard equal rights of underprivileged groups for receiving compulsory education Implement a model for cultivation of technologies, skills and talents through collaboration between enterprises and schools Strengthen sports education in schools 	Empowering digital economy
 <p>5 GENDER EQUALITY</p>	<ul style="list-style-type: none"> Adhere to the basic national policy of gender equality to eliminate all forms of discrimination and bias against women Enhance the working and entrepreneurial capability of women by offering public childcare services 	Protecting employees' rights and interests
 <p>6 CLEAN WATER AND SANITATION</p>	<ul style="list-style-type: none"> Comprehensively promote the development of a water-saving society by strengthening the management over water demand and water utilisation process 	Promoting low-carbon operation

SDGs	China's National Plan Regarding SDGs	Location in the Report
 <p>7 AFFORDABLE AND CLEAN ENERGY</p>	<ul style="list-style-type: none"> Optimise the energy structure by enhancing the utilisation rate of fossil fuel energy and increasing the proportion of clean energy consumption 	Promoting low-carbon operation
 <p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<ul style="list-style-type: none"> Enhance the employment and entrepreneurial service system and implement a life-long vocational skills training system 	Protecting employees' rights and interests Supporting employees' development
 <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<ul style="list-style-type: none"> Accelerate the upgrading and transformation of traditional industries and promote low-carbon industrial energy use 	Sci-tech innovation to promote development Empowering digital economy Empowering green development
 <p>10 REDUCED INEQUALITIES</p>	<ul style="list-style-type: none"> Attach great importance to providing equal opportunities and ensuring equal rights of participation and development for all employees Consistently promote growth of both resident income and the economy, as well as growth of both salary and work productivity at the same time 	Protecting employees' rights and interests
 <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	<ul style="list-style-type: none"> Strengthen the monitoring and alerting systems of natural disasters as well as project defence capabilities, enhance social mobilisation mechanism in relation to disaster prevention and reduction and establish smooth channels for social participation in disaster prevention and reduction 	Serving digital society Supporting digital government administration Emergency communications assurance
 <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<ul style="list-style-type: none"> Strenuously develop circular economy with significant increase in the recycling of major types of wastes Comprehensively promote the extended producer responsibility system to encourage enterprises to fully implement the concept of sustainable development in their production management 	Maintaining network and information security Promoting low-carbon operation Promoting supply chain management

SDGs	China's National Plan Regarding SDGs	Location in the Report
	<ul style="list-style-type: none"> Popularise the knowledge about climate change and low-carbon development concepts with guidance to the general public for active participation in actions against climate change 	<p>Addressing climate change Empowering green development</p>
	<ul style="list-style-type: none"> Carry out integrated ocean management and put more efforts on the protection of typical ecosystem 	<p>Empowering green development</p>
	<ul style="list-style-type: none"> Maintain ecological water levels in key wetlands and estuaries and protect and restore the biological systems in wetlands, rivers, and lakes Restore and expand habitats for endangered animals and plants and strengthen international cooperation on wildlife protection. 	<p>Empowering green development</p>
	<ul style="list-style-type: none"> Implement the <i>Law on the Protection of Minors</i>, and crack down, in accordance with the laws, on the unlawful and criminal acts such as use of child and forced labour 	<p>Protecting employees' rights and interests</p>
	<ul style="list-style-type: none"> Proactively participate in global development and cooperation and promote the establishment of more balanced global partnerships for development Proactively participate in the works in relation to the establishment of mechanisms for enhancing the use of global technology 	<p>Setting up the global cloud-network</p>



- **REPORTING SCOPE**

The Report is a yearly report which covers the policies, measures and performance on the ESG-related issues of the Company and its subsidiaries (branches) for the period from 1 January to 31 December 2022 (the reporting period).

- **REPORTING PRINCIPLES**

The Report proactively complies with the reporting principles of “materiality”, “quantitative”, “balance” and “consistency” of ESG information disclosure. Based on the materiality principle, the Board of the Company determined the importance of ESG issues, and this report disclosed our communications with stakeholders, the identification process of the material issues and the materiality matrix. Based on the quantitative principle, the Company strove to quantify its ESG performance indicators as much as possible. The statistical standards, methodology, assumptions and calculation tools, as well as the sources of conversion factors for quantifying the key performance indicators are all disclosed in this report. Based on the balance principle, this report strove to provide an unbiased picture of the Company’s ESG performance during the reporting period and avoided selection, omissions or presentation formats that may inappropriately influence the decision or judgement of the readers. Based on the consistency principle, the Company kept the statistical methods used for the data disclosed in this report consistent, and if there was any inconsistency, explanations were made.

- **CONTENT DESCRIPTION**

The Report responds to the main concerns of the Company’s stakeholders to the largest extent. The data and cases herein are mainly collected from internal sources while some of the cases refer to public media reports. Unless otherwise stated, all amounts herein are in RMB.

- **REFERENCE STANDARDS**

The Report has been prepared in accordance with the *Environmental, Social and Governance Reporting Guide* as set out in Appendix 27 to the Listing Rules of the Hong Kong Stock Exchange and the *Guidelines No. 1 for the Application of Self-Regulatory Rules for Listed Companies – Standardised Operation* issued by the Shanghai Stock Exchange, as well as with reference to the *2023 Agenda for Sustainable Development* of the United Nations, the *Sustainability Reporting Standards* of the Global Reporting Initiative (GRI) and the *Reporting Guidelines for Chinese Corporate Social Responsibility (CASS-ESG 5.0)* issued by the Chinese Academy of Social Sciences.

About the Report

- **RELIABILITY ASSURANCE**

The Report, the information in which is accurate, strives to give an objective and comprehensive picture of the market, social and environmental performance of the Company's operation. PricewaterhouseCoopers Zhong Tian LLP has been engaged to provide assurance services and issued an independent assurance report.

- **WAYS OF REPORTING**

The Report is published in simplified Chinese, traditional Chinese and English, which is available for downloading at the website (<https://www.chinatelecom-h.com>) of China Telecom Corporation Limited.

- **READERS FEEDBACK**

If you have any suggestion or advice about the Report, please feel free to contact us through:

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