



China Telecom Corporation Limited

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HKEx Stock Code: 728

# Create a Better Future with Digital Technologies

Sustainability Report 2023



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# CHAIRMAN'S STATEMENT



**Ke Ruiwen**

*Chairman and  
Chief Executive Officer*

In 2023, the changes unseen in a century evolved in an all-round and in-depth way, while the new round of sci-tech revolution and industrial transformation accelerated, and the building of Digital China further deepened. Proactively seizing development opportunities, China Telecom fully and deeply implemented its Cloudification and Digital Transformation strategy, enhanced the driving forces of sci-tech innovation and fully completed the deployment in strategic emerging businesses. The Company accelerated the development of new quality productive forces and pushed forward its transformation from a traditional telecom operator to a service-oriented, technology-oriented and secured enterprise, further empowering the sustainable economic and social development.

**Taking responsibility through digital empowerment.** The Company has continued to consolidate the digital foundation and built the world's largest 4G/5G co-built and co-shared network, with over 1.21 million 5G co-shared base stations in use and over 2 million 4G mid-band co-shared base stations. The Company implemented the national project of "East-to-West Computing Resource Transfer", continued to optimise the layout of computing power, and accelerated the construction of new computing power infrastructure, with the scale of intelligent computing power reaching 11 EFLOPS, propelling the intelligent evolution and upgrade of cloud-network integrated digital information infrastructure. The Company developed high-quality digital products and services and launched "Lingze data elements 2.0 platform". The Company created "Yunxiao", an intelligent computing acceleration platform integrating cloud, intelligent computing and supercomputing, and launched "Huiju", a one-stop intelligent computing service platform. The Company created the "1 + N + M" Xingchen large models series product portfolio, rolled out 12 large vertical models in vertical fields such as government administration, education and transportation, accelerating the new industrialisation empowered by artificial intelligence (AI). The Company promoted the brand-new upgrade of 5G products and services and integrated promotion of digital home, smart community and other use cases and applications. The Company proactively built a full-stack capability system for digital government and developed a platform for social governance to help elevate the levels of government administration services and smart governance. The Company enhanced the mechanism and process of "customers have the final say" and strengthened the intelligent service capability, with its customer perception and service reputation continuing to elevate. The Company built outstanding brands and insisted on the leading role of brands in driving the enhancement of service capabilities.

**Green development as the backdrop.** The Company proactively practiced the green development principles and implemented the "1248" dual-carbon action plan focusing on the national "dual carbon" goals, empowering green development leveraging digitalisation while driving digital transformation led by greenness. The Company built the green cloud-network. Through co-building and co-sharing as well as various energy saving measures, the Company reduced its greenhouse gas emissions by more than 13 million tons, while greenhouse gas emissions per unit of total volume of telecommunications services decreased by 19.6% year-on-year. Through the optimisation of energy consumption structure, the consumption volume of green electricity with "integration of trading of permit and electricity" exceeded 1.1 billion kWh, representing an increase of nearly 3 times year-on-year. The Company strengthened the recycling of resources and optimised the building of green packaging and idle and waste materials disposal systems. The Company also accelerated the breakthroughs and conversion of green technologies and developed a series of proprietary green and low-carbon products such as e Secure Energy, e Energy Saving, and e Extreme Cooling. The Company elevated the level of green management, strengthened dual-carbon informatised management and the nurturing of talent teams, and launched trials of internal carbon trading to tap the carbon reduction potential through market-based mechanisms. The Company empowered the green economic and social development, optimised green products and service systems, intensified its efforts in fields such as ecological protection, pollution prevention and control, energy conservation and carbon reduction by making full use of digital technologies, supporting the society to reduce greenhouse gas emissions by over 100 million tons.

**Forging shields through security development.** The Company continued to enhance the security system and integrated security development into all fields and the entire process of its production and operation, striving to achieve favourable interaction between high-quality development and high-level security. The Company optimised the working mechanism of network and information security and continued to enhance the cloud-network-edge-terminal integrated security capabilities system. The Company provides digital security products and services, with its Anti-DDoS Cloud Dam maintained the No. 1 ranking in terms of market share in China while Security Brain served in total tens of thousands of industry customers. The Company built the industry's first managed security service platform at the operator level, conducted independent research and development (R&D) of security products such as Quantum Security Service Platform and Quantum-encrypted Message, to fully ensure the security of user information and data. The Company completed communications assurance for flood control and disaster relief in the Beijing-Tianjin-Hebei region and the Jishishan earthquake in Gansu Province, as well as communications assurance for major events such as the Hangzhou Asian Games, the Chengdu Universiade, and the "Belt and Road" Forum for International Cooperation. The Company launched the world's first communications service of smart phones with direct satellites connection, which plays the role as a last resort in emergency rescue communications support and was awarded the 2023 Top 10 Super Projects of Central State-owned Enterprises (SOEs) by the State-owned Assets Supervision and Administration Commission (SASAC). The Company strengthened production safety, clarified the responsibility of all staff and optimised systems and mechanisms. The Company also enhanced investigation and rectification, inspection and supervision, as well as warning and reminder of safety risks and hidden dangers and promoted the digital construction of production safety management.

**Promoting co-sharing through inclusive development.** The Company protected the rights and interests of employees, provided employee care and support, and helped them enhance their capability and value, with their sense of gain, well-being and security being further strengthened. The Company built a responsible supply chain and a supply chain management system with resilience and safety, value creation, digital intelligent empowerment, green ecology, as well as legal and regulatory compliance. The Company carried out wider and deeper cooperation with various parties in the industrial chain in areas such as technologies, products and capital and successfully held the Cloud Ecology Conference and Digital Technology Ecology Conference. The Company accelerated the building of the World Broadband Association (WBBA), and proactively built an open cooperative and win-win industrial ecology. The Company served rural revitalisation, orderly promoted targeted assistance, matching support and industry assistance, promoted universal service, and continuously enhanced the network coverage of remote border areas. The Company promoted care for the elderly and provided more convenient, more attentive and better information and communications services as well as dedicated services for the elderly. The Company has been committed to social welfare and proactively helped the disabled and underprivileged. The Company initiated the launch of "Public Welfare Union of Caring Stations", and 96 of its "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 participated in the co-building of the "Belt and Road" with high quality and strengthened international cooperation in the field of information and communications while also promoted global network interconnection. The Company has always been supporting the development of local communities at overseas as well as the enhancement of cultural integration.

**Consolidating foundation through modern governance.** The Company further optimised corporate governance and carried out standardised corporate operation. The Company promoted the optimisation of its subsidiaries' corporate governance system, enhanced the vitality of operation and development, and ensured that corporate operation is in line with the long-term interests of the Company and all shareholders. The Company comprehensively deepened reforms of systems and mechanisms, intensified efforts in promoting reforms in key corporate areas and processes based on customers' demands for digitalisation and optimised the institutional set-up of headquarters. The Company promoted innovative reforms in fields such as government and enterprises, channels as well as sci-tech innovation, propelled new breakthroughs in reforms of professional companies and constantly enhanced the market-oriented operation mechanism, to unleash new momentum for corporate development. The Company strengthened compliance and risk management, reinforced the protection of intellectual property, and upheld the principle of fair competition. The Company further promoted the development of a culture of integrity as well as financial and audit supervision, while took a series of measures to prevent and defuse major risks.

Looking into the future, China Telecom will firmly fulfil its responsibilities in building Cyberpower and Digital China as well as maintaining network and information security, further deepen the implementation of its Cloudification and Digital Transformation strategy, fully deepen reforms and opening up and promote high-quality development on all fronts. The Company will work with various stakeholders to promote sustainable economic and social development and write a chapter of Chinese modernisation for telecommunications.

# ABOUT CHINA TELECOM

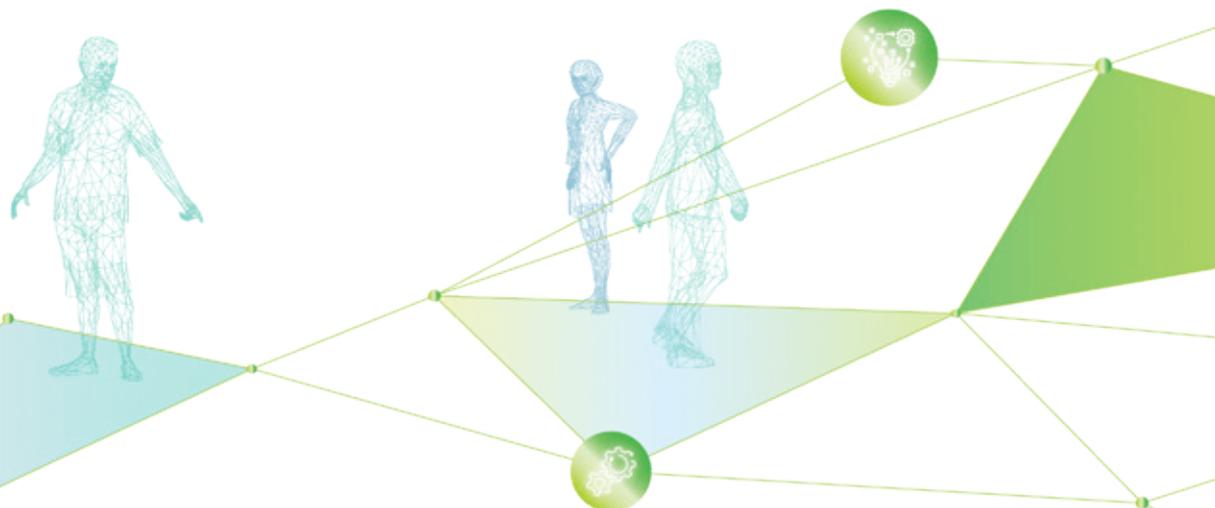
## Company Profile and Company Strategy

### COMPANY PROFILE

China Telecom Corporation Limited (“China Telecom” or “the Company”) is a leading large-scale integrated intelligent information service operator in the world whose principal business is the provision of fundamental telecommunications businesses such as wireline, mobile communications and satellite communications services, value-added telecommunications businesses 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.

### COMPANY STRATEGY

China Telecom firmly fulfils its responsibilities in building Cyberpower and Digital China as well as maintaining network and information security. Anchoring on its mission and vision of building a service-oriented, technology-oriented and secured enterprise, the Company fully and deeply implements its Cloudification and Digital Transformation strategy. Insisting on the customer-oriented approach, China Telecom strengthens the core capabilities of sci-tech innovation and speeds up the construction of new information infrastructure that is cloud-network integrated, green and secure. The Company builds a big platform for empowering digital transformation of the economy and society, comprehensively deepens reforms and opening up, pushes forward high-quality development on all fronts, and accelerates the building of a world-class enterprise.



## Executive Directors and Management of the Company



**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*



**LI YINGHUI**

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



**LI JUN**

*Executive Director*

# THE STATEMENT OF THE BOARD OF DIRECTORS

During the reporting period, the Board of Directors (the “Board”) of the Company has participated in the evaluation, prioritisation and management of environmental, social and governance (ESG) related matters, including risks of the Company’s business. The Board has reviewed the Company’s original ESG indicator system and the level of completion of key performance, 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 2023 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 environmental goals and 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 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 GRI Standards released by the Global Reporting Initiative (GRI), 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 Report has strictly complied with the relevant requirements of the ESG Reporting Guide set out in Appendix C2 to the Listing Rules of the Hong Kong Stock Exchange. Please refer to the index of this report for the compliance of the relevant ESG reporting guide.

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

## GOVERNANCE SYSTEM

Adhering to the principles of sustainable development, service strategy, complete integration and harmonic co-creation, the Board of the Company is responsible for formulating the Company's 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 has set up the Audit Committee, which is responsible for assisting the Board to oversee ESG matters. The Company has established 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. The working group is authorised by the Board to be responsible for implementing ESG strategies.



The working group is responsible for preparing ESG reports and promoting ESG performance management, information disclosure and relevant fundamental work. The working group regularly reports and makes suggestions to the Audit Committee in areas such as material ESG issues, revision of indicator system as well as indicator tracking and management. The Board and the Audit Committee provide the management and the working group with opinions for optimisation through means such as listening to ESG related work reports on a regular basis, reviewing the Company's performance as well as reviewing the Company's ESG reports and other relevant materials to ensure continuously enhancement of the Company's responsibility performance.

## RESPONSIBILITY PERFORMANCE FRAMEWORK

Adhering to the concept of “Create a Better Future with Digital Technologies”, the Company is actively fulfilling its responsibilities to the nation, its shareholders, customers, employees, the environment and social welfare. Leveraging sci-tech innovation to drive its development, the Company carries out implementation of its responsibilities performance concentrating on digital empowerment, green development, security development, inclusive development and modern governance. The Company serves the people and empowers thousands of industries. The Company also works together with its partners to build an open and win-win ecology and strives to make constant contributions to the accomplishment of SDGs of the United Nations as well as the sustainable development of the economy, society and environment.



## COMMUNICATIONS WITH STAKEHOLDERS

The Company 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 online and offline investors briefings, results briefings, 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. The Company has launched an investor relations WeChat public account and an investor relations WeChat mini-programme to facilitate stakeholders' timely and convenient access to latest news of the Company and enhance daily communications and interaction between stakeholders and the Company.

The Company attaches great importance to shareholder returns, proactively fulfilled its commitment to gradually increase the profit distributed in cash to above 70% of the profit attributable to equity holders of the Company for the year within three years after its A Shares issuance, constantly creating value for shareholders.

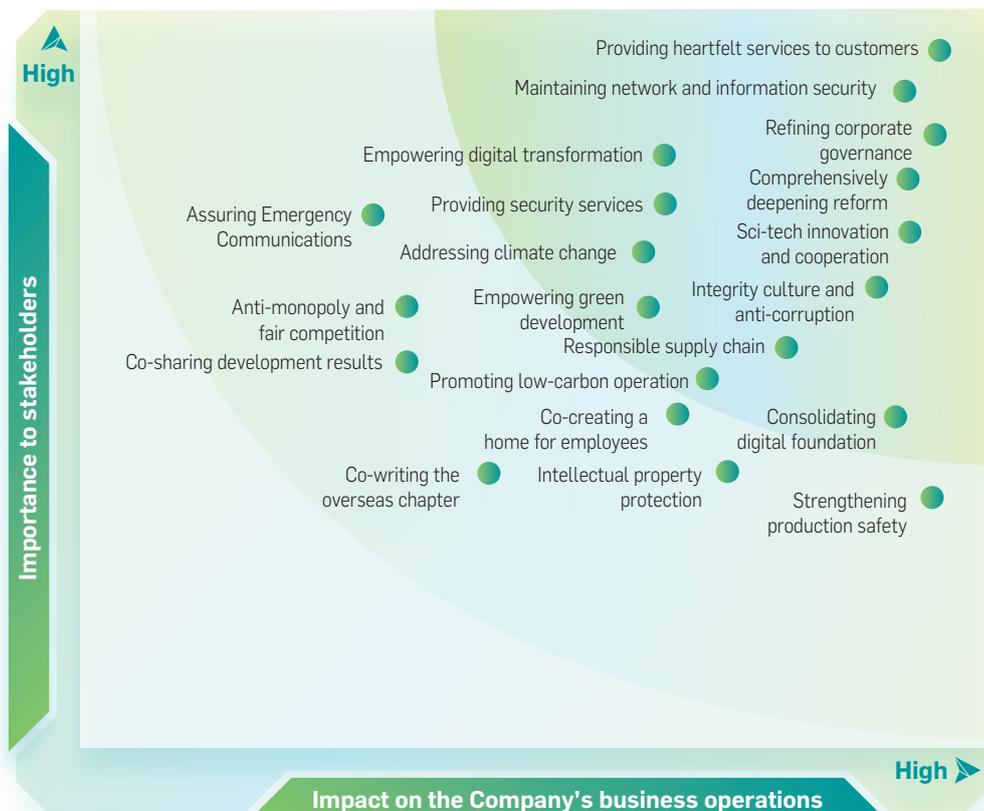
## STAKEHOLDERS' EXPECTATIONS ON THE COMPANY AND OUR RESPONSE

Stakeholders	Communications Mechanism and Methods	Expectations on China Telecom	China Telecom's Response
Investors	<ul style="list-style-type: none"> <li>• Statements and announcements</li> <li>• Visits</li> <li>• Daily communications</li> <li>• Investor conferences</li> </ul>	<ul style="list-style-type: none"> <li>• Asset value retention and appreciation</li> <li>• Regulating corporate governance</li> <li>• Operational risk prevention</li> <li>• Regulating information disclosure</li> </ul>	<ul style="list-style-type: none"> <li>• Operate steadily and continue to create value for shareholders</li> <li>• Enhance corporate governance level and continuously enhance internal control system</li> <li>• Protect the rights of investors, especially small and medium investors, in accordance with laws</li> <li>• Strictly comply with the disclosure requirements of corporate information</li> </ul>
Customers	<ul style="list-style-type: none"> <li>• Customer service hotline</li> <li>• Customer manager's visits</li> <li>• Customer surveys</li> <li>• Customer communications activities</li> </ul>	<ul style="list-style-type: none"> <li>• Suitable and good business products</li> <li>• Enhancement of service quality</li> <li>• Tariff reduction</li> <li>• Harmful information prevention</li> <li>• Personal privacy protection</li> </ul>	<ul style="list-style-type: none"> <li>• Promote business and products innovation</li> <li>• Promote transparent consumption</li> <li>• Set reasonable and preferential tariff</li> <li>• Regulate value-added service cooperation management</li> <li>• Protect customer information in accordance with laws</li> </ul>
Employees	<ul style="list-style-type: none"> <li>• Employee representative congress</li> <li>• Employee-management conversations</li> <li>• Employee opinion surveys</li> <li>• Complaints and grievances</li> </ul>	<ul style="list-style-type: none"> <li>• Legal rights protection</li> <li>• Realisation of professional development</li> <li>• Management participation</li> <li>• Caring for employees</li> </ul>	<ul style="list-style-type: none"> <li>• Regulate labour management</li> <li>• Optimise income distribution and welfare protection mechanism</li> <li>• Reinforce employee training and enhance career development</li> <li>• Count on the function of employee representative congress</li> <li>• Enhance work conditions</li> </ul>
Government and Regulatory Authorities	<ul style="list-style-type: none"> <li>• Meetings</li> <li>• Statements or reports</li> <li>• Briefings and visits</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance with laws and regulations</li> <li>• Government management requirement implementation</li> <li>• Facilitation of industry development</li> <li>• Promotion of employment</li> </ul>	<ul style="list-style-type: none"> <li>• Govern the Company in accordance with laws, and operate with integrity</li> <li>• Pay taxes in accordance with laws, and foster employment opportunities</li> <li>• Innovate digital products and services, promote high-quality economic and social development</li> <li>• Actively provide advice and suggestions</li> </ul>

Stakeholders	Communications Mechanism and Methods	Expectations on China Telecom	China Telecom's Response
Supply Chain	<ul style="list-style-type: none"> <li>• Business communications</li> <li>• Business trainings</li> <li>• Seminars or forums</li> </ul>	<ul style="list-style-type: none"> <li>• Equal and mutually beneficial cooperation</li> <li>• Co-creation of value</li> <li>• Promotion of industry development</li> </ul>	<ul style="list-style-type: none"> <li>• Cooperate with integrity, create mutual benefit and achieve win-win</li> <li>• Actively create an industrial ecosphere and promote industry development</li> </ul>
Peers	<ul style="list-style-type: none"> <li>• Forums or conferences</li> <li>• Dispute coordination and resolution</li> <li>• Special topic working groups</li> <li>• Visits</li> </ul>	<ul style="list-style-type: none"> <li>• Lawful and fair competition</li> <li>• Reinforce communications and cooperation, promote healthy development of the industry</li> </ul>	<ul style="list-style-type: none"> <li>• Actively communicate and exchange experience</li> <li>• Promote inter-connection and inter-communications</li> <li>• Actively engage in co-building and co-sharing</li> </ul>
Community	<ul style="list-style-type: none"> <li>• Community communications activities</li> <li>• Community co-building activities</li> <li>• Social welfare activities</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental protection</li> <li>• Telecommunications universal services</li> <li>• Emergency communications assurance</li> <li>• Helping the poor, the disabled and the underprivileged</li> </ul>	<ul style="list-style-type: none"> <li>• Implement energy conservation and carbon reduction as well as environmental protection measures</li> <li>• Actively promote universal services</li> <li>• Maintain smooth communications</li> <li>• Create social welfare services brands such as "Caring Stations"</li> </ul>

## ANALYSIS OF MATERIAL ISSUES

In accordance with the *Environmental, Social and Governance Reporting Guide* as set out in Appendix C2 to the Listing Rules of the Hong Kong Stock Exchange, with reference to the United Nations Sustainable Development Goals (SDGs) and the GRI Standards released by the Global Reporting Initiative, 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, the Company 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. In 2023, the Company optimised the issue names and adjusted the priority of the issues and selected 20 issues to form a materiality matrix. The Company added the "Anti-monopoly and fair competition" issue, enriched and refined issues such as "Addressing climate change", "Responsible supply chain", "Intellectual property protection" and "Integrity culture and anti-corruption".





# DIGITAL EMPOWERMENT

Currently, AI is leading the new round of sci-tech revolution. The rapid development of generative large models accelerates the entrance to the AI era for digital technologies, thus bringing explosive growth of demands for computing power, and constantly giving rise to new scenes, new business forms and new models. Firmly seizing the development opportunities, China Telecom insists on the principle of network as foundation and cloud as the core, grasps the development direction of AI, and deepens the construction of digital information infrastructure with cloud-network integration as the core feature. The Company builds outstanding brands with high-quality digital products and services, to boost in-depth integration of digital technology and the real economy and empower economic and social digital transformation.

## CONSOLIDATING DIGITAL FOUNDATION

The Company deepens cloud-network integration to promote the intelligent evolution and upgrade of digital information infrastructure.

### Upgrades of various networks

The Company accelerates the construction of dual-Gigabit networks. In terms of mobile network, the Company worked together with the industrial chain to achieve breakthroughs in difficult technologies such as 5G multi-frequency coordinated networking and large bandwidth sharing. The Company fully completed the construction of the world's first co-built and co-shared superior 5G SA (stand alone) network with the largest scale. The number of 5G co-shared base stations in use exceeded 1.21 million, achieving contiguous coverage for townships and above and effective coverage for developed administrative villages. In terms of broadband network, the Company completed the construction of the world's largest Gigabit fibre network with 1.56 million newly-built 10G PON (passive optical network) ports, effectively supporting the development of Gigabit services in thousands of cities.

The Company accelerates the all-fibre upgrade of networks. The Company has built a domestic optical cable backbone network with a total length of more than 350,000 kilometres and carried out large-scale deployment of G.654E new optical fibre and cable to support the deployment of long-distance and high-speed transmission network. The Company further deepened the regional integrated networking and built a world-leading interconnected network of broadband, with the average latency reducing by 14%. The superior government-enterprise OTN (optical transmission network) network covered all cities nationwide and key China Telecom Cloud resource pools. The new metropolitan area network covered 22 provinces and 77 cities, enabling the building of edge ecology.



### 【“Water, land and air” three-dimensional network signal coverage of the Yangtze River channel】

Hubei branch and Yangtze River Administration of Navigation Affairs conducted 5G networking research along waters of the Yangtze River, comprehensively improved 5G signal coverage of the Yangtze River waters from the three dimensions of water, land and air, and achieved 5G + satellite + WiFi three-dimensional coverage along Yangtze River waters in Tianxingzhou, Wuhan. This created a network transmission channel that is “high speed, mobile, secure and ubiquitous” to support the launch of innovative applications such as digital twin, unmanned drone petrol, one ship one number, to boost the Yangtze River protection and high-quality development of relevant regions.



### 【Supporting Shenzhen to build a “super-fast pioneer city”】

In 2023, Shenzhen issued the *Action Plan for Construction of A Super-fast Pioneer City of Shenzhen* (《深圳市極速先鋒城市建設行動計劃》), which proposed to build a super broadband network with high speed, large capacity and low latency to realise the network construction goals of “dual-Gigabit, all-fibre network, 1 millisecond and Internet of Everything”, and become a domestic No.1 and world-leading super-fast pioneer city.

Shenzhen branch fully completed various indicators of the construction of a super-fast pioneer city ahead of schedule. In terms of pioneer access, the total number of 5G base stations reached nearly 25,000, surpassing the annual target. In terms of pioneer computing power, it built Greater Bay Area's first 400G all-fibre transmission capacity network, forming a “5 + 3 + 65” core computing power circle. In terms of pioneer sensing, it was the first to build a smart city sensing system of “5G + AIoT + digital twin capability” and completed the industry's first “5G + satellite” network integrating land, sea, air and space to boost the low-altitude economic development. In terms of pioneer applications, “dual-Gigabit” network applications were integrated into various social and economic fields. 16 network application innovations were selected as the first batch of “pioneer application” excellent cases in Shenzhen, continuously building the ecology of Industrial Digitalisation.

### Ubiquitous computing services

The Company consistently implemented the national project of “East-to-West Computing Resource Transfer” and further optimised the “2(2)+4+31+X+0” computing power layout, with newly added intelligent computing power reaching 8.1 EFLOPS, bringing the total to 11 EFLOPS.

More than 700 IDC sites, 900 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 563,000, with an increase of 50,000 during the year, maintaining the industry-leading position in terms of scale.

The Company built China Telecom Cloud 4.0 resource pools with large scale and multiple availability zones (AZs) in key areas such as Beijing-Tianjin-Hebei, the Yangtze River Delta, Guangdong-Hong Kong-Macau, Chengdu-Chongqing. The Company promoted China Telecom Cloud's expansion into Hong Kong, Macau and the Asia-Pacific region to provide customers with distributed cloud services with global coverage, efficiently-centralised high efficiency, as well as ultra-low latency.

The Company accelerated the construction of intelligent computing infrastructure, with nodes in Beijing, Shanghai, Jiangsu, Ningxia, Inner Mongolia and Guizhou possessing training capability of over a thousand GPUs.



### 【Lingang Public Intelligent Computing Service Platform was officially launched】

In 2023, the Intelligent Computing Conference of “AI Leading the Era and Computing Power Driving the Future” was held in Lingang New Area of Shanghai Free Trade Zone, where China Telecom Lingang Public Intelligent Computing Service Platform and domestic GPU Joint Innovation Base were officially launched.

The Company established Lingang Computing Power (Shanghai) Technology Co., Ltd. and carried out the construction of Lingang Computing Power Park. It plans to deploy 40,000 high-capacity cabinets suitable for intelligent computing and supercomputing in batches, which will provide better quality and more inclusive intelligent computing public services for numerous enterprises in Lingang, Shanghai and the Yangtze River Delta.



In terms of cloud capabilities, Zijin DPU (Data Processing Unit) 2.0 completed the R&D and launch of network, storage and virtualised software and hardware integration technologies, and CTyunOS (proprietary cloud server operating system) supported the launch of more than 30 core businesses, with the aggregate number of deployments reaching 100,000 units. Distributed cloud operating system TeleCloudOS 4.0 (China Telecom Cloud operating system) achieved breakthroughs in technologies such as unified management and scheduling of large-scale heterogeneous computing resources, all-domain and interconnected scheduling massive distributed storage, large-scale high-performance distributed cloud network. The R&D achievements won the first prize of Science and Technology Award of China Institute of Communications, and were selected as the innovative achievements in the field of fundamental software by the SASAC.

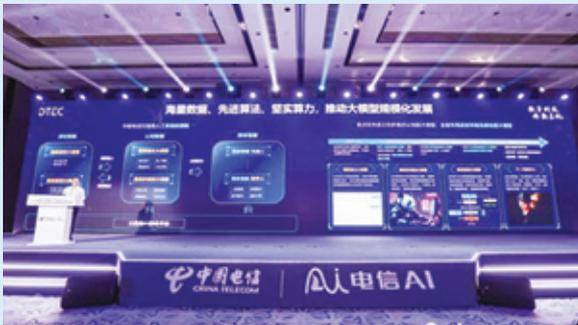
## EMPOWERING DIGITAL TRANSFORMATION

The Company proactively seizes opportunities arising from the new-round of sci-tech revolution and industrial transformation and further strengthens sci-tech innovation. The Company continued to enhance the capabilities of digital products and platforms supply, to constantly promote the digital transformation of the economy and society.

### Industrial Digitisation

#### Creating large vertical models

Leveraging its own edges in computing power, data, and industry application, the Company conducted proprietary R&D of Xingchen large language model relying on its AI capabilities and jointly developed large models for key industry use cases and segment use cases with partners. The Company created "1 + N + M" (1 refers to the general-purpose large foundation model, N refers to the number of large vertical models, M refers to the number of large models for own use) Xingchen large models series product portfolio and rolled out 12 large vertical models in vertical fields such as government administration, education and transportation. The "Xingchen MaaS (Model as a Service) platform" was launched to provide customers with large model services integrating intelligent computing power, general-purpose large models, large vertical models, capability tools and data sets.



#### 【Release of Xingchen - large education/grassroots governance models】

Based on the massive service data accumulation, the Company trained and carried out commercial trial of a batch of large vertical models.

Xingchen large education model can output "precision large teaching model" equivalent to the national special-grade teachers in Chinese and English writing, which can complete scoring, comments and improvement suggestions on a writing in Chinese and English within 15 seconds, enabling each writing of each student to enjoy guidance from special-grade teachers. The time for scoring and review by teachers for each exam writing can be shortened from 4 hours to 30 minutes. This large model has been applied for 12,000 teachers and students in Henan province.

Xingchen large grassroots governance model has been launched and applied in a number of grassroots communities in Fujian and Jiangxi provinces, which mainly supports three scenes. Firstly, it acts as a dispute mediation assistant. With intelligent matching of 14 kinds of mediation means, the grassroots mediators can quickly get support when they come across difficulties and questions, with the success rate of mediation increasing by more than two times. Secondly, it acts as a legal expertise that equips each grassroots mediator with an "online legal adviser". Thirdly, it acts as an official document assistant that supports intelligent output of 7 categories of official documents. And it takes only 10 minutes to complete an official document report that used to take 1 hour.



### 【The first intelligent computing power vehicle】

The Company, together with Huawei, Fiberhome Communication and other partners launched the nation's first intelligent computing power vehicle solution, to provide enterprises with "intelligent computing power supply + power + model training" integrated solutions through the on-board container datacentres. A computing power vehicle can carry eight heterogeneous AI computing power server bases, providing 64 GPUs with about 20 PFLOPS AI computing power, supporting Ascend AI computing power service as well as training and fine-tuning of a large model at ten-billion parameter grade. Through multi-vehicle cascade, it can dynamically expand into an intelligent computing power vehicle cluster to provide larger scale computing power resources.

The intelligent computing power vehicle solution was awarded as "2023 Digital Excellent Solution" by Communication World.

"An intelligent computing power vehicle is like a 'mobile computing facility room', which can be on call to meet the 24-hour deployment within the province as well as the national cross-regional scheduling. It can also ensure data security. Privacy and security of data can be safeguarded through independent networking operation or connection only with the internal network of customers."

— Zhao Yiyang, employee of China Telecom Suzhou branch



### Empowering industrial transformation and upgrades

Focusing on key areas such as manufacturing, agriculture, healthcare and education, the Company accelerated the R&D of platforms and data application and promoted the conversion of the old and new impetus and the industrial transformation and upgrades as well.



## SMART MANUFACTURING



### 【Enabling Nio to roll off a whole vehicle in 70 seconds】

Nio is a global intelligent electric vehicle company. The general assembly workshop of its advanced manufacturing base is located in Xinqiao Intelligent Electric Vehicle Industrial Park in Hefei. Anhui branch has applied 5G and Internet of Things (IoT) technologies to help NiO continue to promote the digital transformation of its factory.

**5G electronic tightening gun**, which achieves rapid positioning and accurate adjustment of auto parts and components and uploads the “tightening data” to the database in real time to facilitate subsequent traceability.

**5G visual detection equipment**, which achieves the real-time transmission server with high-definition images, timely analyses the picture data through AI algorithms, and realises the refined management of quality specifications of parts and components.

**5G automatic guided vehicle (AGV)**, which accepts unified dispatching command with connection to the logistics management platform through 5G private network, quickly and efficiently transports materials, reduces the incidence of safety accidents and improves the logistics efficiency of the factory.



### 【Building a benchmark for smart manufacturing to co-build a 5G smart factory】

In order to enhance the brand competitiveness, Weichai Torch Technology Co., Ltd. (“Weichai Torch”) cooperated with Hunan branch to jointly build a 5G smart factory. Through the cooperation with Hunan branch, Weichai Torch gradually introduced advanced smart manufacturing means such as 5G customised network, 5G data collection gateway and control platform, AMR handling robot based on lidar, vision, texture positioning technologies, AI visual appearance detection, to support the digital transformation of the enterprise.



## SMART AGRICULTURE



### 【Supporting Huiliang Group to build a smart agriculture demonstration base】

Huiliang Group's 5G + IoT Smart Agriculture Demonstration Base is the only glutinous rice digital industrial park in Eastern China, which integrates production, storage, processing, logistics, trading and cultural display.

Bengbu branch gave full play to its technological advantages in IoT, block chain, 5G and other aspects to support Huiliang Group to build the glutinous rice demonstration base. A seedling monitoring system was built to monitor the growth of seedlings and collect growth cycle data to provide real and effective data for the traceability system. A micro weather station was set up to monitor data such as wind speed, wind direction and light duration in real time, and transmit the data to the management platform through the IoT card. Soil moisture sensors were installed to analyse and detect pH value and soil nutrient content.

At the same time, relying on the technical capabilities of China Telecom Cloud, the Company collected and analysed massive data to realise automatic sensing of crop production information, monitoring and early warning, remote diagnosis, command and decision-making, and credible traceability and supervision of product quality and safety, and initially formed a digital agricultural application model with coordination of measurement, control, management.

**“Through this system, we can use unmanned drones, assisted driving rice transplanters, seeders and fertilizer applicators to realise a network for unmanned farming and the organic integration of good farmland, good grain, good methods, good technology with Internet intelligence.”**

**— Zhou Anxiang, chairman of Huiliang Wisdom Agriculture Co., Ltd.**





**【Creating a “block chain + vegetable” innovation demonstration model】**

With block chain technology as the core while integrating technologies such as 5G, big data, AI, IoT, Weifang branch joined hands with Weifang Bureau of Agriculture and Rural Areas to build the first “block chain + leek” quality safety application platform, achieving trusted digital management of the entire industry chain of vegetables, improving the level of vegetables quality supervision, and promoting the digitalisation process of the vegetable industry.

At the planting base, there are intelligent facilities and equipment such as intelligent machine integrating watering and fertilizer, monitoring cameras, IoT sensors, weather stations for the comprehensive chain management of the whole leek base, achieving the trusted digital management of the whole industry chain of vegetables from planting, input management, picking, transportation and sales, with visible, manageable and controllable data. Connecting with the online sales platforms, multi-field and cross-field cooperation has been conducted to build the operation system, and the “Traceable Vegetable Zone” was launched on China Telecom’s Bestpay app to promote the conversion of the “block chain + vegetable” integrated pilot achievements.



**SMART HEALTHCARE**



**【Focusing on digitisation in the field of healthcare】**

In June 2023, China Telecom Yikang Technology Co., Ltd. (中電信翼康科技有限公司) was set up, focusing on building digital platform capabilities in the fields of healthcare, medical care and health. Based on China Telecom’s capabilities and the healthcare Big Data platform with lake-warehouse integrated architecture, it built digital platforms such as regional healthcare, public medical care, smart hospitals, smart medical insurance to provide comprehensive informatised service capabilities for healthcare and medical care institutions at all levels.

In November 2023, the Company launched the industry’s first large medical insurance model. The Company provides the general public with intelligent services such as cross-region medical treatment, medical insurance fund reimbursement settlement, inquiry of related disease codes, and suggestions on medical insurance declaration information based on the medical insurance settlement data and the data in the “two databases” of the National Healthcare Security Administration.



### 【Opening up the “last mile” of the informatisation roadmap of primary healthcare】

Relying on the “China Telecom Cloud Computer” technology, Hengyang branch built an unified and efficient primary healthcare service platform, providing village doctors with high quality, fast, secure, convenient and systematic service, which enabled functions such as primary healthcare, healthcare follow-up, health records, electronic medical records, drug management, and medical insurance reimbursement, to facilitate the opening up of the “last mile” of the informatisation roadmap of primary healthcare.



## SMART EDUCATION



### 【Facilitating quality and balanced educational resources through “Education Community”】

In 2023, Zhejiang branch cooperated with the Department of Education of Zhejiang Province to co-build an “Education Community” application platform. Based on this platform, Hangzhou Xingzhou Primary School and Central Primary School at Fengshuling Town of Chun’an County, carried out a series of cooperative events, including mentoring pair, off-site follow-up exercise, online and offline demonstration courses, etc., to convey advanced education concepts, methods and resources to the township school, contributing to the rapid growth of township school teachers and narrowing the education gap.



## SMART TRANSPORTATION



### 【Enabling “smart civil aviation” to improve in-flight Internet experience】

The Company continued to improve the “land, sea, air and space” integrated communications network construction, completed the smooth transition of the aviation Internet from traditional satellites to high-throughput satellite networks, and accelerated the pace of in-flight Internet upgrade and intelligent cabins construction.

In 2023, satellite company released a new aviation Internet product (public version), offering in-flight Internet services for passengers with faster speed and better user experience. It has established a joint innovation mechanism with airlines to explore in-flight Internet products and improve passenger experience. By the end of 2023, it had provided in-flight Internet services to 665,000 flights and more than 17.5 million passengers.



## SMART CULTURE AND TOURISM



### 【Unlocking new models for events viewing, where there are Internet and cloud there are hottest venues】

On 28 July 2023, the 31st Summer Universiade opened at the Dong'anhu Sports Park in Chengdu. Relying on China Telecom's applications and platforms such as 5G+8K+AI+VR/AR, the Universiade, with the help of innovative technologies such as ultra-HD video and free perspective, turned all premises with Internet into the hottest viewing stadiums.

Under the smart viewing mode, the Company adopted four-way six-eye cameras to achieve panoramic coverage of stadiums. 4K VR live broadcast realistically and perfectly restored the movement details, which were presented through three types of screens including small mobile phone screens, large TV screens and VR all-in-one. The audience could rotate at any angle in the free perspective live broadcasting mode and watch the movements of the athletes in an all-round way.

## Digital society

The Company adapts to the new trend of full integration of digital technologies into social interactions and daily lives, and constantly enhances the capabilities of digital products to build a better digital life for the whole society.

### Upgrade of digital home

The Company upgraded the digital home products portfolio to meet the constantly upgraded needs of customers for a better life. Home network was upgraded to all-fibre networking, providing green and energy-saving home network services. IPTV was upgraded from large-screen content to multi-screen interaction, creating an e-Surfing HD digital entertainment centre to provide high-quality video, education, games and other viewing and entertainment experience. The Company prompted the scene-based upgrade of Whole-home Intelligence to create intelligent scenes such as home security, elderly care and home appliance control, achieving the integration and linkage of digital home, smart community and digital village, and further integrating into digital cities.



### 【Breakthrough was made in the scale development of home business】

The e-Surfing Butler App, China Telecom's unified portal for digital home service, had 180 million subscribers. The total number of whole-home WiFi subscribers reached 140 million, of which FTTR (Fiber to The Room, all-fibre WiFi) subscribers exceeded 2.2 million. The number of e-Surfing HD subscribers reached 140 million, and the number of household ubiquitous smart terminal connections exceeded 330 million.

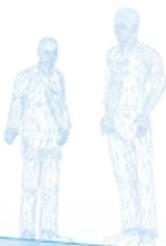
### Operating smart communities

The Company strove to build e-Surfing smart communities tailored to the public security, political and legal affairs as well as grassroots government such as subdistricts to achieve “big governance” leveraging “small grid” by providing grid management, personnel management, emergency notification and other services. The Company provided intelligent access control, AI monitoring and other intelligent management tools for properties, condensing “big wisdom” into “small home”. For residents, by providing smart healthcare and 15-minute life circle services, the Company increased the level of convenience of residents’ lives, achieving “big well-being” through “small community”.



#### 【Big wisdom in small community, China Telecom 5G “added data” to a better life】

In 2023, to support Loudi City, Hunan to build new smart community, the Company leveraged a number of digital and intelligent technologies and launched e-Surfing smart community platform integrating six scenes including property management, intelligent access control, vehicle recognition, video monitoring, firefighting and community governance, and smart services, forming integrated information services while injecting intelligence and providing empowerment to community governance.



### Strengthening the e-Surfing Internet of Video Things (IoVT)

The Company proactively developed the capability foundation of “one network, one cloud and one platform” for IoVT and created a variety of industry applications such as security smart eye, smart urban management, healthcare supervision, smart park, emergency and environmental protection, to provide industry-leading IoVT products and services. At present, the number of connected devices exceeds 60 million. The Company established e-Surfing IoVT Technology Co., Ltd. (天翼視聯科技有限公司) to accelerate the construction of a national unified new video service infrastructure, and to build a national digital platform serving the economic and social development.



#### 【Embracing supervision, “Kitchen Monitoring” brings lights into kitchens】

In 2023, Xinjiang branch proactively promoted “Internet + Kitchen Monitoring” project to provide integrated and visual video supervision platform for market supervision units. Leveraging AI technologies to assist supervision, the Company preset algorithms for various scenes such as chef hat, masks, smoking, regional intrusion and rat identification that can identify and capture inappropriate behaviour in real time and timely remind the same, so as to enhance food safety management of catering enterprises.



#### 【Video + AI enabled urban security and environmental governance】

Xiamen branch built e-Surfing IoVT video combat system based on video Big Data, to enable security and environmental governance of Xiamen.

**Safeguarding water safety:** the Company created anti-drowning application solutions to effectively strengthen inspection of key waters of lakes, seas, rivers and ponds through the alarm linkage mode of “regional intrusion detection + intelligent voice broadcast”.

**Standardising the use of electric bikes:** the Company built the first electric bikes AI benchmark community in Xiamen to regulate the division of parking areas of electric bikes and prevent the fire hazard caused by charging electric bikes “upstairs”.

**Supervising garbage classification:** intelligent applications such as overflowing garbage cans and garbage on ground management were achieved by adopting “video visualisation, callout function, AI intelligent alarm” and other functions.

### Digital government administration

Taking "intelligent governance" achieved by intelligent technologies as the main line and guided by cross-use-cases, the Company promoted urban governance resources optimisation and consolidation, departmental information data sharing and empowerment, segments and blocks linkage and comprehensive coordination, and highly unification of instruction at all levels. The Company built a urban governance system featured "management via a single website" with all-domain coverage, full-time awareness and efficient handling.



#### 【Solving management difficulties to help urban transformation】

After the launch and application of the 5G + smart urban management platform of Yangbi County undertaken by Dali branch, hot and tough problems in urban management, such as "difficulty in managing the business operation on sidewalks, difficulty in managing random parking of vehicles, difficulty in managing garbage dumping, difficulty in supervising illegal buildings, less informatisation as for comprehensive law enforcement, low efficiency and high cost of human patrol and vehicle patrol" were effectively solved, realising intelligent transformation and upgrade of comprehensive urban management.

Centring on core business scenes of digital government administration, the Company developed proprietary large vertical models for government administration to support the government to "optimise service experience and improve work efficiency" and integrate the service resources of various government departments to provide all-round government administration services for citizens in terms of policy understanding, intelligent customer service, assistant service, and multimodal assessment.



#### 【AI large model of services via a single website supported efficient service of 12345 government administration hotline】

Based on the large model capability of Xingchen government administration hotline, the Company achieved intelligent answering, automatic form filling and automatic order distribution of the government administration hotline, enhancing the efficiency of drafting analysis report of hotline operation and relieving the training pressure of operators, with the response rate improving from 94% to 99%. The time of work order filling has shortened from minutes to seconds, effectively promoting efficient service capability of the hotline and digital operation level.

## PROVIDING HEARTFELT SERVICES TO CUSTOMERS

The Company adheres to the philosophy of “Customer First, Service Foremost” and strengthens service awareness to comprehensively foster a brand image of “China Telecom is trustworthy”.

### Protecting the rights and interests of customers

The Company earnestly implemented 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*, the *Personal Information Protection Law of the People's Republic of China*, the *Advertising Law of the People's Republic of China* and the *Law of the People's Republic of China on Combating Telecom and Online Fraud*, enhanced relevant internal system such as the *Administrative Measures for China Telecom on Brand Publicity*, and provided products and services in compliance with laws and regulations. The Company regulated tariff management, continuously optimised the service registration form displayed to customers, enhanced the integrated review and approval procedure relating to the price of goods, and made prompt response to market and customers' demands. It also further strengthened the compliance management of advertising and publicity, regulated wordings for publicity, and clearly stipulated that false publicity, exaggerated publicity, and comparative publicity are strictly prohibited, thus effectively protecting rights and interest of customers.

The Company carried out integrated governance on communications fraud, harassing calls and spam text messages. The Company intercepted a total of 969 million text messages suspicious of fraud, blocked 17,717,500 domain names suspicious of fraud and shut down 52,500 involved numbers during the year by continuously enhancing its technical prevention capabilities and strengthening monitoring and handling of key businesses and other measures. The Company conducted integrated online and offline fraud-prevention campaigns, which cumulatively covered 27 million person-times in total. The Company also intercepted a total of 3.3 billion harassing calls and 3.2 billion spam text messages during the year by carrying out compliance management and control, continuously enhancing its technical prevention capabilities, and providing users with nuisance calls interception as they wish. The number of subscribers for “e-Surfing Anti-Harassment” business reached 330 million. Complaints on harassment calls and spam text messages of the Company remained at a low level in the industry.



### 【Building a firewall against fraud leveraging “Fraud-prevention Business Card” to help fraud-prevention for the whole society with technology】

Relying on the resource advantages of cloud-network of China Telecom, China Telecom Best Tone Information Service Co., Limited launched the “Fraud-prevention Business Card” product, to extensively integrate technological innovation and sci-tech achievements and build a “firewall” against fraud for users.

The product sends the brand real name protection and connecting risk warning pop-up window to users before they answer calls. The “combined measures” against fraud achieved accurate fraud-prevention knowledge popularisation while users could receive calls with a peace of mind.

## Enhancing customer perception

Adhering to the customer-oriented principle, the Company takes customer perception as the starting point and goal of its work, constantly improves the service mechanism and service flow of "Customers have the final say", continuously enhances its digital and intelligent service capabilities and further improves customer perception and service reputation.

### Comprehensively carrying out instant review after services

- The Company extended instant review after services to various touchpoints such as hotlines, sales outlets, APP and instalment and maintenance, forming customers service appraisal penetrating in three levels of provinces, municipalities and counties and vigorously driving improvement of service quality across all touchpoints.

### Optimising network service quality

- The Company implemented user-level perception repairing, targeted 11,434 areas with poor wireless quality, and accurately repaired broadband perception for 43 million households, as such the network quality advantages have been consolidated.

### Improving digital service capabilities

- The Company developed digital intelligent service tools based on Big Data and AI algorithms, and launched intelligent services use cases such as intelligent voice, digital human and robot. The Company promoted "remote counter" in scale, serving over 8.6 million users, with intelligent services accounting for more than 70%, making substantial breakthroughs in digital service capabilities.



### 【China Telecom digital human — Opening a new space for intelligent interaction】

The Company continued to explore a variety of digital human forms to improve the rate of replacement services, which opened a new space for intelligent interaction at the scale of tens of millions of users.

**Service digital human:** achieved the full coverage of service handling and marketing process, and the star of customer service digital human, Weiwei, provided more exclusive privileges and premium service channels.

**Salesperson twin digital human:** enabled one-click switch between staff live broadcast and digital human broadcast for outlet live broadcast, to achieve 7\*24 hours uninterrupted livestreaming marketing.

**Outlet terminal digital human:** shared pressure of traditional service for salespersons.

**Customised exhibition hall digital human:** supported Chinese and English interaction and proprietary knowledge base loading, to provide users with intelligent butler services such as shopping, dining and entertainment.

The Company continued to optimise customer complaint management and promoted the continuous enhancement of network quality and optimisation of business rules and processes, with a focus on improving handling standards for network and business complaints and controlling the time limit of complaint handling. The Company carried out user claim cause analysis to comprehensively enhance source tracing and governance and effectively enhance full-process service quality and customer perception.

## Building an outstanding brand

In 2023, leveraging the brand-led action, the Company built an outstanding brand with scientific management, leading value which is industry-leading. The Company consolidated brand with quality and prompted development with brand. The Company constantly strengthened corporate brand operation capability to constantly form new brand competitive advantages and strengthened the brand connotation as a service-oriented, technology-oriented and secured enterprise. The Company continued to build a sound brand building system, mature brand promotion capabilities and advanced global brand operation model. The Company issued the *China Telecom's Action Plan on Benchmarking the World-Leading Enterprise Brands* to promote the implementation of four initiatives, i.e. brand leading, brand management, key elements of brand influence and brand internationalisation.



Brand leading

- The Company set up a brand leading action working group to strengthen strategy guidance and incorporated brand building into deepening and enhancing actions of SOEs reforms and the outline of the 14th Five-Year Plan of the Company.
- The Company penetrated brand awareness into the whole process of production and operation to promote the formation of core competitiveness with brand reputation.



Brand management

- The Company continued to strengthen the construction of compliance management system, with a focus on the management and protection of brand assets.
- The Company innovated brand communication and strengthened the construction of new media matrix. Our new media indicator ranked second among central SOEs.



Key elements of brand influence

- The Company held the second Cloud Ecosystem Conference and 2023 Digital Technology Ecosystem Conference and participated in 510 China Brand Day Expo to publicise and report its strategic and sci-tech innovation achievements on all fronts.
- The Company continued to build the brands of China Telecom Cloud as the national cloud, accelerated the cultivation and expansion of AI, quantum, security, Big Data and other "specialised, refined, distinctive and innovative" brands, highlighting their "gold content" in technologies.



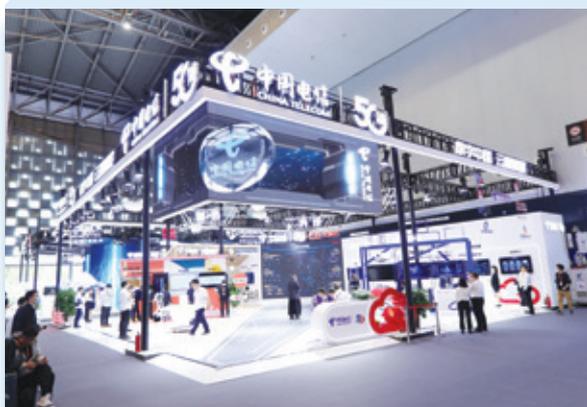
Brand internationalisation

- From a global perspective, the Company applied differentiation strategy into international brands and formulated the international brand strategic planning to improve its overseas communication ability.
- The Company carried out overseas trademark registration, proactively participated in international conferences in the industry, organised China Telecom Cloud overseas expansion conference, and built overseas social media communication matrix, to improve the overall operation capability of international brands.



### 【Brand-new upgrade of 5G brand】

Proactively grasping the development opportunities brought by 5G development, the Company promoted the integration of 5G network, cloud, AI and application in the new development stage of 5G, formulated the implementation plan of a brand-new 5G brand, and released the new 5G logo in the Digital Technology Ecosystem Conference, replacing "Hello" with "V", embodying the sublimation of our vision from acquaintance to value empowerment. V represents Vitality, Velocity, Vision, and more importantly, creating Value through technology to empower Victory in the future. With the brand-new 5G brand, the Company launched "six new" series of 5G new applications, i.e., new communications, new connection, new computing power, new intelligence, new security and new vision, to enhance communications and connection, improve computing power and security capabilities, realise AI intelligence and visual perception innovation, and meet more customer expectations.



### 【Serving Digital China with cloud intelligence, and creating a world-class brand with cloud-network integration】

Between 10 May 2023 and 14 May 2023, the National Development and Reform Commission, together with relevant departments and local governments, held the 2023 China Brand Day in Shanghai with the theme of "Chinese Brand Co-shared by the World; New Brand Power for Quality New Life".

During the period, with the theme of "Digital China Cloud Intelligence", the Company set up 23 exhibition items in three exhibition areas of service, technology and security, to display in an all-round way the brand image of China Telecom focusing on cloud-network integration, digital innovation, digital new consumption, intelligent life, aerial-ground integration, network and data security, quantum security and other capability clusters.



# GREEN DEVELOPMENT

In December 2023, the 28th United Nations Climate Change Conference (COP28) reached consensus on the first global stocktake of the Paris Agreement, opening a new chapter in the global climate process and having important milestone significance. In response to the global trend of green and low-carbon transformation, China Telecom adheres to the concept of green development and actively responds to climate change by accelerating the dual uplift of energy efficiency and management capabilities, accelerating the dual transformation of energy structure and product empowerment and promoting its low-carbon operation while empowering the green development of the whole society.



## PRACTICING “DUAL CARBON” STRATEGY

The Company thoroughly implements the national “dual carbon” strategic goals, and actively implements the *Opinions on Completely, Accurately, and Comprehensively Implementing the New Development Concept and Achieving Carbon Dioxide Peaking and Carbon Neutrality* (《關於完整準確全面貫徹新發展理念做好碳達峰碳中和工作的意見》), the *Action Plan for Carbon Dioxide Peaking by 2030* (《2030年前碳達峰行動方案》), *Opinions on Promoting the Gradual Shift from Dual Control of Energy Consumption to Dual Control of Carbon Emissions* (《關於推動能耗雙控逐步轉向碳排放雙控的意見》) and the objectives of policy documents under the “1+N” series issued by relevant ministries of the nation. Under the guidance of the “1248” dual carbon action plan, the Company integrated green and low-carbon into the whole process of corporate production and operation.



### Governance structure

The Company promotes the implementation of green and low-carbon strategy under the guidance of the “Carbon Dioxide Peaking and Carbon Neutrality” leadership group, which is led by the Chief Executive Officer, who is responsible for overseeing the group’s daily activities. The Company has set up a three-level governance structure comprising decision-making level, management level and implementation level.

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 the "1248" dual-carbon action plan, taking a leadership role in green development, as well as making decisions on important matters
Management level	Green Development Taskforce	Focus on green and low-carbon transformation, formulate key tasks for green development, promote the implementation of green development, and integrate green and low carbon into various production and operation activities
Implementation level	The departments responsible for energy-saving and emissions-reduction and related business departments of each subordinate unit	Track climate change-related risks and opportunities in real-time, and provide recommendations to management and decision-making levels based on practical experience

Under the guidance of the "1248" dual-carbon action plan, the Company has continuously optimised the 28 key tasks of green development and incorporated the key tasks into the key work of various departments. It formulated the *China Telecom Implementation Rules for Carbon Dioxide Peaking and Carbon Neutrality for 2023* (《中國電信2023年「碳達峰、碳中和」工作實施細則》), including the key work of green development into the appraisal system of provincial branches and professional companies. We have constantly improved the management structure and department responsibilities of the green development to jointly promote carbon dioxide peaking and carbon neutrality through the horizontal department coordination and vertical "headquarters-province-city" cooperation.

### Achievements and goals

In 2023, the Company achieved favourable results in energy conservation and carbon reduction. Through multi-pronged measures such as co-building and co-sharing, green renovation of facility rooms, and AI energy saving, we reduced greenhouse gas emissions by more than 13 million tons this year, the comprehensive energy consumption per unit of total volume of telecommunications services decreased by 14.9% year on year, and the greenhouse gas emissions per unit of total volume of telecommunications services decreased by 19.6% year on year. Since 2021, the Company has reduced its greenhouse gas emissions by more than 30 million tons through co-building and co-sharing and various energy-saving measures, completing ahead of schedule the emissions reduction target of 27 million tons set for the 14th Five-year Plan period. The Company promises to continue to reduce comprehensive energy consumption intensity and greenhouse gas emissions intensity in 2024.

### Climate risk management

The Company proactively responds to climate change by integrating climate-related risk management into its risk management, enabling a closed-loop management process for risk identification, risk assessment, analysis of key risks, risk response and risk monitoring and tracking. We evaluate the impact of different risk categories on financial and operational development and propose corresponding measures.

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

Type of risks	Risk description	Major financial impacts	Time frame	Degree of impact	Response measures
Policy and regulation risk	<ul style="list-style-type: none"> <li>At present, Beijing branch, Shanghai branch and Shenzhen branch have been included in the regional carbon trading market and are required to comply with the rules and regulations of the local carbon trading market. China Telecom's datacentre has a high probability of being included in the national carbon trading market in the future and will be required to comply with the national carbon trading rules and regulations.</li> <li>The national greenhouse gas voluntary emissions reduction trading market was launched this year. If the carbon emissions of Beijing, Shanghai, Shenzhen and other places exceed the quota, they may need to purchase China Certified Emission Reduction (CCER) and be exposed to additional compliance costs.</li> <li>The national policy requires that the proportion of green electricity in new datacentres in the national hub nodes of "East-to-West Computing Resource Transfer" exceed 80%, and the minimum proportion of renewable energy used in green datacentres in government procurements to reach 5% (for year 2023). China Telecom may face mandatory requirements for the use of renewable energy in future, which may incur additional operating costs.</li> </ul>	Higher operating costs	Long-term	Medium	<ul style="list-style-type: none"> <li>Regularly track and analyse relevant policies and regulations, evaluate the extent of China Telecom's compliance with policies and regulations on a monthly basis, study the impact of emerging policies on China Telecom, and alert related risks.</li> <li>Organise and carry out carbon stocktake and carbon verification in 31 provinces to obtain the full picture the carbon status and assess potential performance risks.</li> <li>Conduct renewable energy surveys to assess the feasibility and cost of renewable energy access.</li> </ul>

## CONTINUED

Type of risks	Risk description	Major financial impacts	Time frame	Degree of impact	Response measures
Technology risks	<ul style="list-style-type: none"> <li>With the development of the information and communication industry, the demand for computing power has grown explosively, and the energy consumption of datacentres, base stations, and communication facility rooms has accelerated. If energy-saving technologies with higher efficiency and lower energy consumption are unavailable or not applied, the cost of energy consumption may soar.</li> </ul>	Higher operating costs	Short-term	Medium	<ul style="list-style-type: none"> <li>Conduct an annual financial impact assessment of energy consumption costs and select appropriate energy-saving and carbon-reduction technologies.</li> <li>Strengthen the independent research and development, conversion and promotion of energy-saving and carbon-reduction technologies, and promote large-scale application.</li> <li>Carry out green renovation of old facility rooms and retirement of old equipment.</li> </ul>
Acute risks	<ul style="list-style-type: none"> <li>Extreme weather such as flooding and typhoon may damage our infrastructure and fixed assets, causing network disruption, communication interruptions and resulting in additional operating costs such as asset damage losses, repair fees from communication interruptions and operating cost for resuming communication. In the future, as the severity and frequency of extreme weather increases, the Company's capital expenditure may also increase further.</li> </ul>	Higher capital expenditures	Medium-term	High	<ul style="list-style-type: none"> <li>Strengthen alert and risk prevention and control of extreme weather, continuously optimise emergency plans for extreme weather, and minimise the cost and losses from disasters.</li> <li>Regularly assess the impact on capital expenditures based on the frequency and scale of extreme weather, and set up special funds for post-disaster reconstruction on this basis.</li> </ul>
Chronic risks	<ul style="list-style-type: none"> <li>Global warming results in higher temperature. As our communication facility rooms, base stations, datacentres and other equipment require reasonable temperature range for steady operation, rising temperature may accelerate aging of the equipment, increase electricity consumption of air conditioning and cause direct increase of operating cost and capital expenditures.</li> </ul>	Higher capital expenditures/ operating costs	Long-term	Medium	<ul style="list-style-type: none"> <li>Regularly analyse and monitor energy consumption-related indicators and provide risk alerts.</li> </ul>

## PROMOTING LOW-CARBON OPERATION

Under the guidance of the "1248" dual-carbon action plan, the Company has been promoting green cloud-network, green energy use, green office, recycling, green sci-tech innovation and green management and constantly tapping its own carbon reduction potential.

### Green cloud-network

The Company continues to promote green upgrade of datacentres. We have released the technology solution for new generation artificial intelligence datacentre (AIDC) infrastructure that is compatible with multiple business models by adopting three key technologies, namely energy elasticity, cooling elasticity and airflow optimisation based on customers' demand for computing power, to meet the uncertain needs stemming from greatly varied cabinet power, mixed cooling modes, and customer flow in the era of intelligent computing, and create a new generation of AIDC characterised by flexibility, elasticity and greenness.

We have continued to promote AI energy saving and developed proprietary smart AI energy saving systems to achieve precise energy saving for 4/5G base stations, communication facility rooms and datacentres. The AI facility room energy saving system has been deployed and implemented in 25 provinces, with annualised electricity saving of 83 million kWh. The AI base station energy saving platform has been deployed and promoted in 31 provinces, with annualised electricity saving of more than 700 million kWh. Through the deployment of smart AI energy saving system, greenhouse gas emissions reduced by more than 440,000 tons annually.



### 【China Telecom • Zero Carbon Qinghai】

The Company continues to promote the construction of "China Telecom • Zero Carbon Qinghai", and commits to achieve carbon-neutral operation of Qinghai (branch) by 2024 and net zero emissions in the supply chain of Qinghai (branch) by 2040 by: (1) building the first 100% traceable clean energy zero-carbon datacentre in China, realising 314 days of natural cooling annually, with PUE below 1.2 and annual carbon reduction of more than 300,000 tons; (2) building the first "e-Surfing Forest" of China Telecom, with a total area of 2,000 mu, actively exploring the development path of forestry carbon sink; (3) building more than 500 "zero-carbon base stations", realising self-reliance of the wind-solar complementary power supply system, with annual electricity output of 4 million kWh and annual carbon emissions reduction of 2,300 tons.

"China Telecom • Zero Carbon Qinghai" has won awards such as the Excellent Case in Research Report on ESG of Listed Central SOEs, Excellent Green and Low-carbon Practice Case, and "Leading Technology Achievement Award" of the 2023 Big Data Expo.

We have comprehensively deepened co-building and co-sharing cooperation, reduced duplicate construction of 4/5G base stations and significantly enhanced the utilisation rate of existing base stations, while protecting the natural environment and landscape, and reducing the consumption of land, energy and raw materials. Meanwhile, the Company continued to deepen co-building and co-sharing of infrastructure such as pole lines, pipelines, and optical cables. Over 220,000 5G base stations were newly activated for the two parties. The number of 5G co-shared base stations in use exceeded 1.21 million and the number of 4G mid-band co-shared base stations reached more than 2 million. The Company provided more than 8,100 kilometres of co-shared pole line and 580 kilometres of co-shared pipelines. 4/5G co-building and co-sharing has led to over RMB340 billion savings in network construction investment, over RMB39 billion in annualised operating cost savings, and over 20 billion kWh in annual electricity savings for the two companies. At the same time, the Company continued to promote the construction and deployment of ROADM all-fibre network, new metropolitan network with comprehensive carrying capacity, Gigabit fibre network and ultra-low loss optical cable network and minimalist base station transformation.

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, the Company has established a sound electromagnetic radiation management system and risk prevention mechanism, taken various proactive environmental protection measures such as environmental assessment, and communicated with the public actively.



**【Coordinated network development by actively carrying out full monitoring of the electromagnetic environment in the 4/5G network】**

The Company actively carries out 4/5G multi-band network electromagnetic environment monitoring, to continuously improve the quality of electromagnetic ecological environment. The picture shows an on-site inspection by an expert group on the electromagnetic radiation monitoring of base stations in November 2023.

Green energy use

The Company continues to promote the transformation and optimisation of energy use structure, and the utilisation of green energy has been significantly increased. We continuously expand green power transactions, and effectively promote the cross-provincial and cross-regional consumption of resources from regions with rich new energy through cross-provincial transactions. The consumption volume of green electricity with "integration of trading of permit and electricity" exceeded 1.1 billion kWh, representing a year-on-year increase of nearly three times, which was industry-leading in PRC. We have further expanded the coverage of self-built distributed energy facilities, covering multiple scenes including base stations, communication facility rooms, datacentres, office buildings and parking sheds, and the power generation scale was three times than that of 2022.



**【Construction of distributed photovoltaic at Kunshan Huaqiao Datacentre】**

The Kunshan Huaqiao Datacentre of the Company in Jiangsu Province has four floors. The distributed photovoltaic construction occupies a total area of 980 square metres, with a total installed capacity of 107.91 kW, providing power for the facility room of the datacentre. Its annual electricity generation is 108,000 kWh with annual electricity cost savings of RMB76,000 and carbon emissions reduction of approximately 61.6 tons.



**【“zero-carbon” base station construction】**

In order to ensure the communication needs of herdsmen and tourists, Altay branch has completed the light-stacking construction of base stations in 14 summer pastures in the region, and powered base stations with photovoltaic energy to achieve flexible peak-trough scheduling of electricity consumption in the pastures. The successful construction of the “zero carbon” base stations effectively reduced the operating cost of base stations. The project saved electricity of 147,700 kWh annually, while saving electricity cost by about RMB59,000 and reducing the carbon emissions by about 84.23 tons.

### Green office

The Company actively promotes and advocates water conservation by posting reminders regarding water conservation near water facilities and appliances. The Company continuously strengthens the management on water resources usage, carries out sewage discharge 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 demands for water-usage. 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. The Company sets the target for year-on-year growth of water consumption per unit operating revenue for 2024 to be no more than 15%.

The Company encourages paper saving by actively advocating double-sided printing of documents, reducing colour printing, accelerating the digital transformation of the procurement supply chain and vigorously promoting the application of electronic procurement and electronic order to realise paperless operation of the whole process of the supply chain. We also continuously 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.

### Recycling

The Company prioritises the use of resource-saving and environmentally friendly products, and actively builds a sustainable supply chain. We seriously implement the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste*, the *Management Measures for Hazardous Waste Transfer* and other national laws and regulations and standards, focusing on safe and compliant disposal requirements. Through system construction, digital construction, supervision and inspection, we continue to promote the building of green packaging and idle and waste materials disposal systems.





**【Leading low-carbon and win-win of the industrial chain and supply chain through green packaging】**

The Company established a “1-5-1” green packaging low-carbon management system that guides our suppliers to perform green low-carbon obligations, so as to improve supplier behaviour and green packaging process, which to a certain extent, solves the problem of resource waste and environmental pollution caused by the excessive packaging in the entire industrial chain. The system won the second prize at the first “New Green Cup (新綠杯)” Information and Communication Industry Enabled Carbon Dioxide Peaking and Carbon Neutrality Innovation Competition.

We continuously improve the construction of management systems for the disposal of idle and waste materials. We have revised relevant systems for the recycling, disposal and external transfers of waste and idle materials, which involved developing standard auction contract templates and risk identification checklists and specifying the requirements for the confirmation of recycling, disposal assessments, contract signing and contract fulfillment of waste and idle materials, etc., to ensure that the whole operation process is regulated by clear rules. We continuously strengthen the construction of digital capability of idle and waste materials disposal and completed the development and launch of the integrated platform for waste and idle materials disposal to achieve online closed-loop management of the whole process from asset retirement, material inventory withdrawal, auction disposal, contract signing and delivery. Based on the inspection points and risk control list, we continue to conduct supervision and inspection on idle and waste materials disposal nationwide to check and promote compliance improvement.



**【Building a Compliant and Efficient Digital Intelligent Recycling Ecosystem for Idle and Waste Materials Disposal】**

“Building a Compliant and Efficient Digital Intelligent Recycling Ecosystem for Idle and Waste Materials Disposal” released by the Company won the first prize at the first “New Green Cup (新綠杯)” Information and Communication Industry Enabled Carbon Dioxide Peaking and Carbon Neutrality Innovation Competition. China Telecom has built a “1 core mechanism + 1 system platform + N disposal stages” idle and waste materials disposal management system, giving full play to the advantages of its role of “chain leader” in the supply chain, and established a digital and intelligent cycling ecological alliance for idle and waste materials disposal to promote intensive and efficient disposal and perform its dual-carbon mission and social responsibility, and achieve win-win social and economic benefits.

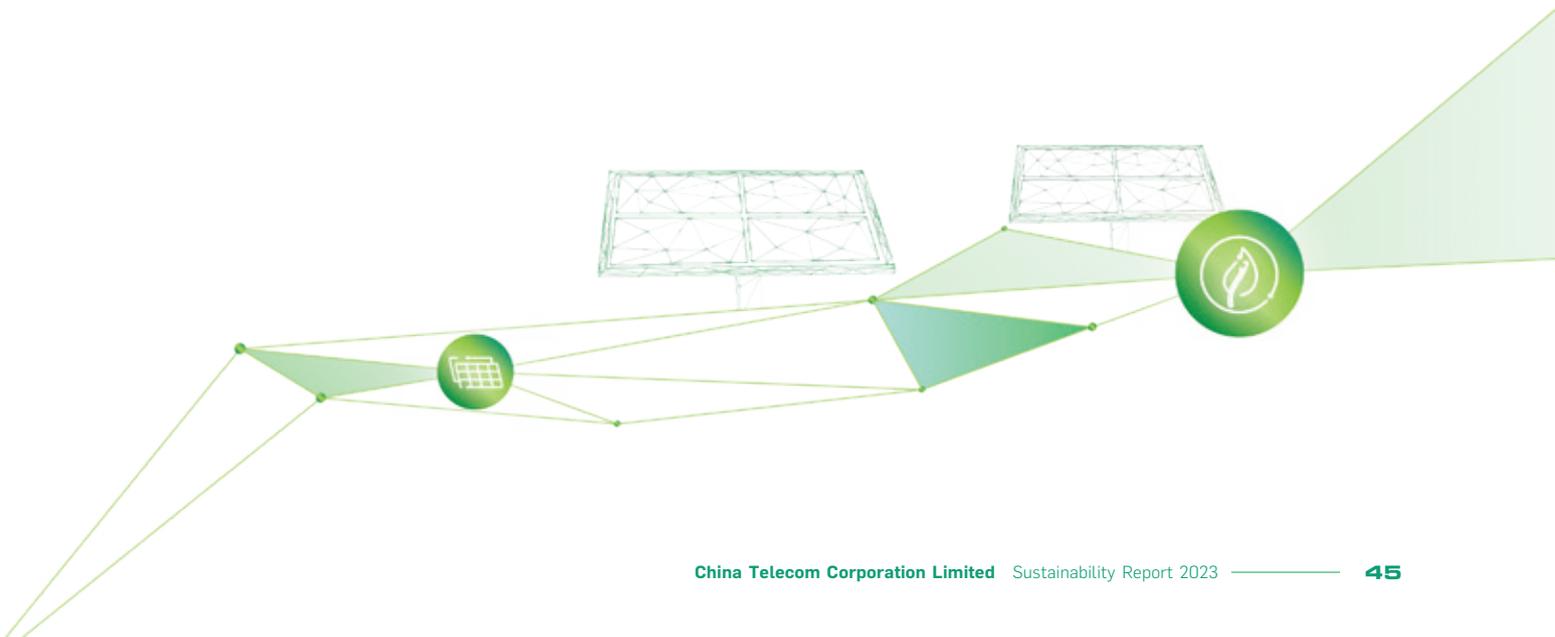
In 2024, the Company will continue to strengthen the professional management of waste, adhere to the principle of "recycling as much as possible", promote the launch of the idle and waste materials integrated disposal platform nationwide, used cables and storage batteries auction and disposal, and enhance compliance management of environmental protection, so as to increase disposal income and promote green and low-carbon recycling development.

### Green sci-tech innovation

The Company accelerates the breakthrough and conversion of green technologies by vigorously promoting the innovation and development of green and low-carbon technologies, and has developed a series of proprietary green and low-carbon products such as e Secure Energy, e Energy Saving, e Extreme Cooling and 5G Integrated Smart Power Supply Cabinet. We have established and optimised a green and low-carbon standard system, and participated the setting of 29 international, industry and enterprise standards in areas of dual carbon. We have promoted cooperation in the whole chain of "industry, academia, research and application", established a provincial- and ministerial-level carbon neutral system engineering laboratory in collaboration with Beijing Institute of Technology, and set up a green zero carbon innovation experimental base in Qinghai.

### Green management

The Company continues to improve its green management level, upgrades means for dual-carbon information management, and innovates the dual-carbon management model. We have started the pilot work of internal carbon trading to marketise the trading mechanism and tap into the carbon reduction potential and effectively reduce the carbon emissions intensity. We have improved the carbon emissions data management and governance capabilities of each province by establishing a standardised process of carbon inventory and carbon verification to form a normalised mechanism to effectively enhance the quality of carbon data. We have cultivated experts for dual-carbon management and carbon verification, accumulated experience from carbon market trading to improve the level of carbon asset management.



## EMPOWERING GREEN DEVELOPMENT

The Company accelerates the improvement of green products and service system by injecting green elements into products and services through the green transformation of cloud-network infrastructure, which promotes the formation of green and low-carbon lifestyle and leads green consumption.



### 【Release of six major green products】

On 12 July 2023, the 11th "National Low-carbon Day", the Company held the "The Launch of China Telecom Cloud Green Storage Base and China Telecom Green Products" event in Xining, Qinghai province. We took the application of new energy saving and carbon reduction technology as an important driving force and empowered the innovative dual-carbon development of information and communication through green product innovation system. The Company released six major green products, i.e., green cloud drive, green cloud computer, zero-carbon datacentre, zero-carbon cloud, green consumption credits, and green public service. Moreover, China Telecom and its key partners entered into an ecological cooperation agreement on the green industrial chain.



### 【Launching a green credit system for carbon reduction behaviours】

Hebei branch actively advocates innovation of users' green consumption model by launching a series of green consumption scenes such as utility payment, mobile phone package top up, offline consumption, online shopping and fund transfer, and improves users' sense of gain from green consumption through green credits on Bestpay. By the end of 2023, a total of 128,000 users had received 287,000 times of "Green Energy" and accumulated 34.1 million green credits, and achieved emissions reduction of 24,565kg CO<sub>2</sub>e (carbon dioxide equivalent).

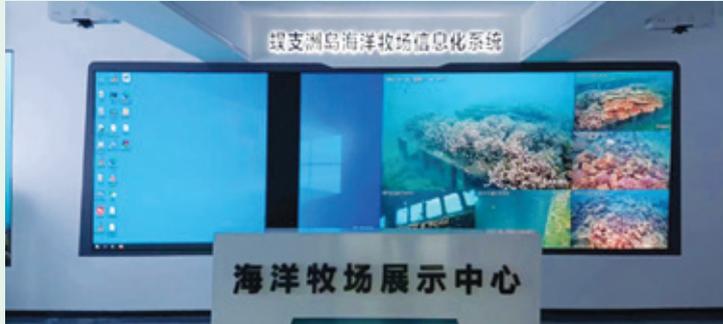
We firmly establish and practise the concept that clear waters and green mountains are sources of income, and make full use of the advantages of digital technology in ecological protection, pollution prevention and control, energy conservation and carbon reduction, contributing to greenhouse gas emissions reduction of the society by over 100 million tons.

We actively promote ecosystem protection and build an ecological protection monitoring and management system focusing on biodiversity, migratory birds monitoring, and forest and grass protection, to provide effective support for scientific management and sustainable development of ecosystem protection.



### 【Video monitoring at Lanzhou Swan Beach, "clairvoyant eye" for migratory birds protection】

Lanzhou branch supports the local unit-in-charge in vigorously promoting digital, informatised and intelligent construction of wintering migratory birds and wetland protection, and builds a "space, aerial and ground" integrated monitoring system adopting 5G, IoT and other technologies to provide more scientific basis for ecological protection.



**【Building 5G Marine Ranch】**

Sanya branch built a 5G marine ranch project with Wuzhizhou Island and a marine ranch information platform relying on 5G network and information technologies including IoT, Big Data, cloud computing and AI to achieve all-round, precise and real-time monitoring of regional marine status as well as reef and biological conditions, enrich comprehensive assessment, online diagnosis, trend analysis, disaster alert, production volume assessment and other application scenes, so as to ensure measurable, visual and controllable marine pasture management and help protect and improve the ecological environment of the sea area around the scenic spot.

We actively promote the prevention and control of air pollution, formulate air quality prediction and early alert models and build an environmental protection cloud platform, to realise intelligent quality monitoring of atmospheric environment, early warning, command and dispatch. We have helped Gansu, Hebei and other provinces to greatly enhance air pollution prevention and control levels, providing a strong assurance for winning the war protecting the blue sky.



**【Environmental protection cloud platform to support air pollution prevention and control in Hebei Province】**

Through the construction of environmental protection cloud platform, the Company realises command and coordination of atmospheric pollution prevention and control at provincial, municipal and county levels. Tens of thousands of scheduling tasks were handled every day with 100% accuracy of task handling and over 95% of efficiency enhancement, which saved manpower and financial resources by above 80% as well as expert service labour cost of RMB144 million per year. This effectively supported refined control of the atmospheric environment, providing strong guarantee for the war protecting the blue sky. The environmental protection cloud platform has won many accolades from the Ministry of Industry and Information Technology and Hebei Province.

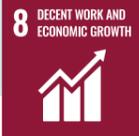
We actively promote energy saving and carbon reduction. For shopping malls, schools, office buildings, hospitals and other public places, we make integrated use of IoT, AI, cloud computing and other capabilities, to achieve precise measurement of water, electricity, gas and heat, and energy saving control of lighting, air conditioning and other facilities, to effectively reduce the energy consumption of public buildings. Through environmental protection publicity and education activities, we enhance the public awareness of environmental protection and low-carbon to form a green and low-carbon lifestyle.



#### 【Enabling Daqing City to make a green and low-carbon transformation】

The IoT Company provided green and energy saving upgrading services for underground parking lot lighting system of 23 units including Daqing Municipal People's Government, Daqing Municipal People's Procuratorate, Government Offices Service Centre and properties under Urban Investment Group (城投集團). After the energy saving upgrading, the overall electricity consumption was reduced by 80%, saving 630,000 kWh of electricity per year.

In 2023, the Company's green development empowerment has achieved significant results. At the first "New Green Cup (新綠杯)" Information and Communication Industry Empowered Carbon Dioxide Peaking and Carbon Neutrality Innovation Competition hosted by China Academy of Information and Communications Technology (CAICT) and under the guidance of the Ministry of Industry and Information Technology, the Company won 4 first prizes, 8 second prizes and the "Best Organisation Award", ranking first in the industry. The Company was recognised as a global leader in climate action by CDP (Carbon Disclosure Project) for the first time.



# SECURITY DEVELOPMENT

Currently, the rapid development of digital technologies has brought profound changes to the human society, along with increasing security risks caused by new technologies and new scenes. Demands for network security risk monitoring and handling, data security and compliance, and personal information protection are rapidly upgrading. China Telecom firmly fulfils its missions and responsibilities in building Cyberpower and Digital China as well as maintaining network and information security, continues to strengthen security system, and incorporates security development in the entire process of its production and operation in all areas, and builds a digital information infrastructure security barrier, so as to constantly improve the security capability of digital environment and provide customers with high-quality security products and services.



## MAINTAINING NETWORK AND INFORMATION SECURITY

The Company has strictly implemented the requirements of the *Network Security Law of the People's Republic of China* and the *Regulations on the Security Protection of Key Information Infrastructure*, performed its major responsibility as a key information infrastructure operator, systematically strengthened the key infrastructure protection capability, consolidated network and information security management work, and enhanced the security protection and governance capabilities on all fronts. We have improved systems and mechanisms by revising the *Measures for Security Management of Assets Exposed to Internet* and the *Measures for Vulnerability Management*, and formulating the *Measures for Security Management of Software Research and Development* and the *Measures for Commercial Password Management*, and implemented the construction of the management mechanism in network and information security to clarify responsibility for cyber security. We have enhanced the security capability system integrating cloud, network, edge and terminal and launched a security capability pool of 186 nodes covering 150 key cities across China, with an anti-distributed denial of service attack (DDoS) capability of 13.68 Tbps, maintaining its position in the first-tier camp in PRC. We also established cyberspace mapping capabilities and threat intelligence sharing and alert mechanisms, which significantly enhanced the detection, analysis and disposal capabilities of security incidents. The capability of dial-testing illegal and undesirable information was increased by 40.74%, and in-time response rate reached 100%.

The Company proactively implemented the requirements of laws and regulations including the *Data Security Law of the People's Republic of China*, the *Personal Information Protection Law of the People's Republic of China* and other laws and regulations, and revised the *Administrative Measures of China Telecom on Data Security* and the *Administrative Measures of China Telecom on the Protection of Personal Information of Users* and other systems to ensure the security of personal information and data. The data security situational awareness platform was built to achieve full coverage of key data security capabilities of the information system of Graded Protection level II and above, and the data security risk assessment has been fully completed. We strengthened the user supervision mechanism by establishing personal information protection person-in-charge mailbox to smooth out channels for complaints and reports. We continued to carry out governance on illegal collection and use of personal information by apps, strictly followed the minimum, reasonable and necessary principles, and clearly informed the collection and use of personal information in the privacy policy and obtained consent of users.



### 【Data security situational awareness platform】

The Company's proprietary data security situational awareness platform gathers important data assets, perceives data security risk, generate insights regarding risk situation, builds a secure, intelligent, collaborative and operational internal data security protection brain, and comprehensively improves data security perception capabilities. The platform has been selected into the 2024 "List of Typical Cases of Data Security in Industry and Information Technology Area" by the Ministry of Industry and Information Technology.

## PROVIDING SECURITY SERVICES

The Company focused on the network and information security R&D chain, strove for breakthroughs in key technologies and continued to build an integrated end-to-end collaborative security protection system. It has developed security capabilities and services in 7 major categories and more than 50 subdivisions around key products such as Anti-DDoS Cloud Dam and Security Brain. The market shares of anti-distributed denial of service (DDoS) remained the first in PRC and was selected in the Gartner report; while the share of Website Security Experts ranked second, and the Security Brain has served tens of thousands of customers in education, government administration, finance, healthcare and other industries. Yunmai (雲脈) SASE products are the first to obtain the excellence level of zero trust capability maturity evaluation and zero trust application maturity evaluation of CAICT. We launched the Jianwei (見微) large security model and built the industry's first operator-level managed security service platform, providing managed security services for more than 100,000 government and enterprise clients.



### 【Building a managed security service platform at the operator level】

At the 2023 Digital Technology Ecology Conference, the “security cabin” debuted and showcased the operator-level managed security service platform (MSSP) in all directions in the form of cinema visit.

We have launched Security Butler service for household customers focusing on household broadband security protection. For self-run cooperation websites and other related content, we make review before publication to strive to create a clean cyberspace. We carry out cyber security publicity week activities and conduct welfare publicity via multiple channels and in multiple forms, to popularise network information security, personal information protection, prevention and management of communication network fraud and other security knowledge, constantly enhance people's security awareness, create an atmosphere that everyone knows security and everyone enjoys security.



### 【Trusted Communications 3.0】

Trusted Communications is a security product that reshapes the new communications trust relationship. As a key application of digital identity in the communications field, it helps solve the social governance problem of harassing calls and fraudulent calls, and has been widely used in banks, financial regulatory agencies, government service hotlines and other industries.

Trusted Communications 3.0 derives a variety of products based on secure business secret foundation and open ecology and forms systematic operation services gradually. On technology side, the trusted identity issued by the electronic authentication agency is introduced, and the national secret algorithm is applied to encrypt identity and information end-to-end in the communications process to ensure the security and credibility of the caller information. On product form side, diversified products, including Trusted Communications APP, trusted SIM card, trusted customised mobile phone, trusted intelligent fixed-phone, trusted gateway and other products are launched through the open and trusted ecology.

We have built the Hefei Quantum Metropolitan Network, which is the world's largest in scale with the largest number of users and the most complete applications, and released the "Tianyan" quantum computing cloud platform. We have independently developed products such as Quantum Security Service Platform and Quantum-encrypted Messages, and initially formed a rich cryptographic security product system and feasible diversified key infrastructure cryptographic transformation solution. e-Surfing Quantum-encrypted Calls obtained the highest level of "excellence" in the security capability assessment of CAICT.



**【Officially launching the “Forging Shields Action 2.0” to make quantum security within reach】**

In November 2023, during the Digital Technology Ecology Conference, The Company's Quantum Group officially launched "Forging Shield Action 2.0", including four new security products, namely Quantum Security Cloud, Quantum Security OTN, Quantum-encrypted Messages and Quantum Cryptographic Solution.

**Quantum Security Cloud:** Reinforcing the base of China Telecom National Cloud with quantum security and confidentiality technology to enhance the anti-quantum computing attack capability of the cloud platform and create an integrated end-to-end quantum security cloud protection system with "in-cloud, on-cloud and inter-cloud (入雲+雲上+雲間)".

**Quantum Security OTN:** Building the industry's first OTN premium optical network security foundation with quantum + national cryptography technology based on China Telecom's OTN superior optical network and quantum cryptography technology with core capabilities of super security, super-large capacity and ultra-high performance.

**Quantum-encrypted Messages:** Enriching instant communications, secure office and other functions to provide more systematic mobile secure office services based on Quantum-encrypted Calls.

**Quantum Cryptographic Solution:** Combining quantum security technology with commercial cryptographic technology to provide users with anti-quantum cryptographic services in line with national cryptography standards and specifications, and to create quantum cryptographic solutions with quantum key as the core for key infrastructure application scenes.

## ASSURING EMERGENCY COMMUNICATIONS

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, landslides and provided communications assurance for major activities. We provided communications assurance for flood control and disaster relief in Beijing and Hebei, communications assurance for flood and typhoon relief in Fujian, Liaoning, Guangdong, Guangxi, Heilongjiang and other provinces, and for the Jishishan earthquake in Gansu. The Company focused on key regions and coordinated the whole network, and coordinated online and offline to successfully complete communications assurance work for 9 major events including the Asian Games Hangzhou, the Chengdu Universiade, the first "China + Five Central Asian Countries" Summit, the "Belt and Road" Forum for International Cooperation, and escorting the return and landing of the Shenzhou XVI manned space spacecraft. In 2023, more than 760,000 person-times, 130,000 vehicle-times and 70,000 set-times of communications equipment were dispatched for emergency communications.



### 【Successful completion of the communications assurance task for the 19th Asian Games Hangzhou】

In order to provide communications support for the Asian Games, the Company mobilised 33 emergency communications vehicles and 96 emergency support team members from 29 provinces (autonomous regions and municipalities) to Zhejiang, while arranging technical experts from Cloud Company, Security Company, Digital Intelligence Company, Digital Life Company, and Best Tone Company and other professional companies to provide on-site and remote support.

Zhejiang branch and other branches involved in the Asia Games have set up an assurance leading group headed by the "master leader" and special working groups on communications assurance as well as network and information security, to establish a flat command and dispatching system with rapid response and penetration into the front line. From 16 September to 8 October 2023, the number of support personnel and support vehicles dispatched by Zhejiang branch reached 100,026 person-times and 6,516 vehicle-times respectively. Other emergency equipment were also dispatched, with the total number of power generators and satellite phones reaching to 273 and 2,403 unit-times respectively. Assurance was provided through all time for 5,301 events in 54 competition venues as well as other key areas including 30 non-competition venues, 31 training venues and 20 reception hotels.



### 【Gathering the elite forces of all provinces to assure the communications lifeline, command line and support line in the disaster areas】

In July 2023, under the influence of super typhoon DokSuri, Beijing, Hebei, Heilongjiang, Jilin, Tianjin and other places were hit by heavy rain, and the flood control situation was severe, and communications was blocked. The Company responded quickly to the flood by actively carrying out rescue and relief, such as selecting elites quickly to help the affected areas and quickly assembling elite forces to fight for flood control and communications assurance.

The total number of support personnel, emergency vehicles, unmanned drones (tethered), power generators and satellite phones dispatched by the Company reached 39,467 person-times, 9,830 vehicle-times, 43 unit-times, 3,041 unit-times and 3,095 respectively. And the number of emergency text messages sent reached 144.33 million.

The Company has achieved breakthroughs in the technical problems of “multi-mode for aerial-ground, low power consumption and miniaturisation” of terminals in cooperation with industry partners, and provides users with all-region, all-dimension and all-business ubiquitous services through the strengthened integration and complementarity of application scenes such as mobile phones with direct satellite connection and aerial-ground integrated IoT, to effectively satisfy user’s needs in emergency scenes.



**【The global debut of the “Mobile Phones with Direct Satellite Connection” business】**

How to communicate with the outside world in deep mountains and dense forests, the desert, the mountains and valleys, the islands and oceans, or the earthquake rescue site has always been a difficult problem in the communications community.

The Company has carried out key problems solving and integrated innovations in active cooperation with upstream and downstream industrial chain, and achieved breakthroughs in four key technologies, namely optimisation of system standard protocol design, miniaturisation of satellite radio frequency base band chip, built-in high-gain antenna, and integrated automatic control of network resources.

In September 2023, the Company officially launched the “Mobile Phones with Direct Satellite Connection Service” with 13 invention patents generated and was awarded the 2023 Top Ten Super Projects of Central SOEs by the SASAC, and selected as one of the Top Ten PRC Sci-tech News of CCTV.

**STRENGTHENING PRODUCTION SAFETY**

The Company conscientiously and strictly implemented the *Production Safety Law of the People’s Republic of China* and other relevant laws and regulations on production safety to clarify production safety responsibility, improved the relevant system and mechanism by revising the *Measures for the Administration of Production Safety* and formulating the production safety management evaluation and assessment accountability, communications construction engineering production safety management and other internal systems, to further standardise the comprehensive management and appraisal of production safety, strengthen engineering construction safety management and safety supervision of outsourcers and subcontractors. We carried out safety management enhancement yearly action and dedicated investigation and rectification actions for major accident hazards, and strengthened accident hazard analysis and notification as well as safety risk warning, to improve the education, training and team construction with a focus on improving employees’ overall risk awareness and the bottom line mindset capability. We promoted digitalisation of production safety management and comprehensively prevented and addressed major risks to ensure life and property safety of our employees.

### Clarification of Safety Production Responsibility

- We signed Production Safety Responsibility Letter with companies at provincial levels and promoted each unit at all levels to sign the responsibility letter. We also established the “responsibility undertaking and guarantee system (包保责任制)” for outsourcers and subcontractors to clarify their safety supervision responsibility.
- We strengthened the assessment of safety responsibility, and seriously held accountability for the units and personnel who failed to fulfil their safety responsibility.

### Potential Hazard Investigation and Remediation

- We carried out investigation and rectification of potential hazards by organising all units to continuously investigating and rectifying such hazards, so as to improve potential hazard ledger, and implement all closed-loop rectification.
- We incorporated the information of all buildings and building leaders into the system management, and carried out investigation and rectification of potential hazard for building fire safety on a regular basis.
- We set up a hotline for reporting potential hazard on production safety and provided 7×24 hours acceptance service. We also carried out potential hazard identification activity, with nearly 40,000 employees participating, and offering cash awards of more than RMB1.56 million.

### Inspection, Supervision and Warning Notification

- The main persons-in-charge of the Company took the lead in carrying out the inspection and supervision of production safety in important periods such as holidays, national “two sessions” and major state events and prompted the leaders of all units and at all levels to check and manage safety, and implementing various initiatives for production safety with a rigorous work style.
- We set up a production safety inspection team of 100 people and carried out monthly inspection and supervision. A total of 212 inspection teams were dispatched throughout the year to carry out safety inspection on 444 prefecture-level branches, and closed-loop rectification was carried out for all potential hazard found.
- The production safety and safety inspection situation were regularly reported to promote the closed-loop rectification of problems and potential hazards. Production safety accident case warning and safety risk warning were carried out to urge and guide units at all levels to draw lessons from cases, implement all kinds of safety prevention measures for dangerous operations, and ensure production safety.

### Education, Training and Team Building

- Production safety teleconference and safety risk warning education conference were held to enhance risk awareness and bottom line thinking ability.
- Publicity and education activities on production safety were carried out for all employees, and more than 400,000 employees participated in dedicated study and training.
- A series of “Production Safety Month” activities, such as finding potential hazards, safety publicity and consultation days, knowledge competitions, emergency trainings and drills were carried out to create a sound safety atmosphere of “everyone pays attention to safety and everyone can handle emergency”.
- Production safety and labour competition were organised for quantitatively scoring the attendance of production safety work and activities, such as the production safety team building, potential hazard investigation and rectification, publicity, education and trainings, knowledge competitions, warning education and emergency drills, and selecting the winning units and outstanding individuals.

### Digital Construction

- We continuously improved and optimise our building fire safety management system.
- We continued to promote “fire safety cloud” construction.



# INCLUSIVE DEVELOPMENT

China Telecom adheres to concepts of open and cooperation, inclusiveness and co-sharing, shares the fruits of development with stakeholders, and contributes to sustainable economic and social development with inclusive development. Insisting on the "people-oriented" principle, China Telecom strives to achieve the common growth of employees and the Company, and actively builds industrial ecology with partners to strengthen digital inclusiveness. It supports rural revitalisation and social welfare, promotes global network interconnection, and calls on the World Broadband Association (WBBA) to keep focusing on the initiative of the United Nations and ITU to narrow the digital divide, so that people in more countries and regions can co-share the achievements of digital development.

## CO-CREATING A HOME FOR EMPLOYEES

The Company protects the rights and interests of employees in accordance with the law, creates a comprehensive employee care system and continuously improves the system assurance to create a professional development path for employees and works together to create a home for employees.

### Protecting employees' rights and interests

The Company gives full consideration to the diversity of talents and equality of opportunities, respects labour, knowledge, talent and creation, and continues to enhance the benefits and well-being of all employees.

### Equal employment

The Company protected the labour rights, democracy rights as well as spiritual and cultural rights of employees in accordance with the law, enhanced labour and employment management, and carried out employment in accordance with the law as well as standardised employment. Adhering to the principles of equality, voluntariness and consensus, and based on the *Labour Law of the People's Republic of China*, the *Law of the People's Republic of China on Labour Contracts*, the *Trade Union Law of the People's Republic of China* and other laws and regulations, 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. The Company clearly determined the employment form of each role, continually refined the job requirements for labour dispatch, standardised the designated agreements signed with labour dispatch units. The Company checked and supervised these dispatch units to sign employment contracts with dispatch workers and pay remuneration and social security insurance in a timely manner.

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, third-party recruitment websites and other channels with due respect to fairness, openness and impartiality to solicit various outstanding talents through multiple channels and diversified recruiting approaches. The Company offered equal opportunities to all applicants in its recruitment without discrimination against ethnicity, race, gender, age, region, marital or childbearing status and physical condition, and offered suitable jobs to the disabled according to their individual 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 compliance with laws and firmly protected their privacy and security of related information.



The First Session of China Telecom Campus Talent Development Forum

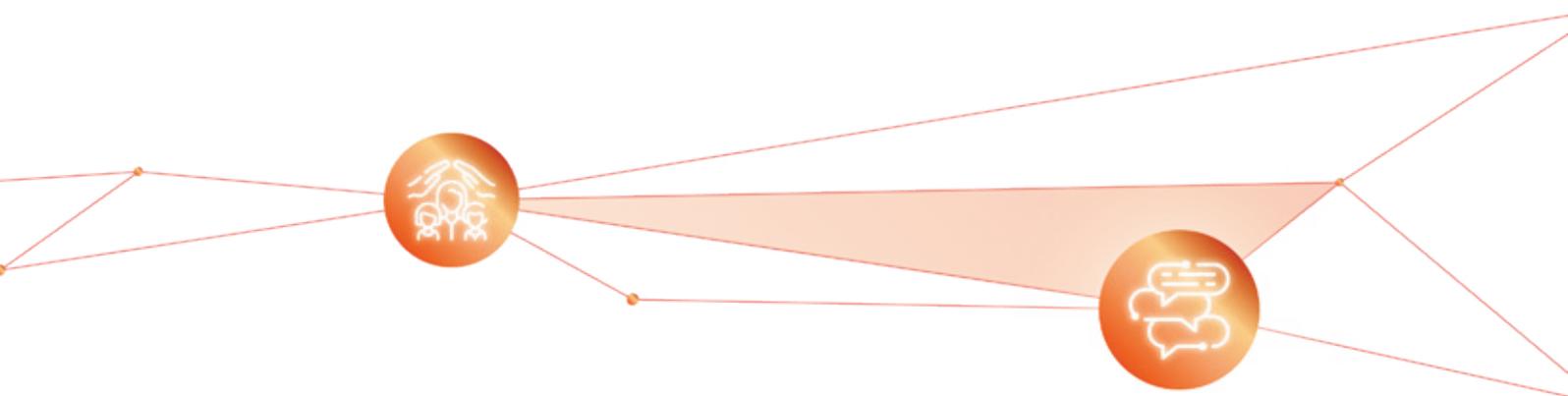
**【Comprehensively guaranteeing the scale and quality of campus recruitment】**

In 2023, the Company took multi-pronged measures for fresh graduates recruitment throughout the year in accordance to strategic transformation, and carried out dedicated “Talent Scheme (優才計劃)” programme by organising campus recruitment at over 40 universities including Tsinghua University and Peking University. We held the first Campus Talent Development Forum, at which executives of employment affairs from 21 universities nationwide attended to discuss university-enterprise cooperation. Over 10,000 graduates were recruited throughout the year.

The Company strictly implemented the relevant requirements of the *Regulations on the Prohibition of Child Labour*, prohibited child labour and prevented forced labour in accordance with laws, and specified the age requirements of candidates in accordance with the recruitment management measures to avoid child labour. No instances of child labour or forced labour were found during the year. Any situation of child labour or forced labour identified will be addressed according to laws and regulations and corresponding remedial measures will be taken.

**Remuneration and benefits**

The Company paid remuneration and social insurance to employees in time and in full, implemented paid leave system for employees, and specified working hours, rest and holidays to protect the legitimate rights of employees. The Company continued to optimise and improve the total salary management mechanism, and carried out market-oriented precise classification and differentiated allocation of the total salary management of each unit. We further deepened the reform of the internal income distribution mechanism and guided the distribution of remuneration to tilt towards scientific research talents, business units, and front-line employees at the grassroots level.



### Occupational health

The Company attached importance to the occupational health management of its employees in compliance with the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases* and other laws and regulations related to occupational safety and health, and has established or refined internal systems on occupational health and labour protection such as the labour protection of female employees. The Company launched the Employee Assistance Programme (EAP) to protect the occupational safety as well as physical and mental health of employees.

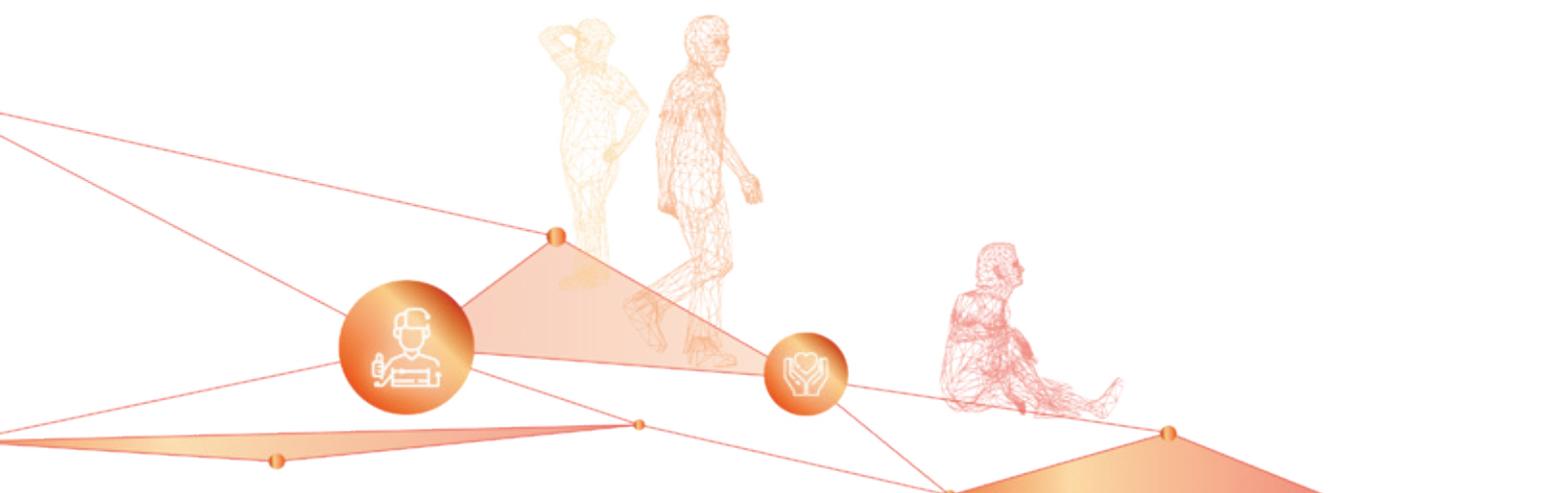


#### **【Special Lectures on Law Popularisation and Publicity for Female Employees】**

The Company continuously promoted female employee care project by concentrating on publicity and education of the rule of law for women to enhance women's ability to safeguard their legitimate rights and interests and self-protection. In March 2023, the Female Workforce Committee of Huaihua branch organised a series of activities themed "Beautiful March" and gave a special lecture on "Special Protection of Women's Rights and Interests from the Perspective of Law", to publicise the legal knowledge of rights protection for female employees.

### Caring for employees

The Company continued to strengthen communications with its employees, understand their needs, increase its care for them to actively solve their urgent needs, and improve their sense of fulfillment, well-being, happiness, safety and create a harmonious and motivated atmosphere.





### Strengthening communications with employees

- An “employees’ voice” satisfaction survey and the “100 seminars” activity were carried out to fully understand what employees think. The Company summarised and analysed the status-of-mind report of employees in each province, and then reported to the management of the Company, to promote the addressing of the urgent needs of employees.
- A “Bridge Connecting Hearts (連心橋)” online platform was established to explore and promote the closed-loop management mechanism of “immediate complaint handling” to respond to employees’ concerns in a timely manner.
- Overseas companies carried out management reception day, general manager mailbox and other feedback channels, to effectively get the job done and solve problems.



### Enhancing the working environment of employees

- The Company deepened the construction of high-quality “four small facilities” (formerly referred to small canteens, small bathrooms, small toilets and small recreational rooms, which subsequently generally referred to improving grass-roots conditions and care for employees), focusing on improving the working conditions and living environment of grass-roots employees in 11 provinces.



### Improving the physical and mental health of employees

- The Company coordinated the implementation of four practical caring deeds, being the “Physical and Mental Health Care Plan”, “Telecom Family”, “Love in Telecom (愛心翼戀)” and “Bridge Connecting Hearts (連心橋)”, and the provincial units organised no less than 5 practical caring deeds.
- The Company carried out psychological care services for employees, operated a psychological service hotline and online psychological empowerment platform for employees, as well as psychological counselling staff training, and held online seminars on psychological empowerment to address their concerns.
- The Company made realistic efforts to care for its female employees by strengthening labour protection for them, and optimising the environment and facilities of the nursery 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 work-life balance.



### Strengthening the assistance and caring work

- In response to the strikes of earthquakes, floods, rainstorms, summer heat, etc., the Company took immediate actions to console the affected employees, and organised the grass-roots labour unions to show care for the front-line employees on duty for disaster relief and rescue.
- 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. We organised more than 20 special activities during the year to deepen information circulation and team cooperation within the organisation.



**【Assisting employees to form positive mentality】**

In August 2023, the Company held a psychological care training for employees, and 104 trainees from the headquarters, provincial branches and professional companies participated in the training. Through the study of theoretical lecture, case analysis, practical operation and other courses, the employees' psychological counselling capability was gradually improved.



**【The “Love in Telecom (愛心翼戀)” activity injected happiness impetus into the hard-working youth】**

In September 2023, the “Love in Telecom (愛心翼戀)” activity was held in Guangzhou. This activity attracted 118 single employees from various units, building a platform for young employees to exchange emotions and establish friendship, effectively enriching the cultural life of employees during leisure time, and showing the youthful style of employees.

**Supporting employees’ development**

The Company believes that talent is the primary resource and released the implementation plan for the project of promoting corporate strength through talents to determine the talent planning target and build a full talent profile to cultivate, recruit and make good use of talents in all aspects.

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 appointed roles. All management teams of 31 provincial branches included sci-tech cadres and sci-tech cadres accounted of majority in the management teams of sci-tech professional companies.

The Company went all out to bring in top-notch talents and leading sci-tech talents, introducing 3 strategic scientists in cloud computing, AI, Big Data and quantum, and 34 leading sci-tech talents in key fields and in short supply. The Company implemented the "Talent Nurturing Programme" and entered into agreements with 37 institutions and recruited 272 of their graduates.

New progress has been made in three system reforms, with full-coverage of the chief and deputy management of departments in the headquarters and the secondary and tertiary enterprises by referring to the tenure system of managers and contract-based management mode, as well as optimisation of market-oriented employment system, resulting in enhancement in both the scale and efficiency driven by the total salary allocation mechanism.

The Company continued to strengthen employees' training. The Company held 10 sessions of "Cloudification and Digital Transformation Seminar" and 2 sessions of "the Way of Transformation" lecture series throughout the year, with more than 1.36 million person-times participated. The Company also organised large-scale technical talent trainings at different levels, aiming to extensively foster three teams of engineers specialised in Industrial Digitalisation, R&D, and cloud-network through "Practice + Certification". The Company carried out skill certification exams covering 41 professions in various professional lines for front-line employee teams, with a coverage of 364,000 person-times, promoting the transformation of skilled talents into outstanding engineers.



**【Extraordinary Dream Starting from China Telecom】**

Shaanxi branch has established a sound training system to help employees grow. In the centralised induction training of new employees, the company executives, executives of various departments and professional backbone employees of the provincial branch comprehensively introduced the history, corporate culture, corporate strategy and rules and regulations of China Telecom to the new employees.

The training focused on the four goals of recognition and integration of the corporate culture, basic requirements and norms of the company, job competence, teamwork and active learning, so as to help employees realise the role change from “student” to “worker” and then to “a member of China Telecom” as soon as possible.



**【Comprehensively strengthening the cloud professional team system empowerment】**

Shandong branch comprehensively strengthened the cloud professional team system empowerment by innovatively carrying out the “Cloud Climbing Plan (云攀计划)” training and certification project adopting a combination of online learning and small-scale intensive learning, integrating “learning, follow-up, testing, practice, award, and evaluation”, with 2,465 people passed Shandong China Telecom Cloud certification at a pass rate of 100%. At the corporate talent development outstanding project competition organised by Xinhua Daily Media Group’s *Training Magazine*, Shandong branch won “Brand Learning Project Award”. A total of more than 600 external high-end certifications have been obtained in the province, which promoted the comprehensive uplift of employees’ cloud technology capabilities.

The Company carried out labour and skills competitions. With the theme of “Taking the lead in Cloudification and Digital Transformation (云改数转我争先)”, it carried out labour and skills competitions for all staff, covering several professional fields and skills tack and with the number of participants exceeding 200,000 person-times, which promoted employees’ skills via competitions.



**【Holding the first Staff Skills Innovation Competition in Telecommunications Industry】**

On the 7th and 8th December 2023, the first “Information Service Digital Solution” Staff Skills Innovation Competition was held in Nanjing, Jiangsu Province, organised by the National Committee of China National Defence Posts and Telecommunications Labour Union (中國國防郵電工會全國委員會) and held by China Telecom. The competition focused on the innovation and practice of digital solutions for information services in five directions, namely smart manufacturing, digital health, education digitalisation, digital publicity and social governance, attracting tens of thousands of employees from China Telecom, China Mobile, China Unicom, China Tower, Satellite Network (星網) and other units. China Telecom won 3 first prizes and ranked the first place in the overall score in the finals.

The Company vigorously promoted the spirit of model workers, work spirit, and craftsmanship spirit. It has won 44 national honours and 208 provincial and ministerial honours. More than 100 lectures for model workers were held, with more than 200 model workers and 100,000 employees participating. The Company selected demonstrative innovation studios and outstanding achievements in employee post innovation, and established an innovation studio alliance to empower the production line, becoming a platform for gathering talents and driving the growth of employees.



**【Holding a series of activities for model workers and craftsmen at campuses】**

Organised by the China National Defence Posts and Telecommunications Labour Union (中國國防郵電工會) and held by China Telecom, the first Model Workers and Craftsmen On-campus Activity from the National Defence Post and Telecommunications Industry was held in Zhejiang Post and Telecommunication College in October 2023. Five national model workers from the communications industry and winners of the National May 1st Labour Medal taught the “First Lesson of the Semester” to the teachers and students at the school, guiding students to love their majors, enhance their sense of professional honour, and strive to grow into talents.

The Company encouraged employees to participate in corporate management. Since the Company held the first employee representative congress in 2017, the congress has become an institutional arrangement, acting as a platform for employee representatives to make suggestions and participate in the deliberation and administration of corporate affairs. In December 2023, the second employee representative congress was held to review the congress’s report on its work, production safety, human resource management, sci-tech innovation and reform and the report on the performance of duties by employees and directors. 115 high-quality employee representative proposals were solicited, and the “face-to-face” communication between the proposal handling unit and the employee representatives was innovatively carried out, which further deepened the employees’ understanding of the Company’s strategy and stimulated the sense of ownership and responsibility of the majority of employees for common development.

## CO-BUILDING AN INDUSTRIAL ECOLOGY

The Company adhered to the principle of open cooperation, aggregated the digital industry ecology and constantly improved the resilience of the industrial chain and supply chain along the cloud, network, edge and terminals. The Company carried out more widespread and in-depth cooperation in areas such as technology, products and capital with parties along the industrial chain, so as to form a co-building, co-sharing and win-win cooperation digital ecosystem.

### Responsible supply chain

#### Supply chain management system

The Company has attached great importance to the impact of its supply chain on the society and the environment. It integrated ESG concept into the entire process of supply chain management and adhered to the construction of a resilient and safe, value-creating, digital and intelligent enabled, green ecological and legally compliant supply chain management system as well as an open and co-shared supply chain ecosystem to promote sustainable development of the supply chain.

The Company has strengthened the compliance management of the entire process of the supply chain, strictly implementing the *Tendering and Bidding Law of the People's Republic of China* and other relevant laws and regulations on procurement, further improving regulations and requirements such as bidding rules, framework implementation and supplier inspection, and constantly optimising the business environment to establish a fair, just, open and transparent positive procurement management system.

The Company has improved the resilience and safety of supply chains. It carried out the supply risk assessment and early warning by detailed analysis of supply risk factors of the entire industry chain involved in the key cloud-network products, classification of the risk rating of the materials within the plan, and formulation of supply strategies. It strengthened the quality and safety management of the supply chain, enhanced the quality management of the whole product life cycle, and ensured the construction and operation safety of digital infrastructure.

The Company has pushed forward the digital transformation of supply chains. It achieved end-to-end full-business online and full-process visualisation of the supply chain from sourcing, procurement, decision-making, contracting, delivery to inventory. The Company carried out online remote bid evaluation pilot, with the intelligent bid evaluation room achieving full coverage in all cities at scale. The Company strengthened the digital compliance management of supply chain and achieved the real-time risk prevention and control of several key business links such as procurement and bidding by embedding the risk control nodes into the system, ensuring the safety, efficiency and compliance of supply chain operation.

The Company has commenced the construction of green and low-carbon supply chain by conducting energy consumption management of materials in their entire life cycle and incorporating the environmental impact factors into the evaluation system of the bidding procurement project. For environmental risks that may exist in the production process of products, it included the ISO14000 environmental management system certification, the government EIA report, the "green factory" list by the Ministry of Industry and Information Technology and other environmental evaluation criteria into the bidding procurement project, to achieve a complete coverage of green indicators. It constantly enhanced procurement, deployment and application of energy conservation and low-carbon products to effectively reduce network energy consumption and emissions.

### Supplier ecological cooperation

The Company has strengthened the tiered and categorised management of all suppliers, promoted the construction of suppliers ecology combining positive incentives and negative disciplinary actions, and actively worked together with suppliers to build a responsible supply chain.

The Company has strengthened strategic cooperation with suppliers by selecting 20 strategic suppliers from the six dimensions of supply security, key capabilities, scale of cooperation, ecological relationship, performance and results, green and low-carbon. It established a dynamic information sharing mechanism with major upstream and downstream suppliers to strengthen information collaboration. The Company realised efficient collaboration as well as supply-demand matching through industry chain resources integration and process optimisation to promote safe collaboration. The Company realised system collaboration through B2B system direct connection and gateway connection and strengthened innovative collaboration with suppliers in management innovation, supply chain product innovation, and cooperative research and development.

The Company has strengthened the management of negative behaviour of suppliers by requiring suppliers to sign bidding integrity commitment letter in the bidding process and strengthening the bad behaviour processing information reminder in the procurement process, to ensure effective implementation of disciplinary measures. It processed 300 cases involving bad behaviour of 250 suppliers, took measures such as banning suppliers involved for a limited period of time or adjusting the quotas of the suppliers involved according to the rules. The Company continued to carry out information sharing with major domestic fundamental telecommunications operators on illegal and untrustworthy suppliers, forming a benign ecosystem for the survival of the fittest.

The Company conducted widespread ecological cooperation in the supply chain by expanding the supply chain management to the upstream and downstream of the industrial chain and promoting cooperation in market, business, technology and other aspects with its members to enhance mutual benefit and win-win results.



### 【Hosting the second e-Surfing Supply Chain Ecological Development Forum】

In March 2023, with the theme of "Digital Intelligence Empowerment · Win-win Cooperation", the second e-Surfing Supply Chain Ecological Development Forum was held at the Beijing International Convention Centre, at which three initiatives including jointly building an open and cooperative supply chain ecology, jointly expanding the new supply model of the digital economy, and jointly promoting the digital and intelligent operation of the supply chain, were put forward to forum members and industry enterprises.

## Openness, cooperation and win-win

### National cloud ecology

The Company has actively and thoroughly implemented the overall layout plan of Digital China construction, and undertaken the tasks of constructing national platforms such as the source of original cloud computing technologies with high quality, to promote the brand construction of "China Telecom Cloud, National Cloud".

At the sixth Digital China Summit • Cloud Ecological Conference, the ecological cooperation plan of China Telecom Cloud computing power distribution network platform "Xirang", the intelligent computing and supercomputing pilot plan, and the SaaS (Software as a Service) ecological community plan of central SOEs were launched. Licenses were granted to best practice partners and the most potential partners to reinforce the national cloud foundation of Digital China construction.



### **【Co-building a win-win cloud ecosystem to promote the new development of the cloud computing industry】**

The Company, together with industrial, academia and research institutions and partners involved in the intelligent computing and supercomputing pilot plan, strengthened technology integration and co-creation in the field of computing power scheduling and intelligent computing and supercomputing, to promote the inclusive sharing of computing power. Based on "Yunxiao", China Telecom Cloud's intelligent computing platform, the plan develops new products and new applications of intelligent computing and supercomputing with partners, to strengthen cooperation and innovation in intelligent computing, improve the utilisation efficiency of computing resources, build a prosperous ecology of intelligent computing industry, and promote the high-quality development of AI and other scientific research.

Relying on the advantages of computing power, network bandwidth and intelligence, the Company tapped customers' demand for intelligent computing services to seize the market opportunity. It built full-stack intelligent computing services for large models, including building intelligent computing datacentres, developing an intelligent computing acceleration platform integrating cloud, intelligent computing and supercomputing "Yunxiao", launching a one-stop intelligent computing service platform "Huiju", and building the national cloud large model ecology to form cloud-intelligence integrated intelligent computing service system. It has been connected to intelligent computing and supercomputing providers such as Sugon, Huawei, and Tencent, and possesses unified scheduling capabilities. The Company has created Huize, a large government administration model, which is used for enquiry, public affairs assistance and other scenes, and reached cooperation intentions with benchmark government customers such as Guiyang Government Administration Centre and Guangdong Eshore, to launch pilot projects.

### Digital technology ecology

The Company has been actively exploring the “cloud-network-intelligence” integration technology and adopting the mode of “network + cloud computing + AI + application” to help governments and enterprises accelerate the digital transformation and upgrades. The Digital Technology Ecology Conference serves as an important platform to demonstrate the achievements of digital technology development and explore the development direction with all walks of life, comprehensively displays the latest achievements of the Company and its ecological partners in the fundamental capabilities of cloud-network integration, digital new consumption, Industrial Digitalisation, intelligent electronics, and AI large models, actively giving full play to industrial synergies, building industrial alliances, and creating a new pattern in digital technology construction with ecological prosperity.

The Cooperative Development Forum of Artificial Intelligence and Data Industry with the theme of “Intelligence Leadership into a Digital Future” was held by the Company in collaboration with CAICT and ecological partners, at which the Company announced its R&D achievements and development goals of AI, displayed its Xingchen AI large model at the hundred-billion parameter grade, and launched the “Xingchen MaaS Ecological Service Platform” to provide one-stop services for three large models, including exclusive customised version, general industry version and customer self-training version, for different customers.

The Company continued to improve its core capabilities such as data element circulation and privacy computing, launched the “Lingze 2.0” data elements service platform, actively invested in the marketisation of data elements, formed benchmark cases of data elements in 10 provinces and cities, including Hainan Data Supermarket, Taizhou, Jiangsu, and Chaozhou, Guangdong, and built a public data development and utilisation platform operated by “government + market”. It focused on actual Industrial Digitalisation scenes and worked with partners to promote the construction of data element ecology.



### 【Establishing China Telecom Data Element Industry Alliance together with partners】

During the Digital Technology Ecology Conference, the Company established China Telecom Data Element Industry Alliance together with 12 cooperative units and enterprises including Hainan Big Data Administration, Xiangyang Municipal People’s Government and the Cloud Computing and Big Data Institute of CAICT to accelerate the release of data value and jointly promote the exploration process of AI.

The Company held the Satellite Mobile Communication Industry Development Forum together with ecological partners. With the theme of "Satellite as a Service, Integrating Satellite to Create the Future", it released its latest innovation achievements such as *White Book of China Telecom on 5G NTN (Non-Terrestrial Network) Application Technology* (《中國電信5G NTN(非地面網絡)應用技術白皮書》), China Telecom satellite product system and public version of aviation Internet products. More than 200 partners in the satellite mobile communication industry attended the forum to jointly discuss and explore the new direction, new model, new pattern and new space of industrial development, and jointly promote the high-quality development of the space-aerial information industry.

### Sci-tech innovation and cooperation

The Company continues to enhance its sci-tech innovation system. Focusing on strategic emerging industries such as new-generation information technology, quantum information, generative AI and future network, as well as future industries, the Company strove for breakthroughs in core technologies, and put forward three categories of R&D subjects, being Research, Development and Operation. Through "strengthening capability with technological breakthroughs, improving the vitality in the application of achievements, and reforming the mechanism of talent construction", it constantly enhanced its capabilities for independent innovation to build a technology-oriented enterprise. The R&D expenses increased by 23.6% year on year.

The Company has further expanded industry-academia-research cooperation, strengthened the integration of upstream and downstream innovation resources, and strove for breakthroughs together with well-known universities such as Tsinghua University, scientific research institutions such as Pengcheng Laboratory and industrial chain partners such as Huawei, so as to promote application-driven research and the deployment and application of major research achievements. It has jointly undertaken national projects and made a series of theoretical and prototype breakthroughs in cutting-edge technologies such as network security, quantum communication and optical network. In the process of technology research and development and application, the Company has strictly abided by the scientific ethical norms, complied with righteous values, social responsibilities and codes of conduct, fully evaluated the potential impact and reliability of new fields and new technologies, and actively given full play to the positive effects of science and technology.

The Company has accelerated the construction of the World Broadband Association (WBBA) by actively attracting global industry partners, well-known enterprises and institutions to join the WBBA, so as to improve the scale and quality of members. It has developed 77 members, covering 32 countries on five continents, including 16 "Belt and Road" countries, and has entered into strategic cooperation framework agreement with the Groupe Speciale Mobile Association (GSMA), as such a high-quality cooperation ecosystem was initially formed with significantly enhanced global influence.



### 【Promoting the development of the World Broadband Association (WBBA)】

The Company focuses on building an international exchange and communication platform, actively promoting the Association to lead the cooperation and innovation of the global cloud-network broadband industry, and promoting the transformation and development of the digital economy.

Since 2023, the Association has held conferences such as the Barcelona and Shanghai Summits and the Paris Annual Development Conference to enhance communication and exchanges in the global cloud-network broadband industry and discuss in-depth the challenges, development trends and solutions faced by the global cloud-network broadband industry. It released the *WBBA Global Cloud-Network Broadband Industry Development Report* and the *Global Cloud-Network Development Index Report* to export China's development and practice results and enhance global influence and leadership.

### Capital cooperation

The company has firmly grasped the national strategic opportunities, conformed to the requirements of the trend of sci-tech revolution and industrial transformation, and actively conducted strategic deployment focusing on strategic emerging industries and future industries to step up its investment intensity. It strengthened the capital operation of crucial business segments by exploring the introduction of external capital, so as to improve the market-oriented operation level and governance capabilities of relevant subsidiaries. It systematically promoted the synergy of production and investment, and achieved rapid growth of synergistic income. The Company provided aids to small and medium-sized enterprises, and promoted the matching of technology and products between the investees and professional companies, and has achieved initial practical results in the synergy of science and technology.

## CO-SHARING DEVELOPMENT ACHIEVEMENTS

The Company 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

The Company conducted research on 4 targeted poverty alleviation counties and two targeted support counties (hereinafter referred to as "4+2" poverty alleviation counties), invested paid assistance funds of RMB242 million, brought in free assistance funds of RMB17.98 million and paid assistance funds of RMB245 million, offered 61,700 person-times training for grassroots cadres, rural revitalisation leaders and professional and technical personnel, recruited directly and transferred employment of 3,186 persons, purchased directly and helped in the sales of agricultural and sideline products of RMB481 million, and helped development and expansion of featured industries of 1,256 support locations of "4+2" poverty alleviation counties and enterprises at all levels.

**【Carrying out study on rural revitalisation efforts】**



In February 2023, Ke Ruiwen, Chairman of China Telecom, and his entourage visited Guangxi to study the rural revitalisation efforts. They visited Tianlin County of Baise City, the targeted county 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 committee and governments to jointly study how to consolidate and expand our achievements in poverty alleviation and link them effectively with the rural revitalisation efforts.



In August 2023, Shao Guanglu, President of China Telecom, and his entourage visited Xinjiang to study the rural revitalisation efforts. They visited Shufu County, Kashgar Prefecture, the targeted county of our poverty alleviation assistance, and studied the construction sites of the Third Primary School of Shufu County, Jiang Guo Guo Agricultural Technology Co., Ltd., and the Guangdong-Hong Kong-Macau Greater Bay Area Vegetable Basket Base in Shufu County, and expressed solicitude to the people who have been lifted out of poverty and cadres.

The Company has always taken consumption assistance as an important path to promote the quality, efficiency and sustainable development of featured industries in poverty-stricken areas, and actively participated in activities including the “Central SOEs’ Cohesion Action on Consumption Assistance” organised by the SASAC of the State Council, the “Central SOEs’ Week for Consumption Assistance and Agricultural Revitalisation”. It directly purchased agricultural by-products of RMB185 million and helped with the sales of agricultural products of RMB296 million.



**【Holding China Telecom’s New Consumption Platform Shopping Festival】**

In July 2023, China Telecom’s New Consumption Platform Shopping Festival, the central SOEs’ cohesion action on consumption support guided by Social Responsibility Bureau of the SASAC of the State Council and hosted by China Telecom, was launched in Beijing. Representatives from the National Development and Reform Commission, the Ministry of Agriculture and Rural Affairs, relevant central SOEs, targeted assistance counties and 157 partners participated in the event. During “China Telecom’s New Consumption Platform Shopping Festival”, an online activity area was simultaneously set up from 31st July to 6th August, gathering nearly 40 central SOE platforms and more than 500 local famous, special and excellent products.

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 model cases for digital empowerment in rural revitalisation. The digital village platform integrates three core capacities including IoT + AI + China Telecom cloud broadcasting, and provides to counties, township, administrative villages and other government and the villagers with convenient service, points bank and other information services, and rural elderly care, fire safety, smart planting and other digital scene-based services, achieving intelligent rural grassroots governance and intelligent production and life of farmers. It has served more than 360,000 administrative villages, covering more than 100 million villagers.



**【Helping development and expansion of Guangxi Tianlin edible fungus industry】**

The Company conducted in-depth investigation and research to identify the fast track of edible fungus planting, assisted the construction of edible fungus modern agricultural industrial park, edible fungus research and development centre and fungus stick cultivation centre in Tianlin County, and vigorously developed with the mode of “industrial park + leading company + village collective economy + planting base + farmers”. The industrial park has an annual production of 2,500 tons, which increases annual income of RMB20,000 for 89 villages on average and RMB30,000 for each household.

The Company has been undertaking the task of universal telecommunications services for eight 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 2023, the Company continued to carry out the eighth batch of universal services by building nearly 2,900 4G base stations and 650 5G base stations, providing high-quality information and communications services for 2,787 remote administrative villages in China.



**【Successfully completing the eighth batch of universal services】**

Xinjiang's information and communications industry has thoroughly implemented the strategic plan for building a Cyberpower and the requirements for building the core area of the Silk Road Economic Belt, and made solid progress in building digital Xinjiang. Since 2015, Xinjiang has carried out eight batches of pilot projects for universal national telecommunications services, and built or upgraded optical fibre networks in administrative villages and corps companies throughout Xinjiang.

In 2023, in the eighth batch of universal service project, Xinjiang branch invested RMB240 million in total and completed the construction of 90 border 4G wireless base stations on 51 sections, covering 158 administrative villages with 4G and 7 5G digital villages. Xinjiang branch followed the rural revitalisation strategy by focusing on rural industry layout and has effectively supported the development of rural economy, humanities, education and other aspects.

### Promoting care for the elderly

The Company proactively promoted the traditional virtues of filial piety and respect for the elderly to help the senior people overcome the “digital divide”. Focusing on the recurring matters in the daily life of the elderly, the Company concentrated efforts to provide more convenient, caring, and high-quality information and communications services and exclusive services for the elderly. Our 10000 service hotline offered warm-hearted services to the elderly by answering about 20.34 million phone calls from them which were directly connected to the elderly caring attendants, in addition to the completion of over 120,000 times of remote counter video services. The Caring Stations at business outlets served 2.78 million person-times in intelligent elderly assistance and fraud-prevention seminars. We upgraded China Telecom’s APP to enable elderly assistance capabilities via AI digital humans, continued to improve the user experience of the caring version, and realised the functions of remote elderly assistance and family circle. We promoted the iterative upgrading of digital technology for the elderly, and greatly improved the perception of the use of products for the elderly, such as AI guardian and e-Surfing Health (翼家健康).



**【Developed suitable terminal “Zhenqing 20 (臻情20)” for the elderly】**

For problem of “difficult to learn” for the elderly in the use of mobile phones, the terminal company independently developed series of caring applications that integrate the caring elements into the process of mobile phone design and development. For example, it is designed with certain elderly-caring functions such as the default care mode, larger font and larger icons, one-button dialling, default 96dB high volume, voice broadcast and other functions, helping the elderly enjoy the convenience of life brought by smart phones.

### 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. 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 underprivileged taking into account the needs of donation recipients and social development. It encouraged employees to promote volunteering spirit of contribution, kindness, mutual assistance and progress, promoted institutionalisation and normalisation of volunteer service, and actively created an atmosphere of civilisation, harmony, unity and progress.



### 【Solidly serving the elderly】

In 2023, the Shanghai branch leveraged the “Love from e-Surfing” volunteer service brand to form “digital elderly assistance” e-Surfing bee volunteer service team centring on the promotion and application of smart phone booths, and prepared courses such as “new application and new experience of smart phone booths” and “evolution of smart phone booths”. It went deep into communities and streets to introduce the function of smart phone booth application on site and guided the elderly citizens to better enjoy digital information and application, so as to spread the warmth of a digital city and establish the digital elderly assistance service as a first-minded brand.

The Company continued to deepen the “Caring Stations” social welfare services, played the role of small station but large platform, to care for special social groups with warm services. It built and expanded service stations, integrated into the local communities to carry out all-aged public services such as outdoor workers care, smart elderly assistance, science popularisation for youth and so on, to create “a harbour for outdoor workers, a link across the digital divide, a platform for popularising science information technology and a position to prevent network fraud”. It achieved full-provincial coverage of Caring Stations with six public welfare services being “drinking water and take breaks, mobile phone charging, toilet guide, mobile phone counselling, fraud-prevention reminders, and security counselling” generally available in nearly 100,000 urban and rural business outlets. A total of 292 “Fraud-prevention Publicity and Education Base” was approved for formation by local public security departments. We established 520 volunteer service teams of Caring Stations, and organised 140,000 social welfare activities such as “Riding Month in Refreshing Summer (清爽夏日愛騎月)”, “College Entrance Examination Charging Station (高考加油站)” and “Warm Winter Programme”, which served over 13 million person-times for outdoor workers, the elderly, teenagers and other groups. Relevant units were awarded “Significant Contribution Units of Dual 15 Project of Labour Union (工會驛站雙15工程重要貢獻單位)” by All-China Federation of Trade Unions, 96 “Caring Stations” were honoured the title of “Most Beautiful 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, leading national co-building units in terms of award number, and the Xinjian Community (Caring Station) at Jinchengjiang street of Guangxi Hechi won the title of “Most Beautiful Sci-tech Volunteer Service Station (最美科技志願服務點)” by China Association for Science and Technology.



**【Advocating public welfare care and launching Public Welfare Union of Caring Stations】**

On 10 July 2023, Ke Ruiwen, Chairman of China Telecom, put forward outdoor worker caring service initiative at the launch ceremony of the “Labour Union Service Outlet Dual 15 Project (工會服務站點雙15工程)” of All-China Federation of Trade Unions on behalf of the national co-building units.

On 9 November 2023, under the guidance and support of the Rights and Benefits Protection Department under the All-China Federation of Trade Unions, the Company held the Public Welfare Union of Caring Stations and “lightening China” Launching Ceremony with China Worker Development Foundation, Alibaba Foundation and Meituan, building a resources gathering platform for continuous public welfare services.



**【Holding fraud-prevention lectures to protect residents’ property】**

On the morning of 7 June 2023, volunteer service team of Anhui Huangshan Caring Station held fraud-prevention lectures joining hands with the New Era Civilisation Practice Station and the Elderly Care Service Centre of Shuixinting Community by focusing on new fraud means, analysing pension fraud and other methods through real case analysis and case simulation videos, which enhanced the fraud-prevention awareness of the elderly in the community, and won unanimous praise from participants. At present, 80 “Caring Stations” in Anhui Province have been approved to establish as fraud-prevention publicity and education bases.

## CO-WRITING THE OVERSEAS CHAPTER

The Company organically combines the United Nations Sustainable Development Goals (SDGs) with its international business development and adheres to win-win cooperation and common development. The Company is committed to strengthening international cooperation in the field of information and communications, actively participates in the high-quality co-building of the “Belt and Road”, and promotes the construction of global digital information infrastructure. In overseas development, we actively fulfil our responsibilities, emphasise on localised operation, pay long-term attention to the development of local communities, and promote mutual understanding and cultural integration.

### Improving international communications service capabilities

The Company continued to improve the transnational communications service capabilities to serve China's high-level opening-up. The Company's global operation covers the world's major markets with 50 branches in 42 countries and regions around the world. The Company established cross-border data and voice cooperation with more than 400 overseas telecom operators, providing multinational customers with personalised, cost-effective integrated communications solutions, and actively helping Chinese enterprises expand overseas and foreign enterprises invest in Chinese market.

The Company continued to improve its business capabilities to serve public customers. Its mobile roaming services for international and Hong Kong, Macau and Taiwan covered 251 countries or regions around the world. It continued to optimise the tariff level and service capabilities and offered “Mobile data capped day-pass (包天封顶·流量畅享)” service in about 200 countries or regions. The Company actively responded to emergencies overseas by issuing social welfare notification in a timely manner and establishing travel users support hotline to provide high-quality services for customers.



### 【International Customer Relationship Excellence Awards】

On November 16, 2023, the Asia Pacific Customer Service Consortium (APCSC) held the 21st “International Customer Relationship Excellence Awards” ceremony, and the global company won two corporate team awards and eight individual awards, which was also the 11th consecutive year that the global company won this award, demonstrating the Company's excellent customer service capabilities in international business.

### Facilitating the development of the overseas digital economy

The Company continued to improve the global cloud-network deployment and promoted the construction of global digital information infrastructure. We have strengthened the construction of international cloud-network resources, focused on investing in the Asia-Pacific region and countries or regions along the “Belt and Road”, and built a large-scale global network. By the end of 2023, international, Hong Kong, Macau and Taiwan backbone transmission relays exceeded 113Tbps, of which the “Belt and Road” direction exceeded 50Tbps. We had 230 overseas point-of-presence (POPs) and 611 outlets with direct connections to the global Internet.



#### 【The main section of the Asia-Pacific direct submarine cable was fully connected】

By the end of 2023, the Asia Direct Cable project led by the Company completed submarine cable landing at all landing points, and the main section was connected. The international submarine cable will bring high-quality and inclusive digital experience to global customers with advanced network connection technology, meet the growing demand for international broadband in the Asia-Pacific region, and improve the level of interconnection of international communications infrastructure.

The Company vigorously promoted the internationalisation of China Telecom Cloud by building a high-speed interconnected intelligent cloud-network system covering major hotspots around the world and interconnecting multiple nodes with the world’s mainstream public cloud at high speed. With its professional information service capabilities and advantages in cloud-network integration technology, it matched overseas localised digital application scenes and integrated a series of smart solutions to help overseas customers’ digital transformation and upgrade and make positive contributions to the construction of local digital economy, social progress and improvement of people’s livelihood.



#### 【Official overseas expansion of China Telecom Cloud】

On 18 June 2023, China Telecom Cloud 4.0 Hong Kong node was officially launched, marking China Telecom Cloud’s official launch in overseas. The Company has increased efforts to the construction of computing power infrastructure along the “Belt and Road” regions in Asia Pacific, Europe, Africa and the Middle East, providing computing, storage, cloud computer, cloud connectivity and other services, to help the digital transformation of Chinese overseas enterprises and local enterprises.

### Supporting development of local community

The Company has long been paying attention to the construction of the local communities, actively contributed its own strength to the local society to promote cultural integration. We have been carrying out overseas public welfare activities, implementing initiatives such as “no poverty”, “digital community” and “green environmental protection” under the United Nations Sustainable Development Goals (SDGs), and built a sustainable governance framework to promote cooperation among the government, enterprises and society and to help the local community create a more vibrant, inclusive and prosperous social environment.



#### **【The South African company provided vocational skills training for local youth】**

In response to the South African government’s “Skill Development Plan”, the South African company has worked closely with local vocational training institution Black Points Training Solutions (Pty) to provide local youth with professional knowledge, vocational skills and on-the-job training related to the Company’s business, so as to enhance the competitiveness of employment.



#### **【European company held environmental events】**

In August 2023, under the theme of “Protecting the Environment and Serving the Community”, the European company held an environmental clean-up event on the banks of the River Thames, an iconic body of water in London. Employees carried out water operations with grabbing tools and garbage bags, and sorted the collected garbage to avoid secondary pollution and made a positive contribution to the restoration of the river’s ecological environment.



# MODERN GOVERNANCE

Focusing on satisfying the digital needs of customers, China Telecom continues to enhance its corporate governance, comprehensively deepens reform, promotes the reform of organisation and mechanism adapted to digital transformation. It adheres compliance operation in accordance with the law and improves its risk prevention capability, laying a solid foundation for its high-quality development.

## REFINING CORPORATE GOVERNANCE

The Company continuously enhances its corporate governance methodology, regulates its operations, strengthens its internal control mechanism, implements sound 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 2023, the shareholders' meeting, the Board and the Supervisory Committee operated soundly and efficiently. The Company is dedicated to lean management while ensuring stable and healthy operation, and elevates 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 2023, the Company convened eight Board meetings, six 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 2023, the Board of the Company consisted of 12 Directors with seven 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.

The Company continuously implements 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 governance systems of its subsidiaries at all levels based on articles of association, enhanced their market-oriented operation mechanisms, and strengthened efforts in the delegation of authority to enhance the vitality of development and operation. The governance structures of the Company's subsidiaries were further optimised, and the governance efficiency was further enhanced. The governance models of subsidiaries' board of directors were reasonably set according to their business characteristics and development stages with continuously optimised director composition. By the end of 2023, 57 subsidiaries of the Company have established their board of directors with external directors accounting for the majority, of which 17 subsidiaries have set up audit and risk committees, technology and innovation committees and other dedicated committees under the board of directors. The subsidiaries of the Company had more standardised and efficient corporate governance structure. Various subsidiaries 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. The performance of duties by directors was guaranteed by establishment of normal communication mechanism, proactive provision of production and operation information to external directors, 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, and corporate governance process was optimised with informatisation means to improve duty performance efficiency of directors. 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.

## COMPREHENSIVELY DEEPENING REFORM

Based on the digital needs of customers, the Company focuses on improving its core competitiveness and enhancing core functions, solidly promotes a new round of deepening and enhancing actions of SOE reforms to release new momentum for its development.

The Company has intensified efforts to comprehensively deepen the reform of key areas and key links, and promoted the modernisation of corporate governance system and governance capabilities. Focusing on key areas, it optimised the institutional set-up of headquarters, and promoted the corporate organisational system and operational mechanisms to better adapt to the new pattern and requirements. Insisting on the customer-oriented approach, the Company accelerated the optimisation of the main process with the cloud core platform as the hub, promoted innovation and reform in government and enterprise, channels, sci-tech innovation and other fields, and improved the level of end-to-end integrated delivery and operation services. It strengthened the construction of market-oriented mechanisms, insisted on balancing responsibilities, authorities and interests, with dual emphasis on the utilisation of incentives and constraints, and promoted further breakthroughs in the reform of professional companies, and increased investment in sci-tech innovation to accelerate the supply of high-quality digital platforms, products and capabilities, and constantly improve market competitiveness.

### Deepen reform of headquarters

- Strengthen the institutional set-up and implementation of duties and responsibilities in fields such as sci-tech innovation, the development of strategic emerging industries, the introduction and service of high-end talents, production safety, and data governance, etc.

### Deepen reform of provincial and municipal branches

- Strengthen the construction of cloud core platform of provincial and municipal branches, promote the integration of strategic emerging businesses into the main corporate process, and improve the capabilities of large-scale sales and service.

### Deepen reform of professional companies

- Set up professional companies such as Quantum Technology Group, AI Company and IoT Company to promote the corporate operation of business divisions of industries such as healthcare, education, finance, digital government administration.

## 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, strengthened the protection of intellectual property, adhered to fair competition principle, and organically and thoroughly merged integrity culture construction and anti-corruption, tax management, financial and audit supervision with corporate operation and reform. 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.

## Compliance management

The Company continued to promote operation in accordance with laws and regulations and enhanced the compliance management capability and level. The Company strove to implement the concept of “compliance by everyone, in everything and every moment”, and continuously enhanced the compliance management system. It strengthened organisational leadership by setting chief compliance officer to include internal control management obligations into legal department (compliance management department) and facilitate collaborative operation of law, compliance, internal control and risk management. It enhanced system construction by issuing compliance management measures and compliance handbook, and improved its operation mechanism to improve compliance risk identification and early warning capability and strengthen compliance review, so as to promote list-based, element-based, and process-based business compliance efforts. It also strengthened team construction and continuously cultivated a compliance culture, carried out effective assessment on compliance management to make up for shortcomings and consolidate weak points. At the same time, the Company focused on compliance management in key areas, 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 ensure high-quality corporate development.



### 【Held a “Compliance Together” Micro Video Competition】

Chongqing branch carried out the “Compliance Together” micro video competition to encourage employees to spread legal knowledge with vivid real cases, and promote all staff to put the concept of “compliance by everyone, in everything and every moment” into their heart and mind. The cumulative number of views of the micro video reached up to 600,000 times.

### Intellectual property protection

The Company further strengthened the management and protection of intellectual property by revising institutional documents such as patent management measures, printing and issuing the compliance guidelines for intellectual property protection of Industrial Digitalisation business, and improving the intellectual property management system. It promoted the implementation of trademark brand strategy to fully show its brand image. Focusing on strategic emerging industries and future industries, the Company further enhanced invention patent applications, put more efforts in patent protection of key core technologies and products, and strengthened the deployment and application of overseas patents, to enhance the international influence and competitiveness of its intellectual property, and build a moat for intellectual property protection.



#### 【“China Telecom” trademark won the first batch of AAA level (national level) well-known trademark brand certification】

On 16 June 2023, the trademark of China Telecom won the first batch of AAA level (national level) well-known trademark brands. China Trademark Association held the awarding ceremony for the first batch of winning units at the 13th China Trademark Festival.

## Anti-monopoly and fair competition

The Company strictly abided by the *Anti-Monopoly Law of the People's Republic of China*, the *Anti-Unfair Competition Law of the People's Republic of China* and other laws, regulations and regulatory requirements, adhered to the principle of fair competition, carried out production and operation in accordance with the law, protected the rights and interests of consumers, and promoted the healthy development of the industry. During the year, the *Anti-monopoly Compliance Guidelines of China Telecom* were issued, and the training and implementation of anti-monopoly related requirements were strengthened. An anti-monopoly study area was set up in online universities, and nearly 100,000 people participated in the study.

## Integrity culture and anti-corruption

The Company has earnestly complied with the laws and regulations on anti-corruption such as the *Supervision Law of the People's Republic of China*, and adopted a "zero-tolerance" attitude towards corruption. 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.

The Company carried out integrity education and legal education for its management and employees, continued to operate "China Telecom with Integrity" official account to create a clean and positive development environment, and made good use of the results of the "China Telecom with Integrity" micro-video activity to enrich the promotion and application scenes and promote the construction of corporate integrity culture. The Company distributed to all directors relevant training materials, such as an overview of anti-corruption and anti-bribery laws and regulations, as well as the *Toolkit on Directors' Ethics*, the *Anti-Corruption Programme — A Guide for Listed Companies*, the *Training Package for Directors and Professionals of Listed Companies* and the *Integrity and Corruption Prevention Guide on Managing Relationship with Public Servants* prepared by The Hong Kong Independent Commission Against Corruption (ICAC). The Company strictly and earnestly promoted the central inspection and rectification, completed the first round of internal inspection of the party group after the 20th National Congress with a strict tone, and improved and optimised the promotion and evaluation mechanism for inspection and rectification to promote high-quality development through high-quality rectification.

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 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.

## Tax management

The Company strictly abided by tax laws and regulations, paid taxes in accordance with the law, operated with integrity, strengthened tax risk management, and ensured the efficient and compliance tax management of the Company.

Formulating tax management measures and other relevant system documents, and timely carrying out policy interpretation and system update.

Optimising the tax policy information database and risk case database, and strengthening the awareness of compliance tax payment of all staff.

Deepening business and tax integration, strengthening tax process control, and effectively preventing tax risks from the source of business.

Improving the internal control and tax management process, establishing the early warning mechanism of tax risk scanning and order dispatch by digital means to strictly prevent tax risks.

## Financial and audit supervision

The Company earnestly strengthened its financial and audit supervision. The Company continuously enhanced the internal control system and revised the internal control handbook in a timely manner according to changes in the internal and external environment as well as 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 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 concentrated on improving the function of audit supervision and applying audit results and accountability. The Company launched 260,000 audit projects, proposed 3,095 management suggestions, and promoted the enhancement of 3,342 systems, serving to ensure corporate high-quality development.

### Strengthen audit supervision

- Ongoing enhancement of audit supervision of the effectiveness of internal control, compliance and risk management systems.
- Ensure full audit coverage for three years while strengthening in-depth supervision of key units and key fields.

### Strengthen the rectification of audit findings

- Consolidate responsibility for rectification, establish a long-term mechanism for rectification, and work to address key problems at the source.
- Strengthen accountability for investment in illegal operations, carry out special rectification in key areas and verification of common problems, and give full play to the role of accountability in "treating existing diseases and preventing future diseases (治已病、防未病)".

### Advance the digital transformation of audit

- Proactively utilise new technologies such as AI and Big Data to advance the construction of "cloud operation", "cloud management" and "cloud supervision" capabilities and expand the scope and precision of remote audits.
- Carry out risk scanning and order dispatch in key risk areas on a regular basis to promote early detection and rectification of risk problems.

# TABLE OF THE INDICATORS

Issues	No.	Name of Indicators	Unit	2023	2022
Emissions	1.	Scope 1: Direct greenhouse gas emissions <sup>1</sup>	million tons CO <sub>2</sub> e	0.17	0.20
	2.	Scope 2: Indirect greenhouse gas emissions <sup>1</sup>	million tons CO <sub>2</sub> e	15.00	15.57
	3.	Total greenhouse gas emissions <sup>1</sup>	million tons CO <sub>2</sub> e	15.17	15.77
	4.	Greenhouse gas emissions per unit of information flow	tons CO <sub>2</sub> e/TB	0.0139	0.0154
	5.	Greenhouse gas emissions per unit of total volume of telecommunications services <sup>1</sup>	tons CO <sub>2</sub> e/RMB million	23.06	28.67
	6.	Sewage emissions <sup>2</sup>	million tons	34.06	28.69
	7.	SO <sub>2</sub> emissions <sup>3</sup>	tons	10.54	24.54
	8.	Non-hazardous waste produced <sup>4</sup>	tons	23,118.74	23,296.69
	9.	Non-hazardous waste produced per unit operating revenue	tons/RMB million	0.05	0.05
	10.	Hazardous waste produced <sup>4</sup>	tons	21,633.22	22,540.19
	11.	Hazardous waste produced per unit operating revenue	tons/RMB million	0.04	0.05
	12.	Electronic waste produced <sup>4</sup>	tons	26,098.87	31,435.86
	13.	Electronic waste produced per unit operating revenue	tons/RMB million	0.05	0.07
Use of Resources	14.	Electricity consumption <sup>5</sup>	MWh	27,191,355.63	26,598,676.90
	15.	Green electricity consumption <sup>6</sup>	MWh	1,105,484.46	—
	16.	Natural gas consumption <sup>5</sup>	MWh	113,514.70	101,412.81
	17.	Coal consumption <sup>5</sup>	MWh	5,633.10	13,108.48
	18.	Gasoline consumption <sup>5</sup>	MWh	426,994.44	507,487.19
	19.	Diesel consumption <sup>5</sup>	MWh	152,007.74	173,041.02
	20.	Purchased heat consumption amount <sup>5</sup>	MWh	305,545.00	297,184.94
	21.	Overall energy consumption	MWh	28,195,050.61	27,690,911.34
	22.	Overall energy consumption per unit of information flow	MWh/TB	0.0258	0.0270
	23.	Overall energy consumption per unit of total volume of telecommunications services	MWh/RMB million	42.85	50.34
	24.	Power consumption per carrier frequency at base stations	kWh/carrier frequency	1,549.03	1,437.82
	25.	Water consumption <sup>7</sup>	million tons	40.07	33.76
	26.	Water consumption per unit operating revenue	tons/RMB million	78.03	70.12
	27.	Reclaimed water consumption <sup>7</sup>	tons	293,973.65	286,508.75

## CONTINUED

Issues	No.	Name of Indicators	Unit	2023	2022
<b>The Environment and Natural Resources</b>	28.	Investment in energy saving and environmental conservation <sup>8</sup>	RMB million	2,497.81	1,357.95
	29.	Countries and regions of mobile data international roaming and roaming in Hong Kong, Macau and Taiwan	—	251	251
	30.	Domestic administrative village fibre broadband coverage	%	98	97
	31.	Domestic administrative village mobile network coverage <sup>9</sup>	%	98	—
	32.	Internet backbone network interconnection bandwidth	Gbps	42,820.00	32,720.00
	33.	International interconnection bandwidth	Gbps	12,363.66	10,964.76
	34.	Call drop rate of mobile communication <sup>10</sup>	%	0.03	0.03
<b>Product Responsibility</b>	35.	Call completion rate of mobile communication network <sup>10</sup>	%	99.30	99.24
	36.	Call completion rate for access line	%	89.13	91.72
	37.	Packet loss rate of broadband Internet ChinaNet backbone network	%	0.03	0.03
	38.	Mobile service satisfaction <sup>11</sup>	points	81.22	81.53
	39.	Fixed broadband satisfaction <sup>11</sup>	points	81.92	82.34
	40.	Wireline voice satisfaction <sup>11</sup>	points	86.54	87.43
	41.	Percentage of in-time response to international customer repair reports <sup>12</sup>	%	99.55	99.55
	42.	International customer satisfaction <sup>13</sup>	points	93.69	93.30
	43.	Number of new patents granted	—	1,187	602
	44.	Number of new invention patents granted	—	1,155	560
	45.	Number of fraudulent IPs blocked <sup>14</sup>	—	160,886	—
	46.	Number of customer complaints and reports <sup>15</sup>	person-times	432,419	—
	47.	Customer complaint and report rate <sup>15</sup>	person-times/million users	593.6	—
<b>Anti-corruption</b>	48.	Number of anti-corruption education activities	—	23,415	23,574
	49.	Attendance of anti-corruption education and trainings	person-times	1,520,183	1,398,273
	50.	Number of corruption cases <sup>16</sup>	—	1	1

## CONTINUED

Issues	No.	Name of Indicators	Unit	2023	2022
Supplier	51.	Total number of suppliers <sup>17</sup>	—	27,002	24,237
	52.	Number of suppliers in Mainland China <sup>17</sup>	—	26,447	23,706
	53.	Number of suppliers in regions of Hong Kong, Macau and Taiwan of China <sup>17</sup>	—	222	157
	54.	Number of suppliers from other countries and regions <sup>17</sup>	—	333	374
Employment	55.	Proportion of female managers	%	21.94	21.30
	56.	Total number of employees <sup>18</sup>	—	278,539	280,683
	57.	Number of full-time employees <sup>18</sup>	—	272,582	274,229
	58.	Number of part-time employees <sup>18</sup>	—	5,957	6,454
	59.	Number of employees under the age of 30	—	44,536	41,058
	60.	Number of employees aged 30–49	—	160,273	168,584
	61.	Number of employees aged 50 and above	—	73,730	71,041
	62.	Number of male employees	—	190,870	191,773
	63.	Number of female employees	—	87,669	88,910
	64.	Number of employees in Mainland China	—	276,444	278,483
	65.	Number of employees in Hong Kong, Macau, Taiwan and overseas branches	—	2,095	2,200
	66.	Percentage of ethnic minority employees <sup>18</sup>	%	7.03	6.87
	67.	Number of new employees <sup>18</sup>	—	12,402	14,021
	68.	Percentage of female among new employees <sup>18</sup>	%	31.76	34.77
	69.	Turnover rate of employees under the age of 30 <sup>19</sup>	%	3.46	4.11
	70.	Turnover rate of employees aged 30–49 <sup>19</sup>	%	0.88	0.83
	71.	Turnover rate of employees aged 50 and above <sup>19</sup>	%	1.06	0.64
	72.	Turnover rate of female employees <sup>19</sup>	%	1.36	1.31
	73.	Turnover rate of male employees <sup>19</sup>	%	1.33	1.24
	74.	Turnover rate of employees in Mainland China <sup>19</sup>	%	1.33	1.27
	75.	Turnover rate of employees in Hong Kong, Macau, Taiwan and overseas branches <sup>19</sup>	%	14.61	—
	76.	Signing rate of employment contract <sup>18</sup>	%	100	100
	77.	Coverage rate of social insurance <sup>18</sup>	%	100	100

## CONTINUED

Issues	No.	Name of Indicators	Unit	2023	2022
Safety and Health	78.	Serious injury rate per 1,000 employees <sup>20</sup>	number of serious injuries/ thousand	0.00	0.00
	79.	Loss of working days due to work-related injury <sup>20</sup>	days	0.00	0.00
	80.	Number of participants in safety emergency drills	person-times	485,870	445,539
	81.	Number of participants in health and safety trainings	person-times	609,745	670,461
	82.	Participation rate of employee health checkup <sup>18</sup>	%	89.26	94.45
	83.	Number of work-related fatalities <sup>20</sup>	—	0	0
	84.	Fatality rate per 1,000 employees <sup>20</sup>	number of deaths/thousand	0.0000	0.0000
	Training and Development <sup>21</sup>	85.	Training expenses per employee	RMB/person	3,682.69
86.		Number of internal trainers	—	14,817	13,280
87.		Total number of participants trained	10,000 person-times	88.57	37.26
88.		Number of senior management trained	person-times	1,615	497
89.		Number of middle-level management trained	person-times	124,547	51,105
90.		Number of general employees trained	person-times	759,509	321,030
91.		Number of male employees trained	person-times	592,279	245,429
92.		Number of female employees trained	person-times	293,392	127,203
93.		Number of employees passed skill certification exams	person-times	46,759	24,602
94.		Average training time per employee	hours/person	75.11	31.65
95.		Average training time per senior management	hours/person	168.22	90.31
96.		Average training time per middle-level management	hours/person	94.49	34.67
97.		Average training time per general employee	hours/person	72.32	31.14
98.		Average training time per male employee	hours/person	76.89	30.93
99.		Average training time per female employee	hours/person	71.13	33.24
100.		Proportion of senior management participating in training	%	95.80	98.39
101.	Proportion of middle-level management participating in training	%	93.07	50.87	
102.	Proportion of general employees participating in training	%	83.78	42.34	
103.	Proportion of male employees participating in training	%	83.99	41.62	
104.	Proportion of female employees participating in training	%	86.93	47.42	

## CONTINUED

Issues	No.	Name of Indicators	Unit	2023	2022
Community	105.	Total service time of volunteers	10,000 hours	65.58	108.57
	106.	Number of participants in volunteering activities	10,000 person-times	16.36	20.11
	107.	Number of volunteering activities	sessions	26,828	16,417
	108.	Volunteer service activities input amount	RMB million	14.62	16.44
	109.	Number of participated pole line co-built <sup>22</sup>	kilometres	2,984	1,412
	110.	Number of provided pole line co-shared <sup>22</sup>	kilometres	8,107	13,595
	111.	Number of co-built pipelines participated <sup>22</sup>	kilometres	8,315	6,792
	112.	Number of co-shared pipelines provided <sup>22</sup>	kilometres	585	896
	113.	Number of co-built indoor distribution systems participated <sup>22</sup>	—	38,750	68,339
	114.	Personnel involved in emergency communication support	person-times	768,687	840,242
	115.	Number of emergency communication equipment dispatched	set-times	78,487	113,928
	116.	Number of emergency communication vehicles dispatched	vehicle-times	135,101	273,941
	117.	Number of emergency public service messages sent <sup>23</sup>	million pieces	23,556.01	27,543.32

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

Scope 2: indirect greenhouse gas emissions include the greenhouse gas emissions from purchased electricity and heating power, where the electricity emissions factors shall refer to the average national grid of 0.5703t CO<sub>2</sub>/MWh of 2022 as released in the *Notice on the Management of Greenhouse Gas Emission Reporting by Enterprises in the Power Generation Sector for 2023–2025* (《關於做好2023–2025年發電行業企業溫室氣體排放報告管理有關工作的通知》) issued by the 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 1 (direct greenhouse gas emissions) and Scope 2 (indirect greenhouse gas emissions);

The total volume of telecommunications services represents the sum of respective indicators of volume of each service multiplied by the corresponding constant unit price, whereas the constant unit price refers to the constant unit price of telecommunications services in 2020 released by the Ministry of Industry and Information Technology.

2. 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.
3. SO<sub>2</sub> emissions refer to the SO<sub>2</sub> 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》).
4. 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 cover the Company's headquarters, 31 provincial branches and professional companies; 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》);  
  
Electricity consumption refers to non-renewable electricity purchased that was generated by fossil fuels as well as green electricity.
6. Statistics on green electricity consumption covers 31 provincial branches of the Company, and the statistical calibre includes the electric power generated by our own distributed infrastructure and purchased green electricity; purchased green electricity includes the wind and photovoltaic power with "integration of trading of permit and electricity".
7. 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.
8. Investment in energy saving and environmental conservation comprises of two categories: the Company's contribution and contractual energy management.
9. Domestic administrative village mobile network coverage rate refers to the consolidated coverage of 4G and 5G networks in domestic administrative villages at the end of the reporting period. The percentage of domestic administrative villages covered by 4G networks as disclosed in 2022 was 97%.
10. VoLTE data was used for call drop rate of mobile communication and call completion rate of mobile communication network.
11. The data sources of satisfaction for the year of 2023 are from the Ministry of Industry and Information Technology of the People's Republic of China, including mobile service satisfaction, fixed broadband satisfaction and wireline voice satisfaction.

12. 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.
13. 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.
14. Number of fraudulent IPs blocked is the number of fraudulent IPs blocked by the Company during the reporting period in accordance with requirements by the relevant state authorities.
15. The data sources of number of customer complaints and reports and customer complaint and report rate in 2023 are from the Ministry of Industry and Information Technology of the People's Republic of China. Such number adopts different statistical calibres with number of customer complaints and customer complaint rate in 2022, thereby 2022 data is shown as “—”.
16. 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. One corruption lawsuit has concluded this year, in which case relevant parties have been subject to criminal penalties by the judicial authorities.
17. 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 2023 refer to the centralised procurement suppliers of China Telecom.
18. 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, participation rate of employee health checkup, signing rate of employment contract and coverage rate of social insurance are calculated based on contract employees.

19. Turnover rate of employees = (number of employees turnover during the reporting year/number of employees at the end of the reporting period)\*100%.

The statistical calibre of turnover rates of employees by gender and age group during the reporting period and turnover rate of employees in Mainland China are based on contract employees, part-time employees, dispatched employees and other employees, excluding the global company.

The statistical calibre of turnover rate of employees in Hong Kong, Macau, Taiwan and overseas branches is based on contract employees, part-time employees, dispatched employees and other employees. The data of last year disclosed was 0.55%, covering data from branches in Mainland China and Macau, which has no comparability and cannot be adjusted retrospectively as it used different statistical calibre with that in this year, thereby it is shown as “—”.

20. 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 2021, number of work-related fatalities was 0, and the fatality rate per 1,000 employees was 0 deaths per thousand employees.
21. Indicators related to training and development refer to the data of on-the-job contract employees participating in the Company's virtual and physical training during the reporting period. Such indicators in previous year only included physical training data.
22. 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.
23. Emergency public service messages include public service messages in relation to natural disaster warning and important events support.



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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 2023 key data as defined below in the Sustainability Report 2023 of China Telecom Corporation Limited (the "Company").

### Selected key data

The selected key data in the Company's Sustainability Report 2023 that is covered by this report is as follows:

• Scope 1: Direct greenhouse gas emissions (million tons CO <sub>2</sub> e)	• Countries and regions of mobile data international roaming and roaming in Hong Kong, Macau and Taiwan
• Scope 2: Indirect greenhouse gas emissions (million tons CO <sub>2</sub> e)	• Internet backbone network interconnection bandwidth (Gbps)
• Total greenhouse gas emissions (million tons CO <sub>2</sub> e)	• Mobile service satisfaction (points)
• Sewage emissions (million tons)	• Fixed broadband satisfaction (points)
• SO <sub>2</sub> emissions (tons)	• Wireline voice satisfaction (points)
• Non-hazardous waste produced (tons)	• Percentage of in-time response to international customer repair reports (%)
• Non-hazardous waste produced per unit operating revenue (tons/RMB million)	• International customer satisfaction (points)
• Green electricity consumption (MWh)	• Number of new patents granted
• Electricity consumption (MWh)	• Number of new invention patents granted
• Natural gas consumption (MWh)	• Number of fraudulent IPs blocked
• Coal consumption (MWh)	• Number of customer complaints and reports (person-times)
• Gasoline consumption (MWh)	• Customer complaint and report rate (person-times/million users)
• Diesel consumption (MWh)	• Number of corruption cases
• Purchased heat consumption amount (MWh)	• Total number of suppliers
• Overall energy consumption (MWh)	• Number of suppliers in Mainland China
• Water consumption (million tons)	• Number of suppliers in regions of Hong Kong, Macau and Taiwan of China
• Water consumption per unit operating revenue (tons/RMB million)	• Number of suppliers from other countries and regions

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• Reclaimed water consumption (tons)	• Proportion of female managers (%)
• Total number of employees	• Fatality rate per 1,000 employees (number of deaths/thousand)
• Number of full-time employees	• Training expenses per employee (RMB/person)
• Number of part-time employees	• Number of internal trainers
• Number of employees under the age of 30	• Total number of participants trained (10,000 person-times)
• Number of employees aged 30-49	• Number of senior management trained (person-times)
• Number of employees aged 50 and above	• Number of middle-level management trained (person-times)
• Number of male employees	• Number of general employees trained (person-times)
• Number of female employees	• Number of male employees trained (person-times)
• Number of employees in Mainland China	• Number of female employees trained (person-times)
• Number of employees in Hong Kong, Macau, Taiwan and overseas branches	• Number of employees passed skill certification exams (person-times)
• Percentage of ethnic minority employees (%)	• Average training time per employee (hours/person)
• Number of new employees	• Average training time per senior management (hours/person)
• Percentage of female among new employees (%)	• Average training time per middle-level management (hours/person)
• Turnover rate of employees under the age of 30 (%)	• Average training time per general employee (hours/person)
• Turnover rate of employees aged 30-49 (%)	• Average training time per male employee (hours/person)
• Turnover rate of employees aged 50 and above (%)	• Average training time per female employee (hours/person)
• Turnover rate of female employees (%)	• Proportion of senior management participating in training (%)
• Turnover rate of male employees (%)	• Proportion of middle-level management participating in training (%)
• Turnover rate of employees in Mainland China (%)	• Proportion of general employees participating in training (%)
• Serious injury rate per 1,000 employees (number of serious injuries/thousand)	• Proportion of male employees participating in training (%)
• Loss of working days due to work-related injury (days)	• Proportion of female employees participating in training (%)
• Participation rate of employee health checkup (%)	• Number of emergency public service messages sent (million pieces)
• Number of work-related fatalities	

Our assurance was with respect to the year ended 31 December 2023 information only and we have not performed any procedures with respect to earlier periods or any other elements included in the Sustainability Report 2023.



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(Page 3/4)**Criteria**

The criteria used by the Company to prepare the selected key data in the Sustainability Report 2023 is set out in notes to the “Table of Indicators” of the Sustainability Report 2023 (the “basis of reporting”), which is based on the “ESG Reporting Guide”, Appendix C2 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 Sustainability Report 2023 in accordance with the “ESG Reporting Guide”, Appendix C2 to 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 Sustainability Report 2023 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 Sustainability Report 2023 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 2023 selected key data in the Sustainability Report 2023 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 Sustainability Report 2023 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:



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(Page 4/4)**Practitioner's Responsibilities (Continued)**

- 1) Interviews with relevant departments at the headquarters of the Company involved in providing information for the selected key data within the Sustainability Report; and
- 2) Analytical procedures;
- 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 2023 selected key data in the Sustainability Report 2023 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 is not to be used for any other purpose. We do not assume responsibility towards or accept liability to any other parties for the content of this report.

**PricewaterhouseCoopers Zhong Tian LLP**

Shanghai, China

March 26, 2024

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE IN APPENDIX C2 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.	Practicing "dual carbon" strategy Promoting low-carbon operation
	A1.1 The types of emissions and respective emissions data.	Table of the Indicators
	A1.2 Direct (Scope 1) and indirect energy (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.	Practicing "dual carbon" strategy
	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.	Practicing "dual carbon" strategy 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 materials used for finished products (in tons) and, if applicable, with reference to per unit produced.	No significant correlation <sup>1</sup>

## CONTINUED

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.	Practicing "dual carbon" strategy
	A4.1 Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Practicing "dual carbon" strategy
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 Strengthening production safety
	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 Strengthening production safety

## CONTINUED

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.	Responsible supply chain 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.	Responsible supply chain
	B5.3 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Responsible supply chain 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.	Responsible supply chain Promoting low-carbon operation

## CONTINUED

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.	Protecting the rights and interests of customers Maintaining network and information security Providing security services Promoting low-carbon operation
	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	No significant correlation <sup>2</sup>
	B6.2 Number of products and service-related complaints received and how they are dealt with.	Table of the Indicators Enhancing customer perception
	B6.3 Description of practices relating to observing and protecting intellectual property.	Protecting intellectual property
	B6.4 Description of quality assurance process and recall procedures.	No significant correlation <sup>2</sup>
	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.	Integrity culture and anti-corruption
	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.	Integrity culture and anti-corruption
	B7.3 Description of anti-corruption training provided to directors and employees.	Integrity culture and anti-corruption
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.	Co-sharing development achievements
	B8.1 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	Co-sharing development achievements
	B8.2 Resources contributed (e.g. money or time) to the focus area.	Table of the Indicators

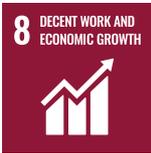
## Notes:

- 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.
- 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 "Security Development" "Providing Heartfelt Services to Customers" section.

## THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT OF THE UNITED NATIONS — 17 SUSTAINABLE DEVELOPMENT GOALS (SDGs)

SDGs	China's National Plan Regarding SDGs	Location in the Report
 <p><b>1</b> NO POVERTY</p>	<ul style="list-style-type: none"> <li>Introduce more investments in poverty-relief areas</li> <li>Help other developing countries in economic development, livelihood improvement and poverty alleviation</li> </ul>	<p>Serving rural revitalisation</p> <p>Co-writing the Overseas Chapter</p>
 <p><b>2</b> ZERO HUNGER</p>	<ul style="list-style-type: none"> <li>Ensure that everyone has safe, nutritious and sufficient food all year</li> <li>Ensure the supply of key agricultural products, increase farmers' income, and achieve sustainable agricultural development</li> </ul>	<p>Serving rural revitalisation</p> <p>Empowering digital transformation</p>
 <p><b>3</b> GOOD HEALTH AND WELL-BEING</p>	<ul style="list-style-type: none"> <li>Promote equality of and accessibility to basic medical and healthcare services</li> <li>Popularise knowledge of mental health</li> </ul>	<p>Empowering digital transformation</p> <p>Caring for Employees</p>
 <p><b>4</b> QUALITY EDUCATION</p>	<ul style="list-style-type: none"> <li>Bridge the gap in education between urban and rural areas at a faster speed</li> <li>Promote information-enabled education and develop distance education</li> <li>Provide short-term education and training for other developing countries</li> </ul>	<p>Empowering digital transformation</p> <p>Supporting development of local community</p>
 <p><b>5</b> GENDER EQUALITY</p>	<ul style="list-style-type: none"> <li>Eliminate all forms of discrimination and bias against women</li> <li>Enhance the working and entrepreneurial capability of women by offering public childcare services</li> </ul>	<p>Protecting employees' rights and interests</p>
 <p><b>6</b> CLEAN WATER AND SANITATION</p>	<ul style="list-style-type: none"> <li>Comprehensively promote the development of a water-saving society by strengthening the management over water demand and water utilisation process</li> <li>Protect and restore water-related ecosystem</li> </ul>	<p>Promoting low-carbon operation</p> <p>Empowering green development</p>

## CONTINUED

SDGs	China's National Plan Regarding SDGs	Location in the Report
 <p><b>7</b> AFFORDABLE AND CLEAN ENERGY</p>	<ul style="list-style-type: none"> <li>Optimise the energy structure by enhancing the utilisation rate of fossil fuel energy and increasing the proportion of clean energy consumption</li> </ul>	Promoting low-carbon operation
 <p><b>8</b> DECENT WORK AND ECONOMIC GROWTH</p>	<ul style="list-style-type: none"> <li>Improve innovation capabilities and core competitiveness in key areas such as new generation of information technology and biomedicine</li> <li>Safeguard workers' legitimate rights and interests such as labour remuneration, rest and holidays, social insurance, etc.</li> <li>Enhance the employment and entrepreneurial service system, implement a life-long vocational skills training system, and carry out the employment promotion and entrepreneurship leadership plans for college graduates</li> <li>Accelerate the management and control of safety risk levels and the inspection and elimination of hidden hazards, and carry out publicity and education activities about safety culture</li> </ul>	<p>Consolidating digital foundation</p> <p>Protecting employees' rights and interests</p> <p>Supporting employees' development</p> <p>Strengthening production safety</p>
 <p><b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<ul style="list-style-type: none"> <li>Facilitate the upgrading and transformation of traditional industries and advance the quality and efficiency improvement of manufacturing industry</li> <li>Promote low-carbon industrial energy use</li> <li>Establish systematic capabilities for continuous innovation, nurture and gather strategic scientists and leading talents in science and technology</li> <li>Accelerate the promotion and application of high-quality networks and urban and rural coverage</li> </ul>	<p>Empowering digital transformation</p> <p>Empowering green development</p> <p>Openness, cooperation and win-win</p> <p>Supporting employees' development</p> <p>Co-sharing development achievements</p>
 <p><b>10</b> REDUCED INEQUALITIES</p>	<ul style="list-style-type: none"> <li>Attach great importance to providing equal opportunities and ensuring equal rights of participation and development for all employees</li> <li>Consistently promote growth of both resident income and the economy, as well as growth of both salary and work productivity at the same time</li> </ul>	Protecting employees' rights and interests
 <p><b>11</b> SUSTAINABLE CITIES AND COMMUNITIES</p>	<ul style="list-style-type: none"> <li>Improve the social governance system, achieve positive interaction between government governance, social adjustment and residents' autonomous governance</li> <li>Strengthen the monitoring and alerting systems of natural disasters as well as project defense capabilities, enhance social mobilisation mechanism in relation to disaster prevention and reduction and establish smooth channels for social participation in disaster prevention and reduction</li> </ul>	<p>Digital society</p> <p>Digital government administration</p> <p>Assuring Emergency Communications</p>

## CONTINUED

SDGs	China's National Plan Regarding SDGs	Location in the Report
	<ul style="list-style-type: none"> <li>Strenuously develop circular economy with significant increase in the recycling of major types of wastes</li> <li>Comprehensively promote the extended producer responsibility system to encourage enterprises to fully implement the concept of sustainable development in their production management</li> </ul>	<p>Maintaining network and information security</p> <p>Promoting low-carbon operation</p> <p>Responsible supply chain</p>
	<ul style="list-style-type: none"> <li>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</li> </ul>	<p>Practicing "dual carbon" strategy</p> <p>Empowering green development</p>
	<ul style="list-style-type: none"> <li>Carry out integrated ocean management and put more efforts on the protection of typical ecosystem</li> </ul>	<p>Empowering green development</p>
	<ul style="list-style-type: none"> <li>Maintain ecological water levels in key wetlands and estuaries and protect and restore the biological systems in wetlands, rivers, and lakes</li> <li>Restore and expand habitats for endangered animals and plants and strengthen international cooperation on wildlife protection</li> </ul>	<p>Empowering green development</p>
	<ul style="list-style-type: none"> <li>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</li> <li>Resolutely rectify and investigate malpractices and corruption issues that cause prejudice to the interests of the folks, and take a deeper dive into inspections and on-site supervision</li> </ul>	<p>Protecting employees' rights and interests</p> <p>Integrity culture and anti-corruption</p>
	<ul style="list-style-type: none"> <li>Proactively participate in global development and cooperation and promote the establishment of more balanced global partnerships for development</li> <li>Proactively participate in the works in relation to the establishment of mechanisms for enhancing the use of global technology</li> <li>Arrange skill trainings and development experience sharing activities for other developing countries</li> </ul>	<p>Openness, cooperation and win-win</p> <p>Co-writing the overseas chapter</p>

# ABOUT THE REPORT

- **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 2023 (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 were 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 C2 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 *2030 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.

- **RELIABILITY ASSURANCE**

The Report, the information in which is accurate, strives to give an objective and comprehensive picture of the economic, 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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