




Spotlighting Technological Innovation and Leading Digital-Intelligent Development



2021 China Mobile Limited
Sustainability Report

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Chairman's Statement



Yang Jie

Chairman
China Mobile Limited

Enhancing Technological Innovation and Starting a New Chapter of Digital-Intelligent Development

2021 was the first year of China's 14th Five-Year Plan (FYP). Moving into the new phase of development, China Mobile applied the new principles of development and contributed to creating a new paradigm. The Company firmly seized the new development opportunities arising from a digital economy underpinned by a new wave of technological and industrial revolution. Adhering to our ideology of promoting digital-intelligent transformation and achieving high-quality development, and as we strove to become a world-class enterprise by building a dynamic "Powerhouse", we continued to maximize the power of the ICT (information and communications technology) sector in empowering all areas of social and economic development, supported the efficient functioning of the digital economy by innovatively integrating information technology and data, and took concrete moves to promote harmonic, symbiotic and sustainable development of the Company with the wider economy, environment and society.

To build information service "lifelines". In 2021, we rose to one challenge after another and provided much-needed information service support for COVID-19 prevention and control, disaster relief, major events, cybersecurity, etc., honoring our promise to proactively serve the public with professionalism and commitment. We employed an array of information technologies such as 5G, big data and artificial intelligence (AI) to enable digital-intelligent prevention and control of COVID-19 while providing reliable communications, maintaining service continuity and stepping up comprehensive prevention and control measures. We rapidly restored mobile signals in designated areas and maintained connectivity for public affected by disasters using our Wing Loong large UAV-based Aerial Base Station (ABS) and other innovative core technologies. We launched the world's largest 5G+BeiDou high-precision positioning system to improve early-warning of disasters and facilitate disaster prevention and relief. We reinforced our capabilities in safeguarding emergency communications, provided reliable communications and cybersecurity support for numerous major events, and achieved our established target of "no major network failure, no major cybersecurity incident and no major customer complaint". We proactively prevented and cracked down on communications and network crime and illegal activities and strengthened privacy protection. We did our utmost to maintain a healthy and safe communications environment for customers backed by network and information security.

To drive the development of the digital economy through digital-intelligent innovation. We drove the rapid development of the digital economy through fully advancing the construction of information infrastructure and the digital-intelligent transformation of the entire society. In terms of connectivity, we are operating a world-leading communications network with more than 5.5 million base stations, including over 730,000 5G base stations, and our gigabit platform capabilities covered all cities and counties nationwide. In terms of computing force, our data centers formed a "4+3+X" nationwide layout, and those with external service capabilities had a total cabinet capacity of more than 400,000 units. In terms of abilities, we continued to refine our best-in-class core abilities such as AI, cloud computing, blockchain, big video and high-precision positioning, and our smart mid-end platform offered a catalogue of 325 common capabilities, processing over 8.1 billion requests per month on average. With a continued commitment to independent innovation, we also evolved the "One System and Four Rings" technological innovation layout and the Joint Innovation Plus scheme to push for key technological breakthroughs. We amplified the value of the 5G Innovation Coalition, and strove to develop high-level original technologies, and serve as a leader in the modern industrial chain. We launched the "Heartwarming Service" customer service brand and continued to innovate our rich offering of products, such as "and-Caiyun", MIGU Video and video connecting tones, to meet the common demand of an enriching digital lifestyle. Surrounding nine industrial innovation platforms, we built 200 industry-leading 5G pilot projects and developed over 6,400 5G commercial use cases with our industry partners, driving the transformation, upgrade and improvement in cost-efficiency across sectors and industries.

To advance common prosperity through inclusive growth. We act on the people-centered philosophy of development, care for the

growth of our employees, share the fruits of our development and promote common prosperity while we pursue high-quality development. Under the "Talent Pipeline" strategic initiative, we continued to improve our talent structure and advance our employee caring programs such as the "Five Small Spaces" and "Happiness 1+1" programs. We took the initiative to serve China's regional development strategies, advanced coordinated regional development, and proactively took part in developing infrastructure along the "Belt and Road" and providing premium international information services. We evolved our products and services to bridge the digital divide for underserved groups, such as elderly people, people with disabilities and people living in remote areas, and to share with them the benefits of information technology. We upgraded the "Network+" poverty alleviation model into the "Network+" rural revitalization model and rolled out the *14th FYP Digital-Intelligent Rural Revitalization Plan*: we consolidated the achievements of poverty alleviation through our "Seven Assistance Measures" and empowered rural revitalization in a digital-intelligent manner under our pioneering "Seven Rural Digital-Intelligence Projects", earning us the highest rating for four consecutive years in the designated poverty alleviation work review of China's central state-owned enterprises. China Mobile's philanthropy platform was approved by the Ministry of Civil Affairs as one of the third batch of online fundraising information platforms, making us the first and only domestic telecommunications operator to be granted this qualification. Our "Blue Dream" project has trained a total of close to 130,000 rural primary and secondary school principals in central and western China, contributing to greater educational equity across regions. Our "Heart Caring" campaign has offered free surgeries for over 7,000 impoverished children diagnosed with congenital heart disease (CHD), reigniting their hope in life. In 2021, our Parent Company won the highest government award for charity in China, the 11th China Charity Award.

To support carbon peaking and carbon neutrality goals through green and low-carbon operations. We fully implemented national policies on carbon peaking and carbon neutrality by constantly reducing our own carbon emissions while empowering low-carbon growth across sectors and industries. We ran the "Green Action Plan" for the 15th consecutive year, and launched the "C² Three Energy — Carbon Peaking and Carbon Neutrality Action Plan" and the new green development model, based on three aspects of energy (energy saving, clean energy and empowerment) and six green initiatives (green networks, green energy consumption, green supply chain, green office, green empowerment and green culture). In 2021, our energy saving measures saved us over 4.3 TWh of electricity in total. We aim to cut energy consumption intensity and carbon emission intensity by no less than 20% by the end of the 14th FYP period. We endorsed green procurement, whereby over 80% of our newly procured major equipment in 2021 used green packaging, saving 262,000 cubic meters of timber resources. We also introduced digital-intelligent services, such as smart green factory and a set of environmental management solutions, to drive energy conservation, consumption reduction and resource recycling in the wider society. We were listed for the fourth time in the climate change "A List" of CDP (Carbon Disclosure Project).

A growth mindset keeps us constantly evolving. Looking into the future, China Mobile will advance towards the new position of becoming a world-class information services and sci-tech innovation enterprise and spare no effort in building a new information service system of "connectivity, computing force and ability" based on 5G, computing force network (CFN) and smart mid-end platform. The Company will continue to be guided by its CSR philosophy of pursuing win-win development with fullest sincerity. Joining hands with stakeholders, the Company will take on greater responsibility in serving the digital economy, harness next-generation digital-intelligent technologies, bring digital-intelligent power to the public and society for a better future, and start a new chapter in sustainable development.

March 2022

About China Mobile

Company Profile

Incorporated on September 3, 1997 in Hong Kong, China Mobile Limited (“China Mobile”, “the Company” or “we”) is the leading telecommunications services provider in the mainland of China. The Company boasts a world-class telecommunications operator with the world’s largest network and customer base, a leading position in profitability and market value ranking.

The Company provides full communications services in all 31 provinces, autonomous regions and directly-administered municipalities throughout the mainland of China and in the Hong Kong Special Administrative Region. Its businesses primarily consist of mobile voice and data business, wireline broadband, and other information and communications services. The Company’s ultimate controlling shareholder is China Mobile Communications Group Co., Ltd. (“the Parent Company”), which, as of December 31, 2021, indirectly held 72.72% of the total number of issued shares of the Company. The remaining 27.28% were held by public investors. For more information about the Company’s governance structure, organizational structure, ownership and legal form, markets served, scale of operations and more, please refer to *China Mobile Limited’s 2021 Annual Report*.

Honors & Awards



Ranked 32nd in the 2021 *Forbes* “Global 2000 – The World’s Largest Public Companies”



Titanium Award in the “ESG Corporate Awards 2021” held by *The Asset*



“Honored Companies” award in the 2021 “All-Asia Executive Team” selection hosted by *Institutional Investor*



“Asia’s Icon on ESG” award in the “16th Asian ESG Award 2021” held by *Corporate Governance Asia*



“Best Investor Relations Company”, “Best CSR”, “Best Corporate Communications” and other awards in the “11th Asian Excellence Award 2021” held by *Corporate Governance Asia*



The Parent Company won the highest government award for charity in China, the 11th China Charity Award



Enlisted as the only telecommunications operator in the 2nd Global Best Poverty Reduction Practices selection



Listed for the fourth time in the climate change “A List” of CDP (Carbon Disclosure Project)

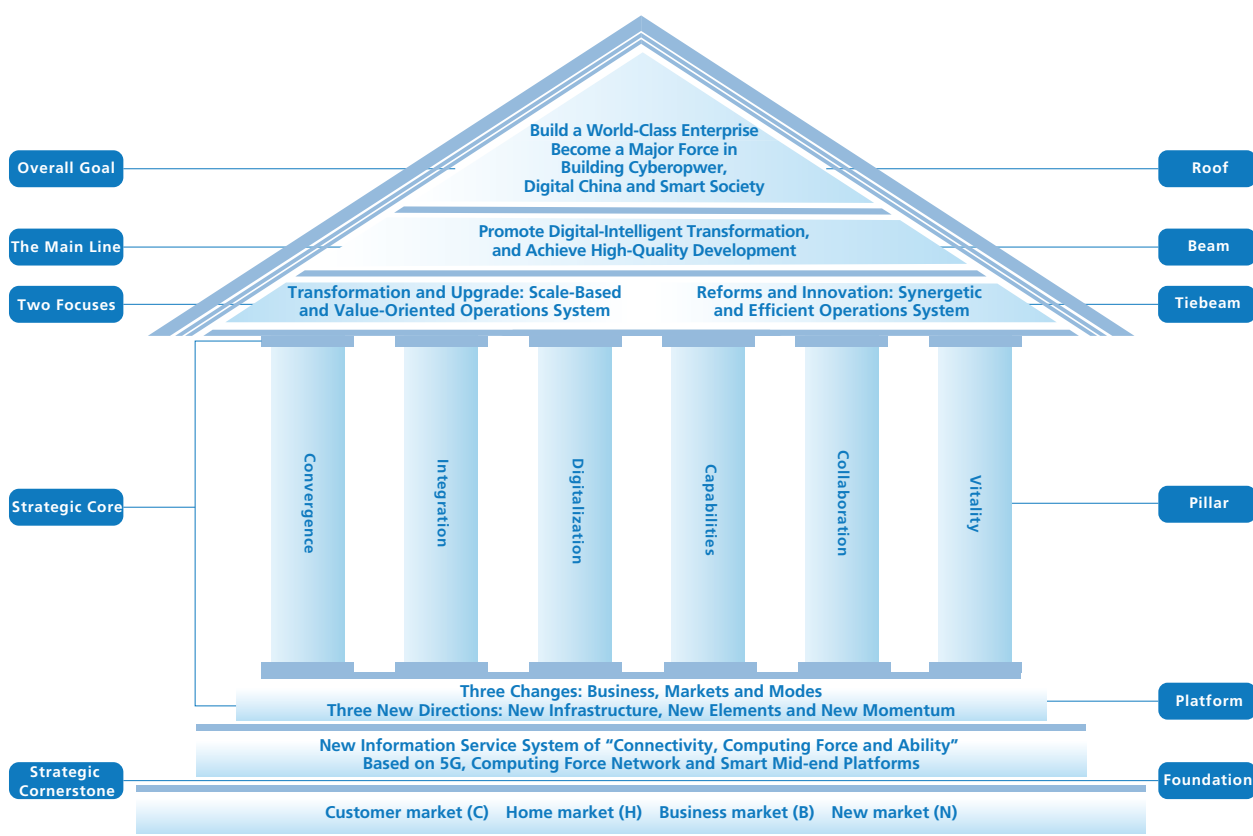


“2021 China’s Best Employers – Top 10” and “Most Popular Employers Among University Students – Top 10” awards at the “China’s Best Employers for the Year” selection co-hosted by Zhaopin.com and the Center for Social Research of Peking University

“Powerhouse” Development Strategy

To seize the important opportunities brought by the “new racecourse” of digital economy, China Mobile has kept in step with the times and evolved its development strategy to build a world-class dynamic “Powerhouse”. Our “new positioning” is to become a world-class information services and sci-tech innovation enterprise. Our objective is to build a world-class enterprise and become a major force in building cyberpower, digital China and smart society. We adhere to our ideology of promoting digital-intelligent transformation and achieving high-quality development. We are speeding up the “three changes”, following the “three new directions”, reinforcing the “three approaches” and strengthening the “three forces” to create a new information service system underpinned by 5G, CFN and smart mid-end platforms that offers “connectivity, computing force and ability”. We continue to advance the comprehensive and integrated development of our CHBN markets (customer, home, business and new markets) and take greater strides towards becoming a globally-competitive world-class enterprise.

Development Strategy of China Mobile: “Powerhouse”



Extended Reading

- **“Three Changes”**: Extending our business from telecommunications services to information services, from primarily promoting the “Customer” (to C) market to comprehensively promoting the integrated development of all four CHBN markets (the “Customer” market (C), the “Home” market (H), the “Business” market (B) and the “New” market (N)), and from being resources-driven to being innovation-driven.
- **“Three New Directions”**: Promoting new infrastructure, integrating new elements and instigating new momentum.
- **“Three Approaches”**: Convergence (of CHBN markets and of telecommunications and information services), integration (of key resources such as network, IT, data and channels) and digitalization (of network building and product R&D by leveraging AI and other technologies and data advantages).
- **“Three Forces”**: Capabilities (in development, innovation and teamwork), collaboration (in organization, culture and ecology) and vitality (top-down organizational vitality and bottom-up individual vitality).
- **“Connectivity, Computing Force and Ability”**: Provide high-speed, mobile, secure and universal “connectivity services”, develop plug-and-play “computing force services”, and offer modular and ready-to-deploy “ability services”, based on constant development of 5G, CFN and smart mid-end platform that are integrated into a new value-growth model.

Sustainability Strategy and Management

Sustainability Strategy

In response to new internal and external changes, demands and trends, we further defined our sustainability model drawing on years of CSR management and practical experience. The model comprises CSR Philosophy, Main Actions and CSR Issues and will put us on track to achieve high-quality, sustainable development during the 14th FYP period.

China Mobile Sustainability Model



CSR Philosophy

Fullest Sincerity and Win-Win Development

“Fullest sincerity and win-win development” means that China Mobile strives to fulfil the triple-sided responsibilities (economic, social and environmental responsibility) with fullest sincerity and that while pursuing sustainable growth of ourselves (self-actualization), we leverage our strengths to contribute to the sustainable development of our economy, society and environment (win-win development).

“Fullest Sincerity” has been part of our CSR philosophy since 2006 and the core of our CSR efforts over the years. “Win-Win Development” captures the essence of our CSR philosophy from both internal and external perspectives: we leverage our own development to drive and empower the coordinated development of the wider economy, society and environment.

Main Actions

“Digital-Intelligent Innovation”, “Inclusive Growth” and “Green and Low-Carbon Operations”

The main actions are streamlined to align with the three dimensions of our CSR philosophy, namely economy, society and environment, taking sustainability trends into account.

CSR Issues

“Leading in integrated and innovative development”, “Empowering a digital-intelligent future”,
 “Cultivating well-rounded talents”, “Promoting common prosperity”,
 “Practicing green and low-carbon operations” and “Supporting social initiatives in energy saving and environmental protection”

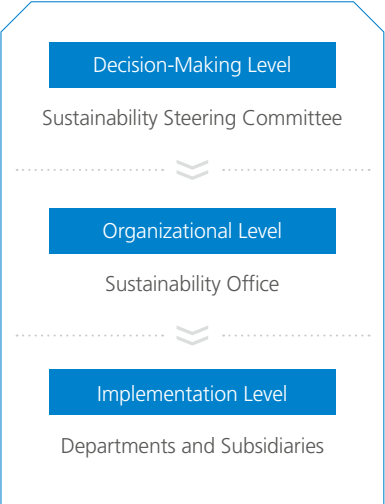
With reference to our CSR keywords over the years, we have restructured our six CSR Issues surrounding our CSR Philosophy of “Win-Win Development”.

Sustainability Management

The Company has continued to evolve the sustainability management structure and system based on the sustainability model to facilitate its implementation.

The Board of Directors of China Mobile assumes full responsibility for the Company’s environmental, social and governance (ESG) strategy and reporting. It reviews the Company’s ESG risk management and assesses the progress and goals of ESG-related practices through reviewing the annual sustainability report and other ESG-specific topics to ensure that appropriate and effective ESG management and internal monitoring systems are in place. The Company’s management confirms to the Board whether such systems are effective. For more information on the oversight over ESG issues by the Board and its committees in 2021, please refer to the “Corporate Governance” section under “Issue Management and Performance Report” in this report.

We have established a sound three-level CSR management system comprising decision-making, organization and implementation. We have formed a four-module, closed-loop workflow consisting of strategy, implementation, performance and communication management. Moreover, we also prepare and release sustainability reports on a regular basis. We have therefore formed a long-standing, all-inclusive and effective mechanism for advancing our CSR agenda across the organization.



Fruitful Results on High-Quality Development

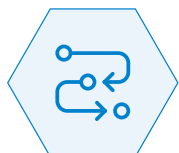
In 2021, faced with various obstacles and challenges including the prevention and control of COVID-19, the disruption of industrial supply chains and the need for business transformation, we managed to mobilize everyone at China Mobile (the Company) to work together and firmly seize the opportunities arising from the accelerated digital transformation of the economy and society. By upholding our overarching strategy of becoming a world-class enterprise by building a dynamic “Powerhouse”, focusing our efforts on spearheading our “4x3” strategy and furthering our “5G+” plans, we drove the comprehensive and integrated development of our CHBN markets. By doing so, we advanced towards our goal of becoming a world-class information services and sci-tech innovation enterprise. Our digital intelligent transformation and accelerated high-quality development have yielded fresh outcomes.



Value-oriented Operating Practices and Integrated Development Achieved Significant Progress

Capturing the new opportunities presented to the industry by accelerated 5G development and digital economic growth, we focused on value-oriented practices while drawing on the advantages of our business scale. Through continuous efforts to promote their comprehensive and integrated development, all four of the CHBN markets delivered outstanding performance, with increasing customer satisfaction.

In the “Customer” market, we furthered the integrated operation of data access, applications, and customer benefits, while competing in the market in a rational and regulated way to drive an industry-wide value uplift. In the “Home” market, with a focus on setting up a service suite that combines full-gigabit network connections with cloud-based applications, we strove to extend our smart home application services to the wider community, and to rural areas by supporting digital village development. In the “Business” market, drawing on our innovative computing and network integration and our well-established nationwide localized services, we focused on key industries to foster the scale and integrated development of network, cloud, and DICT. In the “New” market, upholding the spirit of innovation, entrepreneurship and originality, we strove for new breakthroughs in the “New” market by fostering synergetic growth across four key areas: international business, equity investment, digital content, and FinTech. Our efforts have yielded notable results. In terms of customer service, we continued to optimize the service system that covers every aspect of services and processes and engages every member of staff, and speed up digital-intelligent service innovation. These efforts have resulted in continued improvements in service quality and rising customer recognition.



Systematic Optimization of New Information Infrastructure Layout

As the digital economy continues to increase in strength, quality and scope, we have stressed further efforts to expediate the construction of a high-speed, ubiquitous, intelligent, agile and comprehensive digital information infrastructure that integrates space and ground, and the cloud and the network. The infrastructure is also green, low-carbon, secure and controllable, centering around 5G, CFN and smart mid-end platforms and serving as the ‘artery’ to help information flow throughout the economy and society.

First, we rolled out an industry-leading 5G network. We fully implemented our “5G+” plan while deepening network co-construction and sharing with China Broadcasting Network Corporation Limited. Leveraging these efforts, we were able to yield the combined advantages of the 2.6GHz/4.9GHz capacity and 700MHz coverage to create synergy from a multi-frequency network and enable efficient deployment, making our high-quality 5G offering more practical, open and secure. Second, our CFN took off the ground. CFN represents a new information infrastructure that puts computing at its core, with the network serving as the foundation. This infrastructure deeply integrates ABCDNETS, making one-stop service possible. To meet the demand arising from the digital-intelligent development of productivity, we set the goal of developing ubiquitous computing, co-existing computing and network, smart orchestration, and integrated services to speed up the construction of an extensive and integrated CFN. We will promote computing force as an essential service serving the whole society in the same plug-and-play way as access to water and electricity. Third, our smart mid-end platform took shape, building on a strong foundation. We strove to build and fully implement our industry-leading smart mid-end platform by leveraging the abundant resources and outstanding capabilities in data, AI, blockchain and other fields that we have accumulated over time. By centralizing our capabilities, we were able to launch the unified gateway and branding of the China Mobile Mid-End Platform, combining the salient features of telecommunications operators and our own. This platform has an AaaS (Ability as a Service) system that combines business, data, and technology.



Continuously Strengthening Capabilities for Sustainable Development

To seize the opportunities in the thriving digital economy, we drove technological innovation and enhanced our product portfolio. At the same time, we also deepened industry collaboration to bring benefits to all industry partners and furthered enterprise reforms. All these efforts have equipped us with future-proof capabilities for sustainable development.

First, we deepened technological innovation. We continued to increase investment in research and development (R&D), with R&D investment as a proportion of revenue reaching 2.2% and R&D staff force numbering around 14,000. As part of the national

technological innovation system and strategic technological force, we devoted ourselves to scaling critical technological breakthroughs and made sound progress, developing first-class original technologies and serving as a leader in the modern industrial chain. The innovation consortia we founded with industry partners worked together effectively to yield breakthroughs in areas including cloud and network convergence, 5G+BeiDou, and a cooperative vehicle infrastructure system. **Second, we made stable enhancements to product development capabilities.** We have further improved the work mechanism of our Product Management Committee and strengthened the “five-in-one” product management system incorporating product development, operations, support, sales, and service. In particular, product managers were given responsibility for their respective products. We further strengthened the closed-loop management of competitive product benchmarking and full life-cycle product management. We systematically organized our products across all portfolios and set out clearer details of the “8+2” strategic product layout that guides the formation of a product system that fully covers our CHBN businesses. We formed taskforces for strategic products with the aim of enhancing both the quantity and quality of these products. **Third, we extended open collaboration.** We proactively formed and deepened strategic partnerships with local governments, enterprises and public institutions, collaborating on the promotion of digital industry and digitalization of industries. **Fourth, we deepened enterprise reforms.** With the goal of establishing China Mobile as a world-class model enterprise, we systemically furthered reforms to governance, staff deployment and incentive mechanisms. Through reforming these three key areas, we built new momentum towards the high-quality development of our organization.

Future Outlook

With the advancement of a new wave of technological revolution and industry transformation, information technology has increasingly become the fiber of every aspect and process of the economy, society, and people’s livelihoods. The pace at which the digital economy is developing, and the breadth and depth of its impact are at previously unseen levels. We will embrace the new phase of development, fully, accurately and comprehensively implement the new principles of development, and devote ourselves to the new paradigm to promote high-quality development. We will pursue stable progress while forging ahead with a steadfast focus on innovation-driven development. We will drive new infrastructure, integrate new elements, and instigate new growth momentum to accelerate the building of a world-class “Powerhouse”, striving to achieve favourable growth and sustainable development and consistently creating greater value for society.



For details of China Mobile’s business and financial performance in 2021, please refer to section of “Business Overview” and “Financial Overview” of our 2021 Annual Report.

Spotlight Building Information Service “Lifelines”

In 2021, the COVID-19 epidemic continued to ebb and flow in multiple localities across China, while extreme natural disasters also occurred at a higher rate. Rising to the complex array of challenges to emergency communications preparedness, China Mobile moved swiftly into action and delivered information service “lifelines” that “can be relied upon at critical times”.

Facilitating IT-Based COVID-19 Prevention and Control

In 2021, we continued to ensure smooth communications, accessible services and strong support in the fight against COVID-19. Our big data support service for COVID-19 prevention and control in China processed 15 billion requests during the year. We have built a national COVID-19 prevention and control analysis platform to facilitate COVID-19 response efforts in this new normal. We delivered service support for 767 key hospitals, 350 key CDCs (Center for Disease Control and Prevention) and 395 government departments in 27 provinces affected by COVID-19, ensuring stable and reliable operations of all base stations and dedicated networks in key areas.

» Providing IT-based support for COVID-19 prevention and control at the borders

As COVID-19 struck, our Yunnan subsidiary amplified efforts to safeguard the security of network communications and consolidate defense at the borders.

- Highlighted CDCs, designated hospitals, nucleic acid testing sites and communities under lockdown as key areas of support, putting in place 24/7 support for base stations and dedicated networks with a focus on addressing signal and coverage issues.
- Provided around-the-clock regulation and monitoring of the personnel at the borders with the sound and light alarm system, our “Base Station Sentinel” platform, and a multi-dimensional COVID-19 prevention and control system.
- Developed the innovative “Weimei Ruili” information management platform, with features such as nucleic acid testing status query and rapid identification of untested population.



China Mobile employees setting up “ViLin” telemedicine system in a quarantine ward



“Base Station Sentinel” platform offering assistance to COVID-19 prevention and control



The first test flight of China Mobile’s 5G+drone emergency delivery service was held in Northwest China at the Second Affiliated Hospital of Xi’an Jiaotong University and timely delivered life-saving medicine to patients during lockdown and traffic controls

» Helping Shaanxi fight against COVID-19 using technological means

As Shaanxi grappled with another wave of COVID-19 outbreak, our Shaanxi subsidiary promptly activated emergency response system to provide reliable support for COVID-19 prevention and control.

- Secured network services for the 2022 National Postgraduate Entrance Examination in Shaanxi Province overcoming the twin challenges of COVID-19 and snowstorm.
- Facilitated IT-based collaborative response efforts between government and companies by launching six innovative products and services, including 5G+ drone delivery, “Clairvoyant + Networked” thermal imaging temperature measurement, and Internet of Things (IoT) door magnetic alarm.
- Deployed “Rabbit” 5G nucleic acid testing makeshift vehicles, offering 25,000 test capacity per day.
- The Online Marketing Service Center rapidly deployed over 1,000 stay-at-home service agents and implemented grid-based management of employees working from home; introduced 24/7 response hotlines and chat groups for handling COVID-19-related issues and complaints; leveraged 5G video customer services and offered video-based troubleshooting for broadband failures.

Using Technological Innovation to Bolster Flood Control and Disaster Relief

As floods and other disasters frequently occurred, we leveraged precise early-warning, detailed allocation of resources, and scientific prevention and control measures to safeguard connectivity and minimize threats. In 2021, we developed a variety of innovative core technologies, including the Wing Loong large UAV-based ABS, in promptly securing mobile connectivity in disaster-affected areas. We also strengthened disaster early-warning capabilities and contributed to disaster prevention and relief with the 5G+BeiDou high-precision positioning system. Leveraging 5G messaging capabilities, we helped the government and public service departments deliver 80 million 5G multimedia message warnings on weather emergency. The intelligent, interactive and direct-to-customer approach effectively supported and enhanced disaster prevention and relief.



Wing Loong ABS provided communications support in disaster-affected areas

» China Mobile's "5G Networked Drone Emergency Communications System" assists in flood prevention and relief in Henan

A historic rainfall flooded Henan Province on July 20, 2021, badly damaging optical fiber cables and base stations, resulting in a wide-scale breakdown of communications. Our Henan subsidiary responded promptly by dispatching the Regular Drone Emergency Rescue Team from our Chengdu Industrial Research Institute to the disaster-affected area. We provided around-the-clock and wide-area emergency communications support and rapidly restored signals in designated areas through our independently-developed "Aerospace Emergency Communications System" with our 4G/5G communications technology and large fixed-wing UAVs that carried our airborne wireless base stations. During the flood, we delivered stable mobile signal to an area of over 50 square kilometers, connecting a total of 3,572 users.

» China Mobile's 5G+BeiDou high-precision positioning system helps prevent and mitigate geological disasters

China Mobile launched the world's largest 5G+BeiDou high-precision positioning system to facilitate digital-intelligent transformation and development in disaster prevention and relief. The system offered a wide array of features under the three major service modules — deformation monitoring, monitoring and early-warning, and big data.

- **Deformation monitoring data service platform:** Enabled retrieval of positioning data for various types of hazards at centimeter-level (dynamic) or millimeter-level (static) precision, offered systematic evaluation of slope deformation and provided data backup for the management of potentially hazardous slopes, and facilitated informed and scientific decision-making for disaster prevention and relief.
- **Monitoring and early warning services:** Enabled advance disaster prevention by using China Mobile's 5G IoT for status monitoring and data tracking, and issuing early-warnings upon detection of minute changes of coordinates.
- **Big data analysis:** Conducted accurate statistical analysis of general information and spatial geographic information, in combination with population information recorded by base stations, in areas at risk of geological disasters, directed early-warnings to specific populations and enabled effective early-warning of disasters.

Since its launch, the 5G+BeiDou high-precision positioning system had been applied to more than 10 nationwide disaster prevention and relief efforts, issuing around 10,000 early-warnings, protecting the safety of over one million residents and preventing economic losses amounting to hundreds of millions of RMB.



5G+BeiDou high-precision positioning system

Confronting challenges to our capacity for emergency communications support, we delivered on the mission of guaranteeing the information service "lifeline" and maintained the continuity of communications services through a sound support mechanism, end-to-end process management and innovative technologies. Moving forward, we will continue to strengthen our capacity for emergency communications support under extreme circumstances to live up to our responsibility in times of need and crisis.



Digital-Intelligent Innovation



Leading in Integrated and Innovative Development



Empowering a Digital-Intelligent Future

As a new wave of technological revolution and industrial reforms continues to reshape the world, information technology has gradually proliferated into every nook and cranny of our economy, society and livelihood, and the digital economy is taking shape at an unprecedented rate, with an unprecedented reach and magnitude. As a backbone of the digital economy, the ICT industry shoulders great responsibility. China Mobile endeavored to drive new infrastructure, integrate new elements, and instigate new growth momentum, thereby promoting development of digital industrialization, advancing digitalized upgrade of industries and paving the way to a vibrant digital economy.



Leading in Integrated and Innovative Development

China Mobile advanced the construction of information infrastructure to help build China into a science and technology superpower. Meanwhile, the Company heavily invested in building capabilities for delivering technological breakthroughs, product innovations and inter-ecosystem synergy, and drove progress in developing information technologies and a mature industry chain to meet the common demand for “online, cloud-based and intelligent” economic and social development.

Constructing New Infrastructure

China Mobile stressed efforts to promote the construction of a high-speed, ubiquitous, intelligent, agile and comprehensive digital information infrastructure that integrates space and ground, and the cloud and the network. The infrastructure is also green, low-carbon, secure and controllable, with a focus on 5G, CFN and smart mid-end platforms, serving as the ‘artery’ to help information flow throughout the economy and society.

Built nationwide, advanced, and high-quality “double gigabit” networks, promoted co-construction and sharing, and scaled up their rollout in an intensive and efficient manner.

Led and promoted the coordination of business, data and technology mid-end platforms to accumulate capabilities and empower intelligent development.



Implemented the national “Eastern Data and Western Computing” policy. We published the *Computing Force Network Whitepaper* and related development initiatives, setting out our vision, philosophy, architecture and path for CFN, speeding up the development of CFN technology, standards, industry and ecosystem.

Accelerating the delivery of connectivity service infrastructure



The Company speeded up building the “information highway” in 2021 to meet the needs of digital-intelligent work and life. By the end of 2021, we were operating the world’s largest 5G network with over 730,000 5G base stations, delivering solid 5G coverage in cities, counties, townships, towns and other key regions nationwide; our gigabit fiber rollout reached more than 100 million households, delivering gigabit broadband coverage to all towns above the prefecture level; and a total of more than 1 billion connections had been made to our IoT services.

At 5,374 meters above sea level, Mountain Ganbala in Xizang is the highest inhabitable place for humans. Communication here used to rely on satellite transmission and, occasionally, “unstable signals coming from down the hill”. To address the communication needs of the local population, our Xizang subsidiary was able to deploy 5G base stations on Mountain Ganbala in ten days, overcoming a variety of hurdles including long distance and harsh weather conditions, and laid a solid ground for the digital life of the local population.

Researching into and exploring CFN



CFN represents a new information infrastructure that puts computing at its core, with the network serving as the foundation. This infrastructure deeply integrates ABCDNETS (ABCDNETS refers to AI, blockchain, cloud, data, network, edge, terminal and security), making one-stop service possible. The development of CFN showed China Mobile's support and innovation surrounding the national "new infrastructure" strategy and represented a major step by us in facilitating high-quality development of the digital economy.

In 2021, we led the development of international standards for Computing-Aware Networking (CAN) at the ITU Telecommunication Standardization Sector (ITU-T) to advance CAN to be an upcoming major research focus at ITU. Our efforts to advance CFN development in 2021 also included publishing the *Computing Force Network Whitepaper* and formulating the *China Mobile 2022 Implementation Plan for the Development of CFN*.

Our data centers now formed a "4+3+X" nationwide layout. By the end of 2021, our internet data centers (IDC) with external service capabilities had a cabinet capacity of more than 400,000 units and an outlet bandwidth of over 570T, providing infrastructure support for the integration of computing force among data centers across the nation.

Advancing the construction and operation of the smart mid-end platform



We continued to advance our China Mobile Mid-End Platform with an AaaS (Ability as a Service) system, combining the qualities of telecommunications operators with salient features of our own. Internally, this platform has supported our digital-intelligent transformation; externally, we explored potential digital-intelligent applications in wider society. We built a co-creation and win-win eco-system surrounding AaaS on our smart mid-end platform and advanced our abilities to a whole new level.

- **"Bringing in":** Attracted and brought in premium abilities with our "Yunshang Yidong" (mobile cloud), "Wutong Yinfeng" ("Wutong" big data platform) and "Jiutian Lanyue" ("Jiutian" AI platform) offerings.
- **"Going out":** Released feature capabilities including communications infrastructure, AI, big data, blockchain, security certification and precise positioning, and offered uniform and flexible capability services to ramp up social value, user value and corporate value.

By the end of 2021, our smart mid-end platform ability service system offered a catalogue of 325 common capabilities, processing over 8.1 billion requests per month on average.



○ Hebei subsidiary built 5G base stations in Zhangjiakou competition area for the Beijing 2022 Winter Olympics



○ China Mobile released the *Computing Force Network Whitepaper*

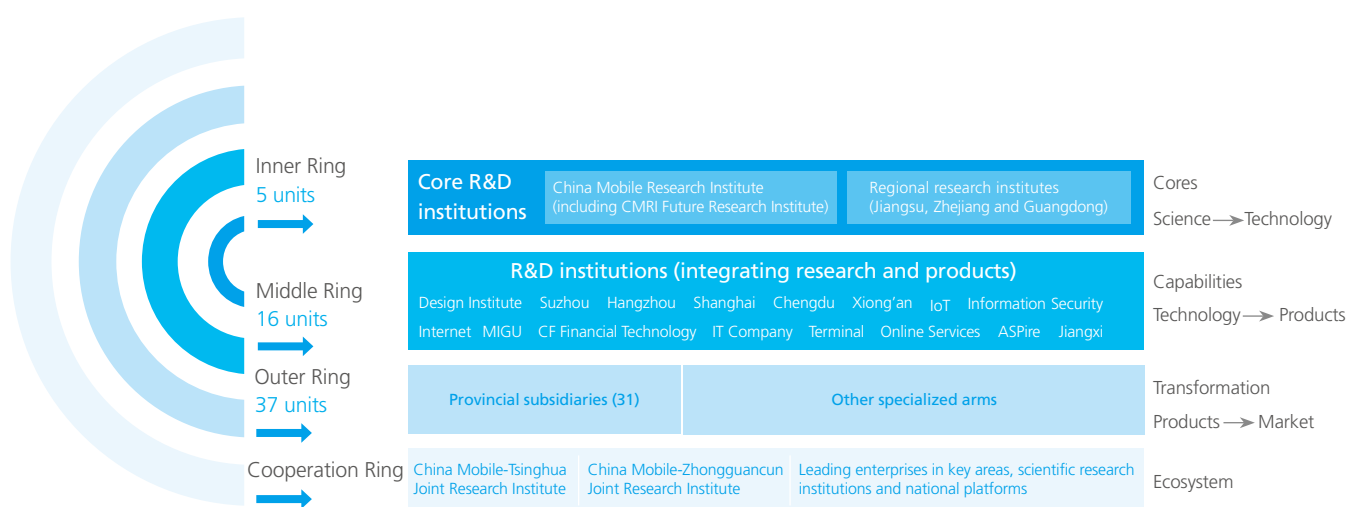
Strengthening Technological Self-Reliance

China Mobile is committed to independent innovation and continues to evolve its system and mechanism of technological innovation. We continued to lead next-generation information technology development and reforms in business model as we pushed for key technological breakthroughs and strove to develop high-level original technologies and serve as a leader in the modern industrial chain.

Optimizing Technological Innovation System


We introduced the “One System and Four Rings” technological innovation layout, further evolved our joint innovation system and streamlined our innovation management and outcome evaluation systems. We integrated innovations in four areas – industry, academia, research and application – and created an innovation-nurturing environment that encouraged success, accepted failure and fostered all employees’ awareness and potential for innovation. We have thus created an innovation landscape driven simultaneously by internal and external innovations, converting more scientific and technological innovations into products.

China Mobile “One System and Four Rings” Technological Innovation Layout



- Inner Ring:** Strengthen research in fundamentals, push for key technological breakthroughs and build a high-caliber scientific research team
- Middle Ring:** Build leading platforms and products for CHBN markets
- Outer Ring:** Promote market development with products
- Cooperation Ring:** Cooperate with national platforms, leading enterprises, universities, and research institutions, and build an evolving innovation landscape characterized by solid internal capabilities and expanding external cooperation

Technological innovation achievements in 2021

10+ R&D institutions	Operated 28 5G open labs	Maintained our leading status among global telecommunications operators by pushing for key technological breakthroughs in 5G dedicated network, evolution and commercialization, leading 155 5G international standards projects, submitting 3,600 5G patent applications, licensing 59 patents to 70+ overseas companies and receiving royalties amounting to over RMB 18 million
Submitted 300+ 6G technology patent applications and ranked first among telecommunications operators in the number of high-quality 6G-related papers	Network Intelligence Capability was included in the first list of Outstanding AI Achievements announced by the Ministry of Industry and Information Technology (MIIT)	Introduced our first low-power, high-capacity MCU (micro control unit) chip with top-tier overall performance
	Our independently-developed high-precision positioning service platform offered special single <i>BeiDou</i> system operation and sub-meter RTD (Real Time Differential) services to meet the needs for greater precision in positioning	





Leading in Integrated and Innovative Development

In addition, through the China Mobile Science and Technology Association, we further invested in training and bringing in high-level tech talents, thereby building a strong caliber of technical experts to support continued technological innovation and R&D.

Set up a workstation for research fellows and experts, the first among telecommunications enterprises in China, to bring in and cultivate research fellows and other top scientists and talent through our “Mount Everest Climbers” plan.	Furthered the implementation of our “T-H-T” (Ten-Hundred-Thousand) technical expert system, assessment of Group Chief Experts and introduction of new Provincial Technical Experts; created a unified Group-wide expert management system with 10 Group Chief Experts and 2,625 Provincial Technical Experts.	Included scientific and technical experts and teams in the employee honor system to promote their sense of belonging, honor and satisfaction.
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Shouldering the Mission of Industrial Innovation

As always, we fully recognized the strategic significance and priority of scientific and technological innovation and placed it at the center stage of our overall development. As such, we constantly improved our scientific and technological innovation capabilities and drove the high-quality development of the mobile information industry.

 <p>Technological Breakthroughs</p>	<ul style="list-style-type: none"> • Achieved technological breakthroughs in a number of areas including IoT chips and IoT operating systems. • Filled a number of industry gaps and matched world-class solutions in a number of areas including network intelligence and vehicle-road coordination. • Introduced our first 5G small cell and UPF (User Plane Function) products through systematic efforts in independent R&D of network-level products, taking it from zero to one.
 <p>Industry Advancement</p>	<ul style="list-style-type: none"> • Led the formation of the 5G Innovation Coalition, and working together with 13 enterprises (including China Telecom and China Unicom) and 70+ key industrial, academic, research and application units, we established four breakthrough layouts and eight work systems, formed world-leading 5G+ industrial network foundation and universal capabilities, and produced numerous 5G pilot applications for the industry. • Launched the “Mobile Information Modern Industry Chain Cooperation Plan”, kicking off six major actions and joining hands with industry partners to build a high-quality mobile information modern industry chain. • Set up two joint R&D laboratories with our partner enterprises with a focus on wireless communication chips and industry-oriented 5G core network products, whereby we jointly invested and conducted R&D, shared risks, achievements and outcomes, so as to speed up product launch and strengthen market leadership.
 <p>Ecosystem Construction</p>	<ul style="list-style-type: none"> • Established the Joint Innovation Plus scheme R&D cooperation system, drew-up the <i>R&D Cooperation Map</i>, set up key and reference R&D partner catalogues consisting of 29 R&D partners, advanced our new model of joint R&D, formed 12 school-enterprise collaborations and eight joint laboratories with our partner enterprises, advanced research-procurement and research-investment collaboration and drove the close integration of the innovation chain, capital chain and supply chain. • Led the establishment of the ICT Chip Industry Chain Innovation Center in collaboration with 20+ partners along the industry chain to drive breakthroughs in core technologies in the ICT sector including chip R&D, testing, application and ecosystem construction; integrated upstream and downstream resources along the industry chain spanning across all areas of “industry, academia, research and application” through our innovative technology cooperation platform to catalyze key technological breakthroughs and global cooperation in the chip industry. • Published the 5G-Advanced Double-Chain Integration Action Plan, setting the objectives and key steps of integrating 5G-Advanced innovation chain and industry chain, thereby constantly driving the healthy development of the industry and the digital-intelligent transformation of our society.
 <p>Frontier Research</p>	<ul style="list-style-type: none"> • Jointly established the National Natural Science Foundation of China – China Mobile Enterprise Innovation and Development Fund with a focus on eight major research areas including next-generation network infrastructure. • Furthered strategic R&D cooperation with national-level laboratories such as the Peng Cheng Laboratory and universities such as Tsinghua University, Beijing University of Posts and Telecommunications and Southeast University, and launched explorational studies on topics such as 6G and space-air-ground integrated networks.

Building Systematic Security Safeguards

China Mobile continued to strengthen bottom-line thinking and risk awareness and infused security practices into all processes and across all areas in our production and operations to effectively prevent and address all kinds of major risks under the leadership and coordination of our network security leadership group.

Putting Up Cybersecurity Defense

We implemented and operated in compliance with the requirements of relevant 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 the *Regulation on Protecting the Security of Critical Information Infrastructure*. We launched the "Cut-Off", "Spring Thunder", "Spring Farm" and "Peach-of-Mind" operations, and strove to build a cloud-network integrated network security protection system that provided for a safe information and communications environment.

"Cut-Off" Operation	"Spring Thunder" Operation	"Spring Farm" Operation	"Peach-of-Mind" Operation
<p>We formulated "Cut-Off 2.0" and "Modem Fraud Crackdown" actions plans, set up Group-level and subsidiary-level anti-fraud squads, and published 27 issues of national <i>Weekly Work Report on Telecom Fraud Crackdown</i>. By the end of 2021, we had provided more than 25 million telecom fraud prevention reminders, handled over 4.33 million cases of machine-card separation; we had blocked 220 million and 140 million scam calls and scam messages respectively, achieving a 40% year-on-year decrease in terms of average monthly count of phone numbers involved in fraud cases.</p>	<p>We defined minimum and necessary scope of personal information collection for our popular apps and assessed the legitimacy of access; conducted a comprehensive review of our own Apps; upgraded our third-party mobile applications security testing platform, carried out automatic and manual inspections on all submitted Apps and rectified all issues identified.</p>	<p>We performed attack simulations and vulnerability tests on 50 internal units, adopting an innovative approach of "mutual offense-defense testing" and leveraging our network security "cloud" expert resources. We received a total of 1,620 attack reports and 708 defense reports, and discovered and rectified 689 network security risks.</p>	<p>Internally, we compiled the <i>Warning and Education: Telecommunications Fraud and Other Criminal Cases Involving Insiders</i> and organized close to 5,000 study sessions with 1.2 million employee participants over the year. Externally, we summarized and raised public awareness for 51 typical fraud schemes and sent 8.19 billion SMS (Short Message Service) fraud alerts; jointly with local public security bureaus, our grid personnel conducted over 30,000 anti-fraud awareness campaigns in communities, campuses and enterprises covering nearly 12 million people.</p>

Leading in Integrated and Innovative Development

Cracking down on telecom fraud and safeguarding everyone's wallets

We have set up anti-fraud squads at our headquarters and all 31 provincial subsidiaries, forming a top-down and internal-external collaborative anti-fraud system and enabling comprehensive crackdown efforts against telecom fraud.

- Strict risk control:**
We were the first in the industry to establish a nationwide centralized management system over users with bad credit and restricted their access to our network; introduced real-name re-authentication requirement and invalidated dormant cards; timely identified and suspended fraud-related numbers through analyzing their connection and calling activity, location and other information on our anti-fraud big data platform.
- Joint crackdown:**
We identified fraud-related WeChat accounts, QQ accounts, etc. from a vast amount of data and worked closely with professional institutions to deal with these accounts; strengthened scenario-based anti-fraud big data analysis to accurately detect and prevent covert fraud cases, identify fraud-vulnerable groups and support joint actions against fraud; strengthened collaboration with the National Anti-Fraud Center of the Ministry of Public Security to promptly shut down phishing websites and deliver timely alerts to visitors.
- Independent innovation:**
In response to the increasing use of GoIP devices for fraudulent purposes, we have set up an innovative GoIP Monitoring and Early-Warning Platform to promptly invalidate fraud-related cards; we have monitored network and information security information in the public domain with a focus on new types of fraud, security threats, etc. to take timely preventive measures.
- Anti-fraud and security services:**
We developed Frequent Nuisance and Fraud Callers Blocking, Family Color-Printing, Green Internet and other innovative security services to safeguard our customers against different types of fraud. For instance, using our cloud-based blocking technology, our Frequent Nuisance and Fraud Callers Blocking service had offered free-of-charge and App-free blocking service to 40.35 million users by the end of 2021.

Providing Emergency Communications Support

China Mobile has put in place a four-level – Group, regions, provinces and prefecture-level cities – emergency support system, formulated emergency contingency plans and a number of management systems to enhance our network infrastructure’s resilience against disaster and damage. We also upgraded our emergency communications equipment to ensure rapid response to emergencies. In 2021, despite strict requirements, tight schedule and heavy load, we provided reliable communications and cybersecurity support for numerous major events, including the celebrations of the 100th anniversary of the founding of the Communist Party of China, the 14th National Games of China and the 4th China International Import Expo, and achieved our established target of “no major network failure, no major cybersecurity incident and no major customer complaint”.

Providing key communications support for the celebrations of the 100th anniversary of the founding of the Communist Party of China



We set up a dedicated leadership group to provide reliable communications and cybersecurity support for the celebrations of the 100th anniversary of the founding of the Communist Party of China. We strictly adhered to the principles of the “highest standard, fullest coverage, strictest implementation and fastest response” and built an efficient and coordinated nationwide support system as a solid foundation for our support work.

- **Constructed boutique networks in key areas:** Carried out network upgrades in core support areas in Beijing; deployed 16 emergency stations at the Tiananmen Square to ensure reliable communications services under extreme demands. For instance, we were able to offer 5G download rate at close to 1Gbps during the fireworks show.
- **Fully leveraged our strengths in offering systematic and innovative emergency communications:** Set up 4/5G ultra-dense networks at the Tiananmen Square and the National Stadium that could meet the demand of 91,000 users; fully accommodated six service support requirements of China Media Group and other government and business customers, providing internet access for both ToB and ToC users.

We deployed a total of 32,000 personnel on-site. There was no major network equipment failure. Our efforts played an important role in ensuring the success of the celebrations of the 100th anniversary of the founding of the Communist Party of China.



China Mobile provided support at the celebrations of the 100th anniversary of the founding of the Communist Party of China

Creating a Clear and Bright Cyberspace

China Mobile has always cared about the health and well-being of its young and teenage users. We have introduced the Youth Mode on MIGU Music, MIGU Video, MIGU Reading, MIGU Circle and other platforms, and introduced full real-name authentication and anti-addiction measures on MIGUPlay, doing our best to create a clear and bright cyberspace and a nurturing environment for the youth.

In particular, MIGU Video under the Youth Mode only offered programs appropriate for underage. It did not offer interaction, marketing, paid or any social networking functions. It also imposed a time limit to prevent addiction and required a password after 40 minutes of use per day. We upgraded the reporting function on MIGU Video and added a special option for reporting “content harmful to young people” to enhance supervision and handling of such content.



Empowering a Digital-Intelligent Future

The digital economy is profoundly reshaping every aspect of our economy and society. We continued to promote the proliferation of digital-intelligent transformation across sectors and industries. We incorporated digital-intelligent capabilities into our own customer service systems and, at the same time, amplified, compounded and multiplied the benefits of information technology on economic development to propel the robust and sustainable growth of the digital economy.

Serving an Enriching Digital Life

We have always operated with a "customer-first" approach and served our customers with full dedication. We have continued to use digital-intelligent means to upgrade our customer service capabilities and taken steps to enhance customers' satisfaction.

Speeding Up Service System Building

We have speeded up our efforts in building the service system that covers every aspect of services and processes and engages every member of staff. In 2021, we launched our "Heartwarming Service" customer service brand. We offered premium services including information services, smart and inclusive services, convenient services, transparent services, security services and emergency services, and endeavored to offer service experience that brought our customers "heart-felt comfort, heart-felt sweetness and heart-felt warmth".

China Mobile's Service Upgrade System



Shanxi subsidiary's General Manager Customer Reception Day



Guizhou subsidiary sent Spring Festival greetings to customers

Making customer service more tailored, convenient and efficient with innovative digital-intelligent technologies



We deployed a wide variety of intelligent technological tools to provide high-quality, convenient and efficient services for our customers to meet their personalized needs in this digital era.

- Our data-driven, AI-powered *Dayin* (a customer perception improvement management platform) offered insights into customer perception and made service quality manageable, visible and controllable.
- We upgraded the 10086 integrated smart service gateway of our 31 provincial subsidiaries nationwide to provide an interactive voice response service to all customers, on all businesses and at all times, serving 200 million calls per month on average.
- We led the industry by launching video customer service, providing card reissuance and replacement, service suspension and resumption and other advanced services to customers at home; with additional functions such as self-help troubleshooting, video customer service also improved our service efficiency.
- With the China Mobile App, the 10086 WeChat service account and our Alipay life account, we had provided online service on multiple channels. By the end of 2021, we provided more than 6.7 billion online service sessions through our level-1 electronic service channels.

Improving Service Quality

We put customer satisfaction at the heart of our service quality management system and have achieved whole-process service management encompassing “Standards – Reviews – Complaint Handling”.

Pre-Sales | Setting Service Quality Standards

We drew up and updated 21 service standards and specifications and integrated them into our business processes. We also introduced a pre-marketing plan review system to promote early-stage service management.

During Sales | Conducting Satisfaction Reviews

We conducted 194 rounds of satisfaction reviews during the year and introduced the innovative “Quick Review” under 49 business scenarios, reaching 150 million customers per month on average. We valued our customers’ opinions and feedback and tried our best to identify and resolve issues before they arose.

After-Sales | Prompt Complaint Handling

We continued to upgrade our 10080 complaint handling centers and improve efficiency in complaint handling. In 2021, the complaint handling timeliness rate increased by 3 percentage points compared to that of 2020, and repeated complaint rate decreased by 1.8 percentage points. With each instance of complaint, we tried to trace the complaint down to its roots and address the source of the issue.

Meanwhile, we undertook the “Leading Service Action”, the “Peak Cut Action” and the “Sunshine Action” for the third consecutive year, making considerable progress in improving our service quality.

“Leading Service Action”

With a focus on key services and products such as 4G/5G and home broadband, we optimized our coordination mechanism, made improvements in a closed-loop process and introduced proactive services to household broadband customers, assuming leadership in customer satisfaction for both mobile and household broadband services.

Complaint “Peak Cut Action”

We focused on tackling focal and tough issues. In 2021, our overall average monthly complaint rate per 10,000 persons decreased by 55.6% from 2018, and average monthly complaint rate per 10,000 persons over household broadband network quality, mobile internet quality and business marketing issues also decreased by 37.4%, 64.4% and 21.7%, respectively, compared to 2019.

“Sunshine Action” for customer rights protection

With a focus on combating activation of services without customer consent, we set up a mechanism of thorough investigation of and accountability for complaints, achieving a further 76.3% year-on-year decrease in our already-low average monthly complaint rate over service subscription disputes.

We respect our customers’ legitimate right to number porting and facilitate this process by offering porting services, improving porting quality, strengthening customer support and promoting industry collaboration, among other measures.

Leading a Digital-Intelligent Experience

In 2021, we built a customer benefits supermarket that was industry-leading in scale, product catalogue and experience, offering “refined, useful and convenient” customer benefits services with a focus on specialty services such as “and-Caiyun”, MIGU Video, 5G Messaging, video connecting tones, Super SIM Card and VR/AR. Meanwhile, we continued to iterate and upgrade our GoTone, M-Zone, and Easy Own brands to meet the needs of over 1 billion users for a high-quality, digital-intelligent life.

Based on technological innovation, we constantly met, led and created demand for information services under different use cases ranging from music, video, reading to sports, thereby creating an enriching, digital-intelligent life for our users.

Music

Our 5G Cloud Music Hall brought a 5G immersive sound experience to users with features such as high bit-rate quality, 3D effects, aurora sound effects and music visualizer. The innovative 5G Cloud Performance offered multi-angle, multi-window viewing experience across devices. Meanwhile, cloud recording + cloud editing, visual audience-performer interaction and other functions offered an innovative and immersive experience of technology and performance, enabling real-time interaction between audience and performers. We also continued to expand and enrich the catalogue of our video connecting tones and garnered a user base of 242 million.

Video

Leveraging the “cloud, edge and network” capabilities of 5G network, we provided ultra-high-definition live streaming and specialized and distinctive 5G services for sports events and live performances. In 2021, MIGU Video presented the first 5G+4K cloud broadcast of the Peking Opera *Dragon and Phoenix Bringing Prosperity* and offered novel features like Cloud Reward and Cloud Box. We also capitalized on strong IPs such as the Euro Cup and the Olympic Games and created a zero-distance online watching experience for users.

Reading

We incubated our own IPs and developed high-quality audiobooks. We upgraded sound quality and offered 24-bit depth sampling audio, providing users with Hifi (high fidelity) experience anywhere and anytime. We also used AI technology to offer a smart read-aloud feature integrating reading and listening experience. Furthermore, our cloud bookstore upgraded its after-sales service experience by various means such as refining the book card expiration reminder function.

Sports

We promoted online fitness programs for all by licensing-in and launching over 5,000 well-known local and international training programs on MIGU Run, including Les Mills, UFC (Ultimate Fighting Championship), Jung Da-yeon and Pamela Reif. We also developed new digital-intelligent features like AI-based rope-skipping and scientific training systems to bring a whole new fitness experience to our users.



○ M-Zone 2021 China Street Dance League Campus Contest



○ MIGU Cloud Bookstore hosted a lecture on Chinese culture for children at the Longhu Tang'e Community Bookstore

Creating an immersive sports games experience for users with 5G+Tokyo 2020 Olympic Games



As an official broadcaster of the Tokyo 2020 Olympic Games, we provided live streaming coverage of all events by deploying our leading technologies and ultra-high-definition capabilities, and made an exemplary model of “5G + all events + full-scenario ecology + all-media distribution”.

- **Technology support:** Secured premium and stable network services throughout the event with our high-performance 5G networks; expanded the use of 4K/8K high-definition videos and the widespread application of innovative technologies such as multi-angle and multi-channel commentary in event production, bringing users a spectacular tech-rich visual feast.
- **Content creation:** Invited 128 professional commentators and produced nearly 2,000 ultra-high-definition live broadcasts of the games; achieved production and delivery of trendy content within as less as 1.5 minutes; and offered ultra-high-definition videos at scale to meet the diversified content demand of different user groups.

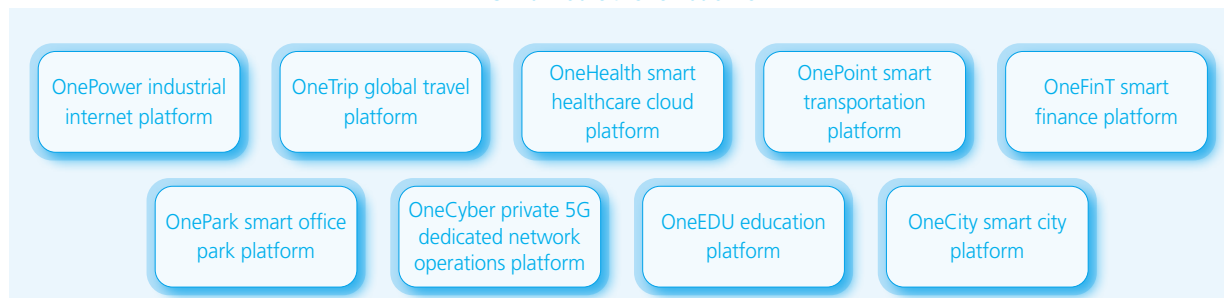
During the Tokyo Olympics, we made over 47.6 billion distributions of Olympic content, and 310 million users made a total of over 13.4 billion views of our Olympic content. What's more, MIGU Video led all Olympic broadcasters by a wide margin with a score of 92 according to Sina's review of Olympic broadcasters during the game. We proudly ignited the passion for the Olympics among hundreds of millions of viewers, who witnessed the “Strength of China” through our comprehensive live streaming services.

Shaping a Digital-Intelligent Society

China Mobile continued to explore new formats and models of information services catering for a more digital-intelligent society and lifestyle, and strove to be an engine of innovation propelling digital-intelligent transformation in our economy, society and lifestyle.

Our digital-intelligent infrastructure that offered “connectivity, computing force and ability” supported our continuous exploration of 5G applications in all verticals and fueled their commercialization. In 2021, we upgraded our cloud-network integration, industrial service abilities, digital-intelligent applications and ecosystem integration. We also advanced our 9-One platforms into the 2.0 era. By the end of 2021, we had developed more than 6,000 pilot 5G industrial applications, permeating 5G into every sector of our society and empowering cloud migration, digitalization and intelligent transformation of all industries.

China Mobile 9-One Platforms



Advancing construction of “Digital Yangtze River” and delivering smart shipping communications with 5G

The Yangtze River is the world’s largest navigable river in terms of transport volume and plays a key part in transportation between eastern and western China. Our Hubei subsidiary introduced the “5G+BeiDou” smart shipping use case and brought full coverage of 5G dedicated networks across the 37.5km waters of the Yichang section of the Yangtze River. This led to better performance of water-transport equipment, higher data transmission stability and greater quality in high-definition video transmission. Meanwhile, our Hubei subsidiary deployed a number of innovative applications to meet the demand for dynamic vessels management, shipments monitoring and information services, among other things, contributing to the high-quality development of the Yangtze River Economic Belt.

- **From “vessels looking for berths” to “berths waiting for vessels”:** In the past, vessels had to look for berths while roaming in an anchorage, leading to greater collision and management risks. With the coverage of China Mobile 5G dedicated networks, crew members may check the availability of berths using the ship-borne 5G+BeiDou intelligent terminal or the “Smart Parking” (“Huibao”) App so that they could navigate straight to an available berth.
- **Doubling the efficiency of maritime law enforcement:** The high-precision positioning abilities of “5G+BeiDou”, coupled with emerging technologies such as cloud computing and edge computing, enabled real-time alert and early-warning push notifications of vessels that were off course or had entered restricted areas. It also enabled one-touch query and filing of maritime law enforcement records, and promoted dynamic and efficient maritime law enforcement.

“5G+” empowered industrial internet and accelerated the transformation and upgrade across sectors and industries

Known as the “Hometown of Crafts”, Jinhua City in Zhejiang Province has an economy characterized by vibrant industries, productive clusters, developed small and micro-economies and an active foreign trade economy. To help speed up the digital transformation of traditional manufacturing enterprises, our Zhejiang subsidiary set up Zhejiang’s first cross-regional, cross-sectoral 5G+industrial internet platform in Jinhua City. The platform brought into play 5G’s cloud-network abilities; focusing on building “5G+smart factories”, the platform connected devices, production lines, products, factories, warehouses and suppliers with 5G network, and brought synergy to the industry chain.

For instance, we worked with a leading company in the domestic surface grinder industry. Our “5G+smart factories” technologies enabled visual management through an internet platform, digital “twin” factories and 5G video monitoring, and increased overall production line efficiency by 21%.

By the end of 2021, our “5G+industrial internet platform” had established 49 5G smart factories, connected to 1,003 enterprises and 5,880 devices across ten industries from smart home to machine tool manufacturing, offering solid support to the digital-intelligent transformation of industries in Jinhua City.

Building an internet hospital empowered by digital-intelligent technologies: improving medical services and assisting in pandemic response



In collaboration with the Peking Union Medical College Hospital, we introduced a pilot 5G smart hospital that offered smart healthcare, smart management and smart services, further advancing our 5G joint innovation efforts and the integrated development between information technology and healthcare.

Meanwhile, our Jiangsu subsidiary and the Jiangsu Hospital of Traditional Chinese Medicine (“the Hospital”) jointly introduced the first full-service internet hospital in China. Bringing together the Hospital’s existing premium medical resources as a Tertiary A-Level hospital and China Mobile’s world-leading technologies, the internet hospital served as a one-stop “internet + healthcare” health service platform, offering enhanced medical service experience and improving the Hospital’s service quality and efficiency.

- Tele-clinic:** The online hospital provided a continuum of online services ranging from intelligent guidance, appointment and queuing, mobile payment, cloud clinic, report inquiry, drug delivery to electronic invoicing so that patients could receive diagnosis and treatment without attending the Hospital at all. Since the outbreak of COVID-19, our Jiangsu subsidiary has helped the Hospital set up a series of online services including fever and COVID-19 consulting, counseling, cloud clinic for specific diseases and online night clinic by well-known doctors. By the end of 2021, the cloud clinic system had offered 150,000 service sessions.
- Tele-consultation:** We built a tele-consultation system based on the China Mobile ViLin video platform that allowed sharing of resources among medical consortia, medical alliances and international cooperation organizations for better diagnosis and treatment. Since the outbreak of COVID-19, the tele-consultation system has allowed the Hospital to take part in multidisciplinary joint diagnosis and treatment and remote consultation with designated hospitals aiding Hubei, medical consortia, specialist alliances and overseas traditional Chinese medicine (TCM) institutions.
- Tele-education:** We hosted China’s first international tele-education platform for traditional Chinese medicine, the “TCM Community” (“Huizhongyi”). Together with the Hospital’s TCM professionals, as well as other domestic and international TCM Professionals, we organized over 30 free lectures, academic exchanges and live broadcasts on public health, and promoted TCM culture. For instance, our overseas live streaming lecture on collective efforts to combat COVID-19 held during the pandemic offered tips and experience for coping with psychological stress using TCM with nearly 2,000 overseas Chinese in the United States, Australia and other places.

Using 5G messaging + AICDE to improve the preservation of giant panda habitats and maintain the sustainable development of forest ecosystem



Innovatively bringing together 5G messaging and AICDE technologies, our Sichuan subsidiary created an integrated smart cultural tourism solution at the Giant Panda National Park in Sichuan, taking an important step towards building a new 5G messaging ecosystem.

- Monitoring and protection:** Collected, stored, and analyzed giant panda behavior with video surveillance, 5G messaging, AI and edge computing, offering intelligent protection to giant pandas.
- Research and analysis:** Deployed edge computing centers and mobile cloud, and utilized big data analysis and open capabilities of our edge cloud, to store, analyze and advance scientific research in monitoring data.
- Service experience:** Integrated 5G messaging and big data into the business system of the park to help it deliver novel, digital marketing and offer a more immersive and intelligent experience to tourists.
- Education and training:** Made use of the integration function of 5G messaging to provide services at the park such as sharing knowledge on animal and environmental protection.
- Environmental restoration:** Set up the Panda Fund with the Nature Conservancy and contributed a portion of our proceeds from 5G messaging to the fund for research in ecosystem conservation and construction of local ecosystem.

Helping Gansu serve individuals and businesses better with smart government



We strive to be a first-class designer, builder and operator of digital government. We were able to offer an integrated platform for government services, public utilities services and basic livelihood support services drawing on our strengths in cloud-network resources. Our independently developed OneCity platform offered core abilities covering digitalized design, construction and operations of industries. We undertook a digital government development project for Gansu Province. With our OneCity smart city platform, we created a unified access to municipal services, ensured the consistency of municipal services in style and standard and provided a more intelligent search experience. Our solution offered “one-stop” services – addressing needs in “one visit”, allowing universal recognition of “one registration” and enabling universal acceptance of “one qualification”. These upgrades guaranteed efficient, standardized and personalized government services to individuals and businesses in Gansu.

Cultivating an Ecosystem of Open Cooperation

With a commitment to openness and cooperation, leveraging its strengths in technology and platform, China Mobile has continued to build partnerships along the industry chain, jointly creating a new ecosystem of industrial collaboration.

Encouraging Innovation and Entrepreneurship

Since 2016, China Mobile has been advancing the construction of National Mass Innovation and Entrepreneurship Demonstration Bases. We have built a unique innovation and entrepreneurship model of “Crowd Innovation, Crowdsourcing, Crowdfunding and Crowd Review”. We launched an innovation and entrepreneurship ecosystem collaboration plan – the “Star Plan” – towards the end of 2019 to explore ways for large enterprises to assist in the growth of SMEs (small- and medium-sized enterprises) and for them to share resources and engage in collaborative development.

Providing high-quality support for incubating innovation and entrepreneurship

Set up nine “HeChuang Incubation” hubs in eight cities, focusing on specialized areas such as digital home, smart city, IoT and digital content. Equipped with full-time staff, these hubs provided our own employees, MSMEs (micro-, small- and medium-sized enterprises), makers in the community and others with end-to-end incubation and collaboration services ranging from office service, technical support, design and promotion, marketing to start-up tutoring.

Stimulating internal and external innovation and creativity

Hosted the first “Wutong Cup” Big Data Application and Innovation Competition. 1,194 teams from 208 domestic and international universities took part in the competition, through which we promoted the close integration of big data across industry, academia, research and application; hosted the in-house “Independent Development Competition” for the seventh consecutive year, involving 20,000 employee participants; hosted the “China Mobile Maker Hackathon” for the sixth consecutive year, receiving a total of more than 13,000 innovative projects and solutions from SMEs and social developers and involving over 40,000 makers.



China Mobile Collaborative Innovation Day



The final of the China Mobile Maker Hackathon

Furthering Collaboration with Third Parties

We continued to expand and further strategic collaboration with local governments and large enterprises. In 2021, we signed strategic collaboration agreements with nine local governments (including Beijing, Zhejiang and Hainan) and the Yangtze River Delta Region (Shanghai, Jiangsu, Zhejiang and Anhui), as well as 20 large enterprises (including Sinopec, JD.com, China Railway Group and China Energy Engineering). Together, we would cooperate on multiple levels – including co-construction, joint operations and joint R&D – in a variety of areas ranging from new information infrastructure, cloud computing, smart city, AI, smart home to 5G+ verticals.

Meanwhile, we proactively fulfilled our responsibilities as a member of a long list of international organizations, including the Global Reporting Initiative (GRI), the United Nations Global Compact (UNGC), the International Telecommunication Union (ITU), the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), the Institute of Electrical and Electronics Engineers (IEEE), the Global System for Mobile Communications Association (GSMA), the 3rd Generation Partnership Project (3GPP), the Global TD-LTE Initiative (GTI) and more, to further international dialogues and cooperation and to build mutually beneficial and win-win partnerships.



Inclusive Growth



Cultivating Well-Rounded Talents



Promoting Common Prosperity

In the 14th FYP period, China will continue to uphold the primacy of the people and remain committed to the goal of common prosperity, and strive to achieve greater social equality and leave no one behind in its development. China Mobile aligns its efforts with major national strategies regarding people's livelihood and makes it a goal to become "a great pillar" in the telecommunications industry that fulfills its social responsibilities and serves the people. We take the initiative to promote major national strategies, and infuse our corporate development into wider social development so we could advance both concurrently. We leverage our strengths and fulfill our responsibilities in innovative ways to continuously improve people's wellbeing and facilitate the all-round development of individuals and the society as a whole, achieve inclusive growth, and promote progress towards a better life.



Cultivating Well-Rounded Talents

China Mobile continued to implement the “Talent Pipeline” strategic initiative. Regarding talent as its paramount resources in driving its innovative development, the Company strove to build a responsible and high-performing leadership and a strong pipeline of talents trained in digital-intelligence, and constantly refined its incentive mechanisms to provide talent support for building a world-class enterprise.

Building Career Paths for Employees

We stepped up our efforts in bringing in talents with a background in digitalization and intelligence through a variety of programs, including the “Outstanding Talent Plan” and “Get Ahead with China Mobile” campus recruitment programs, the “New Talent and Momentum” social recruitment and high-level talent recruitment programs, and the “Dream+” internship program. On top of our existing recruitment approaches, we have also rolled out an innovative “Golden Seed Plan” campus recruitment program targeting outstanding graduates to further attract and support young, high-quality and professional talents with great potential.

For instance, we conducted “Internet+” campus recruitment at the “Get Ahead with China Mobile” campus recruitment program through immersive live broadcast and flexible, high-quality and efficient offline campus teach-in sessions and recruitment fairs. Our Beijing-based units also partnered with Beijing University of Posts and Telecommunications in organizing the “China Mobile 2021 University-Enterprise Open Day”, further advancing our close partnership with universities.

Innovating in talent recruitment and cultivation mechanisms to foster digital-intelligent transformation



To support the Company's strategic transformation, we launched the “Golden Seed Plan” and the “Diamond Plan” in 2021 to attract more talents who were professionally trained in digitalization and intelligence.

Golden Seed Plan



This was our innovative attempt at attracting high-quality and professional graduates with great potential from key target universities in key areas such as 5G, CFN, big data, cloud computing and AI. The plan was aligned with the Company's major tasks in its strategic transformation. We brought in outstanding, high-potential graduates in relevant field such as computer science, communications, electronic and information technology, information security, mathematics and AI by offering competitive remuneration packages that matched top Internet companies, training and empowerment packages, and opportunities to join key teams specialized in technological breakthroughs, among other perks, to build a “fresh troop” of high-level scientific and technological talents, a “reserve” of core experts, and “new drivers” of our workforce transformation.

Diamond Plan



We formulated the *Guiding Opinions on Optimizing Workforce Structure* and the *Special Incentive Program for Optimizing Workforce Structure*, specifying the management objectives and implementation measures for different units to build a digital-intelligent workforce of an appropriate size, reasonable structure, efficient setup and competent employees, and continually increased the proportion of professionals trained in digitalization and intelligence within the Company.

Creating a Friendly and Happy Workplace

We attach great importance to our employees' physical and mental well-being and endeavor to create a happy workplace that embraces work-life balance. We constantly seek to improve our employees' happiness through people-centric wellness programs and cultural and sports activities that enrich their spare time.

Medical security

We have built a "three-pillar" medical security system framework consisting of basic medical insurance, supplemental corporate medical insurance, and commercial medical insurance; set up an employee health management room at the headquarters to provide employees with health-related consultation, guidance, monitoring and other services, and ensure timely treatment of common and acute conditions.

"Happiness 1+1"

We encourage employees to engage in "1" sport to train up their physique and cultivate "1" hobby for mental well-being; launched the "Happiness 1+1" MIGU Fun series activity for the sixth year in a row in 2021, encouraging employees to use little scraps of time to stay in workout, reading, listening to music or other habits; 420,000 employees were included in 2021.

"Five Small Spaces"

We invested RMB547 million in 2021 to upgrade our small canteens, small bathrooms, small lounges, small activity rooms and small reading rooms under our "Five Small Spaces" program, helping grassroots grids solve 63,000 needs ranging from food, drinking water, oxygen supply to winter shelter.

Assistance in emergencies

In the event of a natural disaster or an emergency, we promptly reached out to affected units and employees, and offered them financial assistance to show our love and care. In 2021, we allocated a total of RMB3.9 million to 13 units.

Flexible work arrangements

We operated on flexible working hours during COVID-19 outbreaks, allowing employees to work from home, online or remotely, combined with arrangements like rotating shifts and shortened working hours.

EAP (Employee Assistance Program)

We opened up a 24/7 consultation appointment telephone line to headquarters employees and their immediate family members; trained EAP specialists to help them stay mentally well and improve their job skills; in 2021, our EAP covered over 400,000 employees, trained a total of over 3,000 EAP specialists and built a total of more than 100 stress-relief rooms and care rooms.

Caring for employees during COVID-19



As COVID-19 prevention and control became a regular part of life, our Shanghai subsidiary evolved its employee care initiatives surrounding health services, cultural and sports activities, and Employee Homes to continuously increase employees' sense of satisfaction, happiness and belonging. By the end of 2021, the satisfaction rate of the labor union members of our Shanghai subsidiary was 99.87%.

Multi-dimensional employee service platform: Provided employees with biweekly consultations with visiting doctors, counseling sessions and legal aid during the epidemic, and actively cared for our frontline employees.

Multi-dimensional happiness activity matrix: Encouraged employee participation in online and offline cultural and sports activities, like photography, painting, seal carving, DIY and jogging.

Employee Homes: Made Employee Homes places of warmth, democracy and harmony, where employees could voice their demands and suggestions and participate in governance, giving full play to their sense of initiative and ownership.



China Mobile Internet's fun sports meeting



Jiangsu subsidiary's dragon boat competition



Anhui subsidiary's Dragon Boat Festival activities



Shanghai subsidiary's fun sports meeting



Tianjin subsidiary's badminton competition



Scan the QR code to learn more about employee activities on our "Happiness 1+1" WeChat platform



Promoting Common Prosperity

Through innovation in technology, products and services, China Mobile brought the benefits of information technology to underserved groups. From launching the new “Network+” rural revitalization model and undertaking public welfare and volunteering activities to supporting important domestic and international regional development strategies and initiatives, the Company made every effort to improve people’s wellbeing and help to achieve common prosperity.

Bridging the Digital Divide

China Mobile continued to improve the information infrastructure, and expand 4G, 5G and broadband coverage in remote areas, and strove to make information services a basic right that could be enjoyed by everyone under our “Universal Telecommunications Service Project”. The Company also made use of innovative techniques to remove barriers in terms of information-related fees and use of key equipment and services for populations including elderly people, people with disabilities, people with different cultural backgrounds, etc. By doing so, the Company strove to speed up bridging the digital divide and allow everyone to enjoy the benefits and convenience brought by information, digitalization and intelligence.

Universal services

- Through the “Universal Telecommunications Service Project”, we delivered 4G network coverage in 7,603 remote rural villages and 99.9% 4G network coverage in administrative villages; the number of remote rural villages covered by broadband service newly launched was 7.6 thousand in 2021, bringing the cumulative total to 59,600.
- We have basically achieved continuous 5G network coverage in towns and villages nationwide and solid coverage in some developed rural villages.

4G network coverage in administrative villages

99.9%

Number of remote rural villages with 4G network coverage

7,603

Considerate products

- **Smart applications:** The “Senior Edition” of China Mobile App provided 2 million elderly users with an ad-free experience and features like enlarged font and screen reading; MIGU Video introduced the innovative smart subtitle feature during the Beijing 2022 Winter Olympics live streaming, and this feature made use of technologies such as speech recognition, smart translation and subtitle generation, and allowed hearing-impaired users to “listen to” the wonderful commentaries on the games without any barriers; MIGU Music launched the professional music apps Meshrep and Bayge for ethnic minority users, offering free access to over 5,000 downloadable songs in Uyghur and Kazakh; our smart home application for elderly people provided nearly 100 million elderly people with a rich selection of content like live TV streaming, Chinese opera and square dances.
- **Special rates:** We provided elderly people, people with disabilities and other special groups with special discounted rates. By the end of 2021, we had offered special rates to over 7.4 million elderly people and over 4.6 million people with disabilities.
- **Customized terminals:** We worked with industry partners to launch 80 smartphones with large font, amplified sound, remote assistant and other features to meet the needs of elderly people, and introduce 50+ pan-terminal products in areas such as health and medical testing.

Cumulative number of elderly customers covered by special rates

7.4 million+

Cumulative number of customers with disabilities covered by special rates

4.6 million+

Convenient services

- **Online:** Our “one-touch access” feature allowed people over 65 years of age to skip the voice guide and be directly connected to 10086 service agents, with added features like “speak slower” and “say it again”, registering a cumulative service volume of over 101 million times; we provided “Care Edition” smart voice service assistant and special queues for elderly customers at our business outlets to enhance accessibility for them; we launched the 10086 smart voice service in Uyghur to serve our 7 million Uyghur-speaking customers; in Yunnan, our employees offered customer service to Burmese-speaking customers from home to ensure non-stop services during the COVID-19 outbreak; we piloted the 1008611 interactive voice and video service for elderly people in Shandong Province featuring large font and display of relevant content, which recorded a cumulative service volume of 11.30 million times.
- **Offline:** Over 19,500 business outlets were equipped with “Love Seats”, over 18,800 were equipped with “Love Channel”, and some also provided electronic blood pressure monitors, reading glasses and other facilities; 15,600 business outlets provided home delivery for products ordered in the outlets and 19,000 grids offered door-to-door services for elderly customers; we held close to 16,600 lectures for elderly people on the use of smartphones.

“One-touch access” service volume

101 million+ times

Number of business outlets equipped with “Love Seats”

19,500+

Bridging the digital divide with elderly-friendly information services



Our Jiangsu subsidiary assisted elderly customers to better understand and use smart technologies through “one plan + three initiatives”, helping them adapt to the digital age.

Teaching One Million Elderly People to Use Smartphones for Free Plan

- Offline: Taught elderly people to use smart devices and applications through outlet-based small classes, one-on-one guidance, etc. By the end of 2021, a cumulative total of 3,575 smartphone training sessions for a total of more than 100,000 elderly people were conducted.
- Online: Provided guidance via short-video and live streaming platforms, accumulating over one million views in total.

Elderly-Friendly Service Upgrade Initiative

- Launched “Care Mode” on China Mobile App with larger font and cleaner interface; the 5G Cloud Service Desk feature delivered video-based services to elderly customers at home.
- Provided seats and a series of “Happiness Card” packages for elderly customers, and rolled out services such as “authorized handling” and “fingerprinting”.

Elderly-Friendly Service Publicity Initiative

- Was the first in China to make and distribute a *Smartphone User Manual*, offering convenient reference for elderly people.
- Conducted anti-fraud publicity with the Anti-Fraud Center to educate elders to identify and stay away from fraud through live streaming and other means.

Door-to-Door Communications Services

- Distributed around 77,000 elderly citizen smartphones and around 10,000 GPS bracelets for free for elders in various areas in cooperation with local governments and nursing homes and introduced Happiness Card service packages, under which we have offered a total of RMB16.47 million in discounts to 710,000 subscribers.

Operating a maritime business outlet and building a digital-intelligent fishing village



To fill the gaps in communications services in the waters of Sanduao in Fujian Province, our Fujian subsidiary built China's only maritime business outlet in 2004. Over the past 17 years, generations of China Mobile employees have overcome difficulties like scarcity of fresh water at sea, cold winters, hot summers and seasickness to stick to their posts. Collectively, they have gradually put up a new type of high-quality information infrastructure and built a maritime “information highway”, bringing the benefits of digital development to all the islanders through the provision of communications services.

Network construction: Constructed a maritime information “high-speed train” for local marine farmers, overcoming the complex and harsh conditions and a variety of technical hurdles. In 2021, we delivered basic 5G network coverage in key areas of Sandu Bay.

Information services: Worked with partners to set up maritime house numbers and build a population information management system and related service platforms for the marine farmers, enabling around-the-clock monitoring and alarm across the 159 square nautical miles of area under administration and improving local safety.

Our Fujian subsidiary also created a “Convenient Harbor” for local fishermen by offering a scientific breeding exchange platform, IT-based financial services, live-streaming e-commerce and other public welfare events, among other things.

“The maritime business outlet has brought much convenience to marine farmers like us. We couldn't even make calls in the past, so we couldn't sell our fish without middlemen. It is a completely different story nowadays, as we are now connected to phones and internet. During the epidemic, (China Mobile) even helped us sell our fish online through live-streaming, and we are all very grateful.”

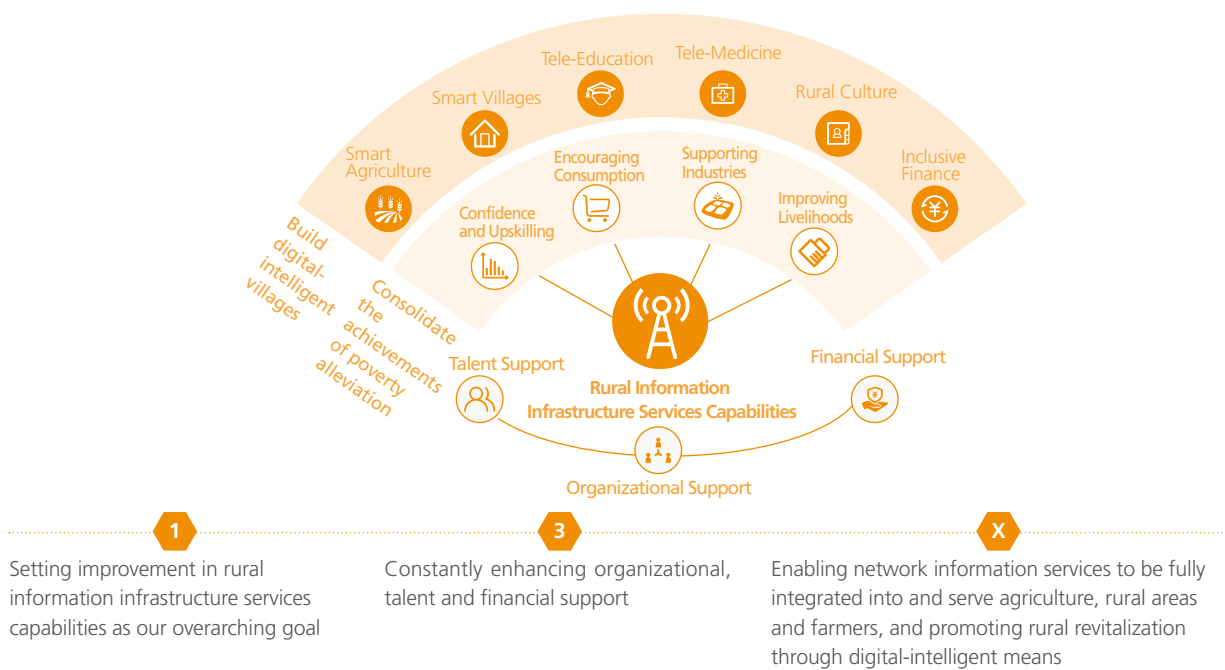
— Chen Deji, a marine farmer in Sanduao

Serving the Rural Revitalization Strategy

Advancing rural revitalization is a major strategic decision made by the Chinese government in view of the overall strategy of the great national rejuvenation. It reflects people's expectations, responds to the call of the times and is a natural result of development. Building digital-intelligent villages is a strategic direction of rural revitalization and a key part of building a digital China. Speeding up the construction of digital-intelligent villages and building an information "highway" and "high-speed train" for agriculture, rural areas and farmers will facilitate the transformation and upgrade and high-quality development of agriculture, improve governance and public services in rural areas, and allow farmers to live a better life with scientific and cultural qualities.

China Mobile firmly aligns its efforts with the national decisions and directions surrounding the implementation of the rural revitalization strategy. Capitalizing on our strengths in network, technology and data, we fully upgraded the "Network+" poverty alleviation model to a new "Network+" rural revitalization model. With the 14th FYP Digital-Intelligent Rural Revitalization Plan, we consolidated the achievements of poverty alleviation through our "Seven Assistance Measures" and empowered rural revitalization in a digital-intelligent manner under our pioneering "Seven Rural Digital-Intelligence Projects".

China Mobile "Network+" Rural Revitalization Model



China Mobile "Seven Rural Digital-Intelligence Projects"

Digital-intelligent rural new infrastructure project

Promoted the construction of a new generation of rural information infrastructure; accelerated the development of 5G, IoT, and gigabit broadband networks in rural areas; and laid solid groundwork for the digital-intelligent transformation of rural areas through continuous improvement in the quality of network in rural areas, agriculture-related information services and terminals.

Digital-intelligent rural industry project

Accelerated the close integration of next-generation information technologies, such as 5G, cloud computing, big data, IoT and AI, into agricultural operations and management; optimized agricultural science and technology information services to further digital transformation of agriculture; explored new business models of rural economy; revitalized industry resources and enriched industry systems in rural areas to continuously promote local employment and economic gains and revitalize rural industries.

Digital-intelligent rural governance project

Built a new digital rural governance system and provided livelihood support and IT-based convenience services; further modernized rural governance and digitalized grassroots Party building; advanced the construction of "Safe Villages", "Smart Villages" and "Beautiful Villages" that were suitable for living, with sound governance and supported by a revitalized organization.

Digital-intelligent rural education project

Promoted access to high-quality remote learning resources by rural schools and families, and digitalized the management of rural primary and secondary schools, thereby boosting the quality of home learning and helping talents thrive in rural areas.

Digital-intelligent rural healthcare project

Ramped up the construction of tele-medicine platforms and applications to accelerate digital-intelligent transformation of rural healthcare; promoted access to more high-quality medical resources in rural areas to improve rural healthcare and farmers' health.

Digital-intelligent rural culture project

Enriched cultural resources in rural areas with music, reading, video, multimedia, television and other forms of content; strengthened guidance and publicity on internet culture in rural areas; improved the intellectual and cultural life in rural areas to promote social civility and cultural revitalization.

Digital-intelligent rural finance project

Introduced innovative inclusive financial services in rural areas; allowed farmers to buy smartphones on credit; provided convenient and economic financial services to agricultural business entities; activated rural factor resources to help rural industries and farmers prosper.

Consolidating the achievements of poverty alleviation

Number of on-the job assistance officials dispatched

2,300

Amount of donations to the eight paired counties that we assisted the Parent Company to make

RMB276 million

Local officials, members of public and professional talents trained

48,000

Value of agricultural products in impoverished areas that we purchased/helped sell

RMB310 million

Number of rural households where we undertook toilet renovation

9,430

Number of villages where we undertook domestic waste and sewage treatment, overall makeover

306

Building digital-intelligent villages

Number of 5G smart agriculture demonstration projects launched

115

Number of rural households and SMEs served by the "Safe Villages" service

2.13 million

Number of "Synchronous Classrooms" built in primary and secondary schools

8,000

Number of rural families served by the "Family Education" service

1.44 million

Number of sub-county level medical institutions we helped connect to national tele-medicine collaboration platform

817

Number of villagers that participated in our "100 Days: I Love Reading" online campaign

1.18 million

Total reading hours

35.03 million

Launched credit purchase service – the number of rural customers offered with our inclusive financial services

565,000

Launched Good People Loan and Heyue Loan in collaboration with our partners – the total amount of loans granted to rural customers in 2021

RMB100 million



Scan the QR code to read the *Digital-Intelligent Rural Revitalization Plan Whitepaper* published by the Parent Company



Scan the QR code to read the *China Mobile "Network+" Poverty Alleviation Documentary Report* published by the Parent Company

Growing green pepper to prosperity in Jinyang — Sichuan subsidiary's 5G+smart agriculture propelled rural revitalization in Yi areas



Jinyang County of Liangshan Prefecture in Sichuan Province is uniquely favorable for growing green pepper. However, local people faced a number of hurdles like general lack of education and refined management capabilities and harsh natural conditions. Sichuan subsidiary, in response, set up a platform that offered a range of features powered by IoT facilities and 5G applications, and facilitated the development of the local green pepper-growing industry towards ecological harmony, intelligent management and efficient production.

Refined development enabled by 5G precise planting control platform

Centralized management enabled by monitoring systems

Precise, environment-friendly pest control enabled by pest detection and control facilities

Scientific automated irrigation enabled by water, soil and fertilizer integration

Efficient pesticide spraying enabled by 5G+ UAV-based plant protection

Time- and labor-saving and convenient operations enabled by 5G-powered carrying robots on rails

People-centric remote online services enabled by product expert knowledge base

Full-process regulation and tracing enabled by visualized traceability management

By the end of 2021, 5G+smart agriculture had directly led to a total increase in income of more than RMB4 million among 520 target households and a total of 2,280 people. This provided strong support for the industry, consolidated the achievements of poverty alleviation and promoted rural revitalization in Jinyang.



5G-enabled UAV undertook plant protection task in Jinyang County of Liangshan Prefecture in Sichuan Province

Safeguarding rural areas with digital-intelligent technologies



To ensure high-quality development of beautiful villages in China, China Mobile advanced the “Safe Villages” project across the country and provided villagers, village committees and local governments with IT-based management solutions.

In Shaanxi Province, we worked with 2,299 villages under the “Safe Villages” project, building close to 100 “Safe Villages” model villages. The “Clairvoyant” video system deployed in the model villages allowed village committees to view the main roads and important locations, while villagers may connect to the system on their smartphones, computers or other devices, and make use of features such as monitoring their homes and properties and speaking to visitors remotely.

We set up Hunan Province’s first “Safe Villages 2.0” demonstration village in Qilipu Village. Building on the China Mobile Home Guard cloud platform, we integrated our 5G digital village management platform with large screen displays as well as a variety of newly added security terminals such as AI-based perimeter surveillance cameras, smart speaker cameras and smart smoke detectors offering around-the-clock recording, smoke detection, AI-enabled alert identification and other features, and created a safe environment for villagers.



The 5G digital village service platform adopted in Qilipu Village, Hunan Province

Facilitating inclusive education through the internet



MIGU's ongoing "Tongyue Classroom" program was organized on ten occasions in places like Heilongjiang, Hainan, Xinjiang, Sichuan and Yunnan through a mixture of online and offline classes using 5G live streaming. It boosted the students' confidence and equipped them with knowledge and skills, thereby fueling their hopes and dreams and empowering them to be self-driven and hardworking.

Our Hunan subsidiary created the "5G Online Classroom" based on our "ViLin" products bringing high-quality curriculum resources to village-level schools via interactive live streaming that broke temporal and spatial constraints. By the end of 2021, the "5G Online Classroom" had offered 33 large lectures and over 500 small classes, benefiting nearly 10 million primary and secondary school students in Hunan Province and beyond.



○ MIGU "Tongyue Classroom"



○ We built a digital farm platform in the Nanjing National Agricultural High-Tech Industry Demonstration Zone



○ 5G tea garden livestreamed during the autumn tea harvest season in Fujian



○ 5G+Photovoltaic Smart Agriculture Platform of Xintai, Shandong



○ Smart rural connected insecticidal lamp in Shaanxi

Supporting Coordinated Regional Development

China Mobile actively served major national strategies on regional development such as the Beijing-Tianjin-Hebei Region, the Yangtze River Economic Belt, the Guangdong-Hong Kong-Macau Greater Bay Area, the Yangtze River Delta, the Yellow River Basin, the Chengdu-Chongqing Economic Circle, the Xiong'an New Area and the Hainan Free Trade Port. Meanwhile, the Company fully responded to the "Silk Road Economic Belt" and the "21st Century Maritime Silk Road" initiatives (collectively, the "Belt and Road Initiative"), promoting the development of information infrastructure in countries along the Belt and Road and building a "Digital Silk Road".

Serving Major Regional Strategies

We formed the Leadership Group for Implementing National Strategies on Regional Development in 2021 to plan, coordinate and advance our overall work in supporting regional development strategies. Based on a "1+4+N" system, we have established a sound regional collaboration mechanism in key regions and made progress on new regional information infrastructure, integrated information services offerings, and new R&D institutions and science and technology innovation setting.

Xiong'an New Area	<ul style="list-style-type: none"> Co-organized the "Smart Community" Maker Hackathon with the Xiong'an New Area Smart City Association Participated in the development of 14 standards for smart city construction in Xiong'an New Area Undertook 10 IT projects in urban management, public security, e-government services, etc. Built the "Xiong'an Lejia Property Service Platform" with Digital City Company under China Xiong'an Group to ensure smooth implementation of relocation work in Rongdong
Yangtze River Delta Integration	<ul style="list-style-type: none"> Started the construction of inter-provincial backbone fiber optic cable line from Shanghai to Hangzhou Set up three new pairs of CMNet (China Mobile Network) backbone nodes and built three IDCs
Guangdong-Hong Kong-Macau Greater Bay Area	<ul style="list-style-type: none"> Organized the 2nd Greater Bay Area 5G Application Innovation Challenge to cultivate scientific and technological talents Strengthened cooperation among the 5G Industry Alliance and enhanced the display cases at the 5G Joint Innovation Center
Hainan Free Trade Port	<ul style="list-style-type: none"> The Hainan-Hong Kong submarine fiber optic cable line became fully operational, facilitating interconnected communications between Hainan and Hong Kong Launched the second international submarine cable connecting Hainan to Singapore, integrating Hainan into the international submarine backbone cable network
Chengdu-Chongqing Economic Circle	<ul style="list-style-type: none"> Accelerated the construction of "Gigabit City Clusters" and achieved full gigabit platform coverage in urban areas and key towns and villages in Chengdu and Chongqing Participated in the construction of the only national top-level node for industrial internet identifier resolution in Southwest China

Supporting "Belt and Road"

In 2021, we leveraged our leading networks to speed up upgrades of our capabilities and optimization of our product experience. With our international roaming, CMLink and JegoTrip products, we offered high-value international information services that integrated "platform + ecosystem".

With an ongoing emphasis on networks, we continued to optimize the infrastructure setting of "highways, stations and islands" and prioritized construction of infrastructure along the "Belt and Road", thereby building a "Digital Silk Road". Our annual international transmission bandwidth reached 106T. Drawing on our strengths in connectivity resources along the "Belt and Road", we promoted CMLnet construction in places like Southeast Asia, Africa and Russia to improve the quality of internet services.

Highways	Information Highways (connectivity resources)	In terms of submarine cables, we advanced various Asia Pacific, Asia-Europe and African submarine cable projects and accelerated the preparation for construction of new Asia Pacific and Asia-Europe submarine cables in collaboration with our partners; in terms of land cables, we continued to expand the connectivity capacity among China and its neighboring countries and regions, expanded the capacity of China-Kazakhstan, China-Mongolia, China-Vietnam, China-Laos-Thailand and China-Vietnam-Cambodia-Thailand channels, and opened the Singapore-Malaysia section of the Singapore-Malaysia-Thailand channel and Thailand's ocean-going channel.
Stations	Information Stations (Point of Presence, POP)	We deployed over 90 POPs along the "Belt and Road", covering over 50 countries/regions.
Islands	Information Distribution Islands (Internet Data Center, IDC)	We leveraged Hong Kong's position as the bridgehead of the "Belt and Road" to overseas countries and regions, and accelerated the construction of our second data center in Hong Kong; expanded cooperative data center resources with our overseas data center partners.

Remaining Committed to Public Welfare and Charity

Public welfare and charity, as primary means of “tertiary distribution”, play a positive role in more evenly dividing the “pie” grown collectively by the people and advancing common prosperity. Increasing democratization and involvement of the internet has created new models and new platforms for the development of public welfare activities, and brought about new drivers for advancing common prosperity in a high-quality manner.

China Mobile actively explores and implements effective ways to contribute to common prosperity through public welfare activities. As internet-based public welfare activities became more popular, the Company drew on its strengths in resources, platform, talent and technology, and joined hands with industry partners to promote the healthy development of internet-based charity.

Facilitating public welfare and charitable undertakings via network

We made public welfare and charitable undertakings more accessible to a greater number of members of the public, and facilitated the contact and interaction among donors, volunteers and beneficiaries, forming a “public welfare and charity network” and making it a common means of communication.

Integrating the entire process of charity

From project initiation to fundraising and distribution, we integrated big data, AI and other innovative technologies throughout the entire process of public welfare or charitable undertakings. Our technologies offered accurate identification of beneficiaries and continuous tracing of effectiveness of donations, thereby promoting more effective allocation and greater diversity of charitable resources.

Improving charity management system

We helped improve the operational review, information disclosure and credit management of charitable programs using blockchain and other technologies to create a highly transparent and trustworthy charity management system and further stimulate social goodwill and contribution.

“Heart Caring” Campaign Helping Children Restore Health

Our “Heart Caring” campaign is dedicated to providing free screening and treatment for impoverished children suffering from congenital heart disease (CHD). Under the campaign, we provided free screening for 3,291 children and free surgeries for 495 children in 2021. Apart from the ongoing campaign, we also explored a new model in Shaanxi Province: we combined local medical insurance with charitable donations and a fee waiver by partner local hospitals to assist more children with CHD. Since the launch of the campaign in 2011, we have offered screening to 61,898 impoverished children across the country and free surgeries to 7,069 children diagnosed with CHD, making over RMB200 million in donations.



“Heart Caring” campaign charitable event at TEDA International Cardiovascular Hospital



China Mobile conducted the “Heart Caring” campaign in Guizhou, offering free CHD screening for local children

Blue Dream: Shaping a Better Future with Education

Under our “Blue Dream — China Mobile Education Aid Plan”, we have been operating the “China Mobile Central and Western China Rural Primary and Secondary School Principal Training” program and the “China Mobile Multimedia Classroom” program to improve the quality of education and facilities in places across China where education has traditionally been a challenge. The plan helps reduce the regional disparities and inadequacies in education, and improve the quality of basic education in rural areas. Since the plan was launched in 2006, we have built 4,029 multimedia classrooms, trained over 129,000 principals and donated a total of RMB219.8 million.

Principal Training Program

Invited China Mobile experts to provide three-stage online and offline training to 1,000 principals from rural primary and secondary school in 10 provinces and districts/cities in central and western China.

Multimedia Classroom Program

Built 649 urban-standard multimedia classrooms in rural areas; procured standard or customized digital supplies, such as high-definition recording and broadcasting equipment; conducted digital capabilities training in target schools to help the principals and teachers master the use of such digital supplies.

“GoTone Blue Dream Public Welfare Program”



Together with different sectors of society, we rolled out the “GoTone Blue Dream Public Welfare Program” in 2021 to support the development of basic education in remote rural areas. By the end of 2021, over RMB28.7 million worth of digital materials were donated under this program to 116 schools in 11 provinces and RMB3.11 million in total were raised as donations to provide schools with needed supplies.

- **Creating a new form of public welfare:** Developed new ways of charitable donations such as “user donation+corporate matching”, points-based donation with China Mobile characteristics, and cash donation in collaboration with Tencent Charity.
- **Drawing on our leading technologies:** Set up a variety of platforms for schools, such as Smart Campus, Live Lectures by Famous Teachers, ViLin Synchronous Classroom and campus security monitoring platform and based on our “network+education” model; the ViLin Synchronous Classroom, for instance, allowed well-trained teachers from cities to give live lectures to students in remote areas, further addressing the uneven distribution of educational resources.
- **Advancing internet-based public welfare:** Set up a special section on live streaming platform dedicated to public welfare to better connect donors with beneficiaries and facilitate more charitable actions by individuals; increased public engagement in public welfare via interaction on our platforms to spread goodwill in society in the most efficient manner.

“Music, pictures and animations in the multimedia class are both eye-opening and interesting. We are also able to learn and communicate with children in other cities through video, and it has brought us more closely together.”

— Ezimeti Turghun, a student from Bayi Aimin Primary School

“The digital products for teaching and learning donated by the GoTone Blue Dream Public Welfare Program have given the school access to the excellent educational resources used by key middle schools in big cities through smart teaching facilities. This has helped bridge the existing educational gap.”

— Principal Li, Panli Primary School, Guizhou

Spreading Warmth Through Public Welfare Activities

We continued to standardize and normalize management of employee volunteering. Besides the “And You” donation program to support education, the “And Seeding” volunteer teaching program and the “Learning from Lei Feng” volunteering program, we also fully integrated volunteering with our main business to make more and better inclusive services accessible by impoverished people, left-behind children, elderly people, people with disabilities, outdoor workers and other underserved groups.

Helping riders save time, reduce cost and stay safe by providing better internet, services and applications



Riders on food delivery Apps face many challenges including a heavy workload, tight delivery time limits, low pay and poor job security. Our Beijing subsidiary worked to secure and empower riders on all fronts, and connected them with happiness from the three dimensions of services, network and technology.

- **Faster network connection:** Handled network quality issues reported by riders through our VIP customer service and improved network quality based on a big data analysis of the hot spots and peak hours of data traffic for riders.
- **Reduced service charges:** Provided tens of thousands of riders with a special service package tailored to their heavy use of data, calls and messages to relieve their financial burden, plus an insurance offering to protect their safety; set up a 24/7 exclusive WeChat service group for riders and provided additional services like emergency booting, green channel, antifraud lectures and riders’ stations.
- **Greater safety enabled by applications:** Introduced 5U safe and smart charging cabinets and over 400 “And Easy Charging” smart charging piles for businesses and individuals in urban Beijing, offering convenient and safe charging to riders based on IoT, big data, cloud computing and other advanced technologies.

Connecting and bringing employment opportunities to those in poverty and with disabilities



Our Chongqing subsidiary offered care products to over 500,000 people with disabilities, and launched an SMS service platform covering around 900,000 people with disabilities. It also introduced "Zhiyouai", a 5G-based smart employment service platform to match people with disabilities with jobs. By the end of 2021, the platform had recommended thousands of jobs, achieving a 98% user satisfaction rate.

Our Online Marketing Service Center increased the recruitment of impoverished members and members with disabilities through crowd-sourcing. It worked with local associations of people with disabilities in places where we operated to offer employment opportunities to people with disabilities. The center also provided skills training for newly recruited impoverished members and members with disabilities. By the end of 2021, the center had put a total of 302 impoverished members and members with disabilities in inbound and outbound hotline service positions, of which 120 employees with disabilities working at our New Life Senior Care and Disability Service Center earned as much as more than RMB6,000 per month.

China Mobile's Philanthropy Stars of the Year



Xi Jiajia
(employee of Jiangsu subsidiary)

She set up the "Jiajia Volunteer Service Team" in 2008, which, by the end of 2021, had collectively provided assistance to elderly people on more than 50,000 occasions and recorded over 7,800 hours of volunteer services; they had also aided over 400 impoverished students in mountainous areas, which was featured in news report by the CCTV (China Central Television).



Lv Haiyan
(employee of Fujian subsidiary)

She raised RMB187,000 in seed money for the "GoTone Hope Primary School" fund project and set up a volunteer teaching team of more than 70 people. She had personally donated more than RMB8,000 to 23 families in need and 16 patients. She had also helped 27 poor families in Qishan Village of Quanzhou City to set up online stores and put up products for sale, generating a total income of RMB165,000.



Meng Hua
(employee of Shandong subsidiary)

She actively participated in volunteer activities such as helping poor people and students, collecting and donating winter clothes, aiding in city traffic management and other community services. She had also made 120 donations totaling more than RMB46,000 to 96 charitable programs.



○ A Guangxi subsidiary volunteer provided first-aid for an outdoor worker



○ Liaoning subsidiary offered assistance to left-behind children as part of the "Learning from Lei Feng" volunteering program

Spreading Love and Care with Public Welfare at Fingertips

On November 4, 2021, China Mobile's philanthropy platform was approved by the Ministry of Civil Affairs as one of the third batch of online fundraising information platforms, making us the first and only domestic telecommunications operator to be granted this qualification.

As an online fundraising information platform run by China Mobile, China Mobile Philanthropy seeks to provide quality online fundraising services to over 3,600 charitable organizations with public fundraising qualifications and the general public through our 300,000 physical outlets in towns and villages across China as well as various online service channels such as the China Mobile App, 10086 WeChat subscription account and MIGU Run.



Green and Low-Carbon Operations



Practicing Green and Low-Carbon Operations



Supporting Social Initiatives in Energy Saving and Environmental Protection

Climate change is a challenge facing all humanity. As a responsible country with a large economy, China announced the “3060” carbon peaking and carbon neutrality goals in September 2020, pledging to maximize efforts in combating climate change and promoting comprehensive green transformation of economic and social development. For the ICT sector, the carbon peaking and carbon neutrality goals mean on the one hand, stricter requirements for energy conservation and emission reduction and, on the other hand, important opportunities to empower the low-carbon transformation across sectors and industries through information technologies. China Mobile is committed to making our planet a beautiful home where people and the nature live in harmony. Through driving the green transformation of ourselves and the wider society, we aligned ourselves with and made contributions towards the national goals and strategies of carbon peaking and carbon neutrality.

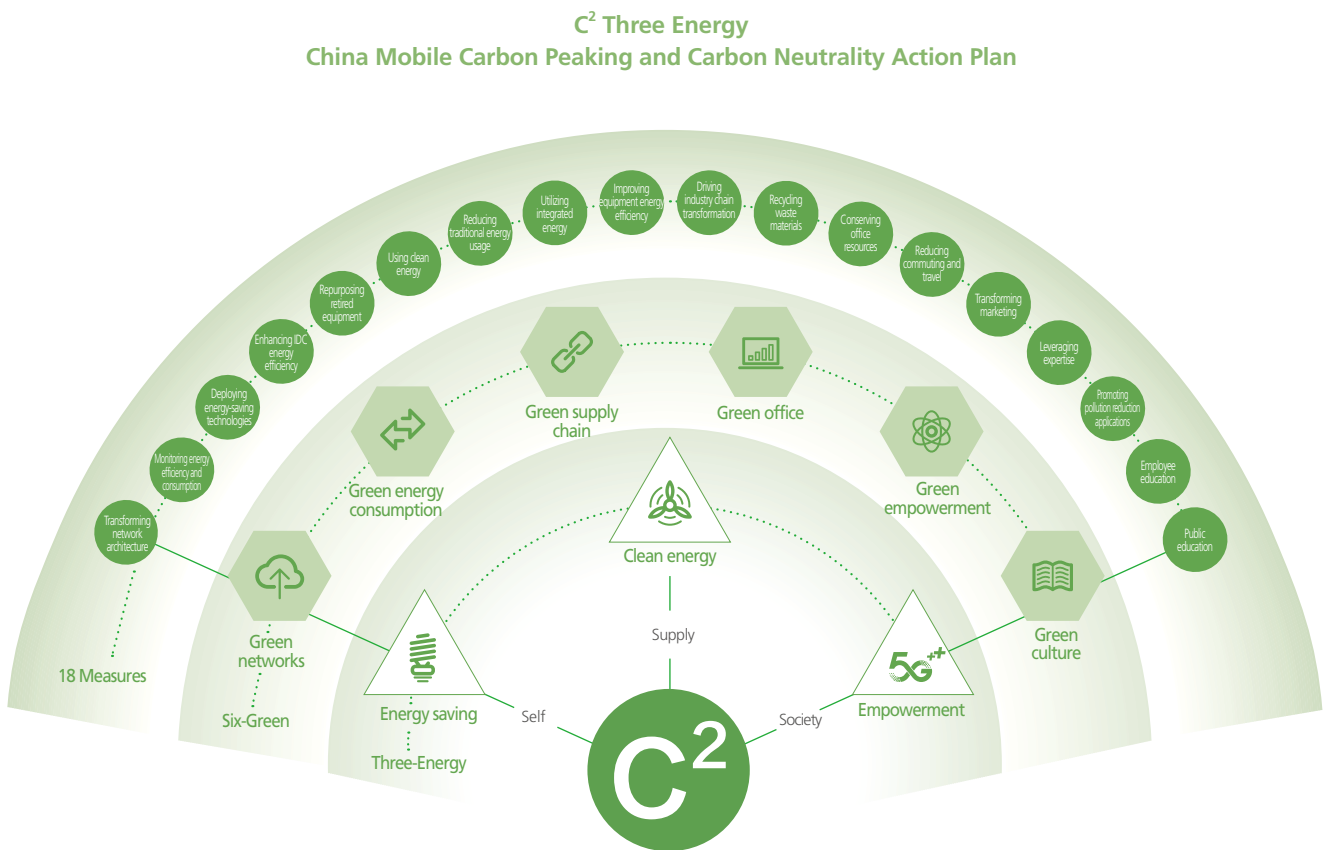


Practicing Green and Low-Carbon Operations

In line with policies such as the *Working Guidance for Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy* and the *Action Plan for Carbon Dioxide Peaking Before 2030*, China Mobile explored its paths to carbon neutrality at operational and business levels, infused an emphasis on environmental protection throughout the organization, and advanced green and low-carbon development at full speed.

Responding to Climate Change

In 2021, China Mobile upgraded its “Green Action Plan” to the “C² Three Energy — Carbon Peaking and Carbon Neutrality Action Plan” and created the new “three-energy and six-green” green development model to contribute to the carbon peaking and carbon neutrality goals.



Optimizing Governance Structure

Our chairman is responsible for our environmental policies and performance, and leads our efforts in energy conservation, emission reduction and climate change. Our decision-making level reviews and approves climate-related strategies and key action plans and budgets for energy conservation and emission reduction. We have put in place a three-level governance structure comprising decision-making, management and execution, and standardized our organizational structure and division of labor, roles and responsibilities in accordance with the *China Mobile Energy Conservation Management Measures*.

China Mobile Climate Change Governance Structure

Level of governance	Responsible organization(s)	Composition and primary responsibilities
Decision-Making Level	Leading Group for Pollution Prevention and Control and Energy Conservation	<ul style="list-style-type: none"> Led by our chairman, it assumes the primary responsibility for environmental protection and energy conservation: it is subject to term assessment on energy conservation and environmental protection by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), supervisor of the Parent Company; coordinates the Company's resources, investigates researches and formulates overall strategies for environmental protection, energy conservation and climate action.
Management Level	Working Group for Pollution Prevention and Control and Energy Conservation	<ul style="list-style-type: none"> Led by our Vice President, it executes strategic decisions made at the decision-making level and approves climate-related budgets; group members are primarily the heads of headquarters departments and relevant specialized subsidiaries.
Execution Level	Planning and Construction Department	<ul style="list-style-type: none"> It is fully responsible for the planning and implementation of climate-related work. It reviews the achievement of climate-related goals and indicators on a monthly basis, draws up implementation plans and budgets for energy conservation, emission reduction and climate action, and reports regularly to the management level, the decision-making level and the Board of Directors. Climate-related work has been incorporated as part of the performance appraisal system of the Planning and Construction Department.
	Departments responsible for energy conservation and emission reduction and related business departments at the headquarters / subordinate units	<ul style="list-style-type: none"> These departments manage and advance climate-related work from the six aspects of network, energy, supply chain, office, empowerment and culture. They hold regular meetings to assess the alignment of key activities and projects with the Company's strategic objectives with respect to climate and energy, draw lessons from the practice, and make recommendations to the management level. Climate-related work has been incorporated into the performance appraisal system for general managers and energy conservation and emission reduction at each of our 31 subsidiaries in provinces, autonomous regions and directly-administered municipalities, 22 specialized subsidiaries, directly affiliated units, as well as ASpire Holdings. Indicators assessed include the absolute amount and year-on-year change of total energy consumption and energy consumption intensity, among others.

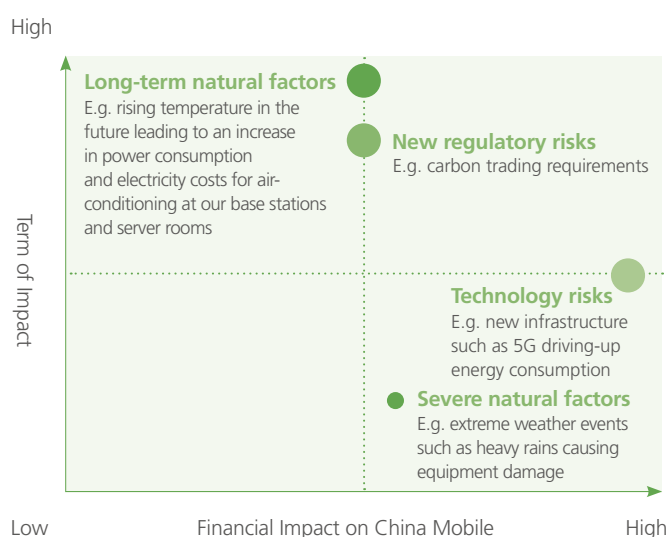
Practicing Green and Low-Carbon Operations

Undertaking Risk Assessment

We have streamlined climate-related risk management and fully integrated it throughout the risk management system. The Company's vice general manager, who is in charge of energy conservation and emission reduction, works together with members of the energy conservation and emission reduction working groups of the headquarters and provincial subsidiaries to identify, analyze, and address the risks and opportunities presented by climate change.

- Identification:** Main departments at the headquarters collect information on, summarize, assess and classify climate-related information based on a holistic consideration of relevant laws and regulations, policies and procedures, and physical climate parameters, among other factors, and report to the department heads for deliberation on a regular basis.
- Assessment:** Materiality of climate-related risks and opportunities is assessed from the two dimensions of "Financial Impact on China Mobile" and "Term of Impact" by benchmarking against international standards, reviewing the Company's practices and communicating with stakeholders.

China Mobile Climate-Related Risk Materiality Matrix



Formulating Coping Strategies

Based on the assessment of identified risks and opportunities relating to climate change, we analyzed the impact of each risk on the Company's finances, operations and development over different stages of time, based on which we formulated our mitigation plans.

Climate-Related Risks Facing China Mobile and Coping Measures

(* ● Short-term: 0-1 years; ● Medium-term: 1-3 years; ● Long-term: 3-5 years)

Nature of risk	Type of risk	Risk description	Primary financial impact	Primary impact on business and strategies	Term	Degree of impact	Coping measures
Transition risks	New regulatory risks	China Mobile headquarters, Beijing subsidiary, and China Mobile Tietong headquarters and its Beijing branch have been included in Beijing's Pilot Carbon Emission Trading System. The Company may face additional compliance costs if its certified emissions exceed its carbon credit.	Increased indirect (operating) costs ↑	Adaptation and mitigation actions	●	Moderate	<ul style="list-style-type: none"> Conduct quarterly accounting of carbon emissions, assess compliance costs and the legal risks of failure to comply on time, and issue carbon emissions notifications. Review the Company's carbon emission trading management system against regulatory requirements annually to assess alignment.
	Technological risks	The evolution of 5G has continued to drive an increase in the density of communications infrastructure. Failure to develop and use more efficient and energy-saving technologies will result in rapid growth in the usage and costs of energy.	Increased indirect (operating) costs ↑	Investment in R&D	●	Moderate to high	<ul style="list-style-type: none"> Assess the financial impact of energy costs annually, select appropriate low-carbon technologies and devise schedules for phasing out energy-intensive facilities. Explore possibilities of working with value chain partners to drive the application of low-carbon technologies.
Physical risks	Severe natural factors	Increasing severity and frequency of extreme weather events can cause varying degrees of damage to the Company's infrastructure and fixed assets and affect network quality, thereby increasing the Company's capital expenditures.	Increased capital expenditures ↑	Products and services, and business operations	●	High	<ul style="list-style-type: none"> Assess the potential impact of natural disasters on fixed assets, production and operations, and the environment based on their frequency and scale; plan disaster relief funds based on the assessment and deploy contingency plans in advance.
	Long-term natural factors	Keeping the temperature of server rooms within a stable range is an important prerequisite for the stable operations of base stations, server rooms and data centers. As global warming continues, rising temperature in the future will lead to increases in power consumption and electricity costs for air-conditioning at our base stations and server rooms.	Increased indirect (operating) costs ↑	Business operations	●	Moderate	<ul style="list-style-type: none"> Regularly assess and monitor the usage of air conditioners (ACs) in server rooms, and assess the financial impact of higher electricity costs resulting from increased AC usage; reserve funds for AC renovation at the base stations/server rooms when formulating investment budget at the beginning of each year to optimize the utilization and reduce the power consumption of ACs.

To understand the impact of major climate-related risks on the Company's business strategies and decisions over different stages of time, we also explored the application and analysis with industrial energy efficiency scenarios and models.

1. Scenarios selected

Scenario 1: By 2025, the overall energy consumption per unit of telecom business shall decrease by 15% compared with 2020 (as required by MIT).

Scenario 2: By 2025, the overall energy consumption per unit of telecom business shall decrease by 20% compared with 2020 (China Mobile's target).

2. Scenario hypothesis

The scale of our network and energy requirements in 2025 were projected assuming we will continue to develop our technologies and scale of network at the current rate.

3. Result of analysis

Based on an analysis of Scenario 2, it was estimated that the Company needed to reduce energy consumption intensity by 6% in 2021.

4. Application of business strategies and decisions

The Company devised specific measures based on targets assigned to each year, including driving energy savings in 5G networks and data centers, increasing the proportion of clean energy, incorporating energy conservation indicators into procurement evaluation criteria, and advocating green office, among others. The implementation of these measures puts China Mobile on track to meet energy saving targets and industry regulatory requirements.

Specifying Management Goals

Our primary indicators for measuring and managing climate-related risks and opportunities include Scope 1 GHG emissions, Scope 2 GHG emissions, Scope 3 (e.g., employee commuting and travel) GHG emissions, GHG emission intensity, total energy consumption, energy consumption intensity and corresponding rates of change, among others.

Based on likely climate-related impact on our future operations, we pledge to reduce Scope 1 and Scope 2 GHG emission intensity by 20% by 2025 from the 2020 baseline.

Driving Internal Energy Saving and Carbon Reduction

While advancing digital-intelligent transformation and high-quality development, we remained firmly committed to our environmental responsibility, strictly controlling the increase in and continuously reducing the intensity of our energy consumption and carbon emissions.

Building Green Networks

We continued to innovate in technologies and management tools to drive energy savings in our 5G networks and data centers.

5G networks

- **Equipment-level energy saving:** We led the industry in publishing a whitepaper on 5G energy saving in collaboration through a collaborative effort with the industry chain, laying out the roadmap for developing energy saving technologies in the next three years; we increased the weight on energy consumption-related criteria when selecting equipment and encouraged the industry chain to adopt more advanced technologies and more efficient architectures to continuously reduce the overall power consumption of equipment.
- **Site-level energy saving:** Besides subframe shutdown and channel shutdown and other features that were already in place since the 4G era, we also developed other energy-saving technologies together with our wireless equipment suppliers, such as sub-frame silence, channel silence, shallow hibernation, and deep hibernation. This has allowed us to dynamically allocate services and resources in terms of time, space and frequencies.
- **Network-level energy saving:** We increased the use of centralized-radio access network (C-RAN) architecture and built a minimalist base station construction model, optimizing our network equipment, removing air-conditioning and other supporting facilities, thereby reducing site energy consumption; took advantage of in-house technologies to conduct research on smart energy-saving; built a multi-mode and multi-frequency energy saving platform supported by AI algorithms to dynamically analyze and formulate different optimal energy saving strategies for different base stations on a refined "one-site, one-strategy" management model.

Data centers

- With a focus on whole-process management that encompassed planning and layout, engineering design, project construction, and operations and maintenance, we built new large and mega data centers with design average annual power usage effectiveness (PUE) under 1.3, or in cold regions, under 1.25.
- We built green, energy-saving infrastructure for data centers using technologies like high-pressure variable-speed water-cooled chillers, in-row ACs, heat pipe backplates, high-voltage direct current (HVDC), direct utility power supply and modular uninterruptible power supply (UPS).
- We made full use of natural cold sources and raised the temperature of AC return air by precisely controlling its temperature and volume; maximized the usage of natural cold sources while improving the efficiency of refrigeration consoles using high-efficiency heat exchange equipment, among other measures.
- We equipped 12 large data centers with waste heat recovery systems, using the heat produced during data center operations to offer heating to production and office areas or for boiling water, thereby optimizing the overall utilization of energy.
- We carried out real-time monitoring, analysis, modeling, optimization and adjustments in selected data centers using big data, AI and other technologies to ensure smart operations under different weather conditions and loads.

China officially launched the green power exchange pilot scheme in September 2021. Our Beijing subsidiary and Shandong subsidiary actively participated, purchasing green power that came with the green power consumption certificate at the Beijing Power Exchange Center. In addition, 15 subsidiaries purchased an aggregate of 3.47 billion kWh of renewable energy, such as solar, wind and hydro energy, at local power exchange centers.

At the same time, we have been gradually replacing coal, gasoline, diesel and other traditional energy sources with clean energy. For instance, under the "Zero Carbon 100" project, our Fujian subsidiary and China Mobile Design Institute together built energy cabinets that combined solar energy and base stations, whereby solar energy absorbed by solar panels installed at the base stations was converted into electricity and transmitted to the cabinets to power facilities in conjunction with municipal power.



○ Fujian subsidiary piloted solar stacking with "solar energy + base station integrated energy cabinets"

By the end of 2021,

Proportion of new 5G base stations that used C-RAN architecture was close to

80 %

Compared with 2020, the energy consumption of a new 5G base station decreased by

10 %

Compared with 2020, the PUE for the overall operations of all data center campuses and core machine buildings in our network decreased by

3.1 %

Saving energy and reducing carbon emissions with our new green and intelligent minimalist networks

Base stations, server rooms and data centers require a significant amount of electricity. For this reason, our Shandong subsidiary introduced green and intelligent minimalist networks, through which we expected to save up to 183 million kWh of electricity per year, equivalent to a reduction of 106,000 tonnes in CO₂ emissions.

- **Low-carbon base stations:** We continued to explore and further refine power-saving management, maximizing energy savings with our 4G base stations and optimizing energy utilization with our 5G base stations on a “one-site, one-strategy” basis; gradually scaled up the proportion of clean energy by using photovoltaics; built minimalist base stations using the C-RAN architecture; realized accurate service prediction and hour-level cell shutdown/power-off/wake-up, among other features, with our “Power Saving+” smart power saving platform.
- **Low-carbon server rooms:** We fully tapped the potential of existing server rooms through minimalist renovations, increased energy efficiency in newly built server rooms by up to 30% and reduced energy consumption in expanded server rooms by up to 20%.
- **Low-carbon data centers:** We reduced waste of energy and improved efficiency of equipment using technological means such as our cloud computing-based integrated energy-saving solutions; made green renovations to data centers with focuses on improving the cooling efficiency, reducing waste of energy, and optimizing the cooling environment.

Our provincial subsidiaries also explored various initiatives aimed at energy-efficient and low-carbon development. For example, our Xizang subsidiary prioritized the use of new energy, such as solar energy and wind energy, for power supply. It operated 4,075 base stations powered by solar energy, accounting for 34.97% of all of its base stations. Our Zhejiang subsidiary piloted single-phase immersion liquid cooling technology, which brought down the PUE of the server rooms to below 1.1. The Zhongwei Data Center of our Ningxia subsidiary optimized the performance of the data center using AI technologies such as the DCIM (Data Center Infrastructure Management) system and neural network algorithm learning.

Endorsing Green Procurement

We also extended our green philosophy throughout the life cycle of our products and business. By advancing green packaging and logistics and paperless contracting, among other efforts, we continued to reduce the environmental footprint of our supply chain.



We incorporated green and energy conservation requirements into product procurement evaluation criteria, thereby encouraging centralized procurement suppliers to improve the energy efficiency of equipment; we added ISO 9001 (Quality Management System), ISO 14001 (Environmental Management System), and other requirements related to the environment, society and business ethics to our supplier review and evaluation criteria.

In terms of packaging, we reduced the use of packaging materials, recycled packaging waste, and used recycled paper and other environment-friendly packaging materials. In 2021, over 80% of our newly procured main equipment used green packaging, saving 262,000 cubic meters of timber resources. On the logistics front, we improved the efficiency of product entry and exit, reduced the use of wooden pallets through an upgrade to mixed pallets, and shortened the lighting time by modifying the lights, thereby promoting green logistics.

We built an online system digitalizing the whole process from announcement and tendering to bidding, bid review and contract-signing to reduce the use of paper; we realized online procurement based on the online system, video conferencing and remote monitoring, thereby reducing carbon emissions generated by traveling.



Supporting Social Initiatives in Energy Saving and Environmental Protection

China Mobile actively leveraged information technology to drive emission reduction in the whole society and explored digital solutions for environmental management and green transformation of industries. The Company fostered meaningful public engagement in environmental protection and the transition to a low-carbon society through awareness programs, volunteer services and other actions.

Delivering Innovative Green Solutions

Leveraging its leading capabilities in digital intelligent innovation and experience in building information infrastructure, China Mobile took an active role to create “smart environmental protection” solutions powered by 5G, IoT, cloud computing, AI and other technologies. The Company also harnessed the carbon reduction effect of digital-intelligent technologies to promote higher energy and production efficiencies across sectors and industries, and facilitated resource conservation, improved efficiency and reduced emissions in the whole society, thereby providing support to the transition to a green economy and society.

In 2021, China Mobile helped reduce

210 million tonnes
of CO₂ emissions in society using information technology

115 kg
of CO₂ emissions in society per TB of data traffic

Protecting the Environment in Intelligent Ways

We actively researched in and developed various digital solutions to enable more scientific and effective environmental management, thereby promoting continuous improvements in the environment.

Environmental monitoring and pollution prevention and control

In the upper watershed of Baiyangdian, Baoding, Hebei Province and the Ashi River watershed of Harbin, Heilongjiang Province, we set up a smart environmental monitoring system using IoT, big data and other advanced technologies. By enabling environmental monitoring and early warning, data analysis, and information sharing, the system informed scientific decision-making and helped local environmental departments improved the efficiency in pollution prevention, control and monitoring.

Biodiversity conservation

In Jiangsu Province, we built the Yangtze River Fishing Ban Digital Platform with big data, 5G+AI and other technologies. With smart monitoring equipment like panoramic AR starlight-level cameras and 24/7 smart patrol robots, the platform enabled 360-degree monitoring, early warning and information sharing, effectively protecting Yangtze River areas against illegal fishing activities.

Employing 5G+AI, IoT, cloud computing and big data, we observed, studied, collected data on and analyzed the animals and plants in the Gaoligong Mountains Reserve of Yunnan Province. This provided a comprehensive solution of “biological resources research, protection and development” based on timely warning of poaching risks and innovative cultural tourism services such as “slow live streaming” of rare animals and plants.

We built the first 5G smart migratory bird monitoring platform in Fujian Province with three core features, namely cloud data, comprehensive intelligence, and publicity and display. It provided solid data support for the construction of migratory bird habitats and the protection of animals under special national protection. We also launched the “China Bird Net” platform to educate people about birds, along with a WeChat mini program for displaying bird-related knowledge and status.



Wild animals captured by infrared cameras deployed in the Gaoligong Mountains by our Yunnan subsidiary



Fujian subsidiary built the province's first 5G smart migratory bird monitoring platform

Contributing to the green miracle of “A Sea of Forests in Saihanba”



Located in the northernmost part of Hebei Province, Saihanba was once a highland desert with plumes of yellow sand and no trees where birds could roost. Several decades on since the launch of the Mechanical Forest Farm project in 1962, Saihanba today boasts the world's largest artificial forests in terms of area. Our Hebei subsidiary has stood together with Saihanba through this process, contributing to the green miracle of “turning desert into oasis” in Saihanba using digital-intelligent tools.

- Optimized the power distribution model to reduce the risk of forest fires, and developed a fire prevention terminal and used fire safety SMS in forest area management to enhance visitors' fire safety awareness.
- Launched the integrated “Smart Tourism” application, with features like electronic tickets and forest monitoring; delivered on the construction of 5G base stations in the ice sports training centers and ski sports training bases for the Beijing 2022 Winter Olympics overcoming great construction challenges, and provided network and communications support.
- Provided volunteer services for forestry staff and helped plant more than 4,500 trees.



Hebei subsidiary equipped rangers with work phones that came with fire safety Apps

Empowering Green Transformation of Industries

We work with a broad range of stakeholders to promote the green transformation of industries. The “Carbon Peaking and Carbon Neutrality” and Green 5G Technology Summit, the release of the Green 5G Initiative and the establishment of the “Green 5G Innovation Joint Laboratory” were some of our collaborative explorations in 2021 in the potential of 5G and other emerging technologies for empowering green growth. We have also set up 5G “smart factories” in Guangxi, Yunnan, Tianjin, Ningxia and other places, to help industries like steel, non-ferrous metal smelting and PV new energy industries optimize their production, reduce energy consumption, and achieve intelligent low-carbon transformation.

Building 5G smart green factories



Our Guangxi subsidiary closely integrated 5G with the operations of traditional steel enterprises to help them reduce energy use while maintaining robust growth. “5G+AI” technologies in the upgraded smart green factories led to energy savings by optimizing the coal distribution and refining the management of coal use. At the same time, through analysis of environmental data, cloud computing allowed potential environmental risks and therefore more informed decision-making; by enabling intelligent assessment of the state of solid waste disposal, “5G+machine vision” ensured the standardized management and sound utilization of resources.

In terms of safety, the smart factories could execute emergency stop, interlocking, etc. of equipment using 5G and allow experts to provide audio guidance as on-site operations are remotely transmitted and shown to experts via AR glasses in real-time, thereby effectively minimizing safety hazards. The typical applications in the project have been promoted and rolled out in other steel enterprises, and have also been expanded to other industries such as the non-ferrous metal industry and the food industry, thereby empowering green manufacturing.



A worker operated a loader with a remote controller in the smart green factory built by Guangxi subsidiary

Raising Environmental Awareness

Through regular environmental events and campaigns held every year, such as the “Energy Conservation Awareness Week”, China Mobile raises the public’s awareness of energy conservation and fosters a green and eco-friendly culture and lifestyle. In 2021, low-carbon actions continued at the headquarters and subsidiaries, including campaigns in our offices like “Coffee Grounds Recycling” and waste paper and toner recycling. We also launched a personal “Carbon Accounting” gadget and organized tree planting, green photography and other events.

We published over 1,400 articles on energy conservation on social media to raise public awareness, and continued to host the Green Box environmental campaign to recycle waste electronic products from our customers and consumers. We conducted end-of-life product trade-in in Guangdong and other provinces to cultivate increased environmental awareness among users. China Mobile MIGU Coffee used paper straws and biodegradable cutlery in the physical stores across the country, developed reusable packaging with different forms and materials, and promoted carbon reduction and sustainable consumption by providing plant-based milk products and natural sugar substitute packets. In addition, we formulated clear rules on the registration of the environmental impact of base station electromagnetic radiation, and conducted relevant awareness campaigns through the media, community activities, publicity leaflets, educational articles and other means. By the end of 2021, we organized 711 awareness campaigns and activities on electromagnetic radiation in 489 districts and counties across 18 provinces.



○ Anhui subsidiary launched the “Green Box with You” campaign to recycle waste electronic products



○ Shandong subsidiary carried out the “Energy Saving and Emission Reduction – Go Low-Carbon Together” action to educate the public about low carbon environmental protection



○ Shanghai subsidiary mobilized the public to take part in ecological civilization conservation by organizing an interactive water forest trip



○ Hong Kong subsidiary organized the fourth “China Mobile Hong Kong Hiking Festival” to encourage Hong Kong citizens to “Hike Together for Health”

Spreading the beauty of biodiversity through an immersive experience







In the lead up to the 15th Conference of the Parties (COP15) to the UN Convention on Biological Diversity (CBD) to be held in Kunming, Yunnan Province, MIGU produced *Life in Yunnan*, China’s first 8K ultra-high-definition panoramic-sound VR documentary. It used novel 5G-powered filming technologies including underwater VR, monocular 8K macro-VR, FlyCat field panorama, etc. The documentary vividly reproduced the brilliant beauty of Yunnan’s plants and delivered an immersive experience for viewers. MIGU also worked with partners to collect short videos on biodiversity and launched an online exhibition of wildlife illustrations to raise public awareness and engagement in biodiversity conservation.

Issue Management and Performance Report

We are deeply aware of our social responsibilities and continue to ramp up the integration of information technology into the economy, society and people's lives to facilitate higher-quality, fairer, safer, more efficient and more sustainable development. In this performance report, we summarize and disclose information on sustainability-related issues at China Mobile in 2021. The information has been compiled in compliance with relevant domestic and international benchmarks and frameworks based on a materiality analysis. The disclosure rests on two dimensions, namely "management approach" and "actions and performance". We strive to present the information in a comprehensive, objective and accurate manner.

Stakeholder Engagement and Materiality Analysis

We engage with stakeholders as part of our sustainability efforts. We have identified six stakeholder groups that may have or have had a significant impact on the Company's business and operations. This process complies with our guiding principles for CSR management, namely strategic, comprehensive, systematic and participatory. We also take the initiative to collect stakeholders' concerns during the preparation of the sustainability report and incorporate them into the Company's relevant decision-making processes.

Stakeholders	Expectations and Demands (Top 5) ¹	Channel for Communication and Feedback
 Customers	<ul style="list-style-type: none"> • Network quality • Protection of cybersecurity, information security and privacy • Service quality and customer rights protection • R&D and innovations • Digital-intelligent solutions 	<ul style="list-style-type: none"> • Customer Reception Day • 10086 hotline • New media such as Weibo and WeChat • Online and mobile customer service platforms • Customer Satisfaction Survey • Mobile App • CEO Mailbox
 Employees	<ul style="list-style-type: none"> • Network quality • Protection of cybersecurity, information security and privacy • Employee rights protection • Corporate governance and risk management • Employee growth and development 	<ul style="list-style-type: none"> • Employee Representative Conference • Regular training • Performance communication mechanism • MMS Magazine <i>Mobile Weekly</i> • Employee review mechanism • Employee complaint mechanism • CEO Mailbox
 Shareholders and investors	<ul style="list-style-type: none"> • Network quality • Protection of cybersecurity, information security and privacy • Financial performance and taxpaying • Service quality and customer rights protection • Stakeholder communication 	<ul style="list-style-type: none"> • Annual reports, interim reports and announcements • General Meetings of Shareholders • Investor meetings
 Value chain partners	<ul style="list-style-type: none"> • Network quality • Protection of cybersecurity, information security and privacy • Corporate governance and risk management • Service quality and customer rights protection • Stakeholder communication 	<ul style="list-style-type: none"> • Procurement • Supplier web portal, service site and hotline • Training and assessment • CEO Mailbox • Forums and conferences
 Government and regulators	<ul style="list-style-type: none"> • Network quality • Protection of cybersecurity, information security and privacy • Service quality and customer rights protection • Digital-intelligent solutions • New infrastructure construction 	<ul style="list-style-type: none"> • Regular reports and communication • Specific investigations and meetings • Relevant forums
 Communities and environmental organizations	<ul style="list-style-type: none"> • Network quality • Protection of cybersecurity, information security and privacy • Service quality and customer rights protection • R&D and innovations • Stakeholder communication 	<ul style="list-style-type: none"> • Community activities • Philanthropic platform • Mass media • New media such as Weibo and WeChat • CEO Mailbox

Note:1.The top 5 issues listed in "Expectations and Demands" are concluded from the findings of the 2021 CSR issue survey among stakeholders (for further information, please refer to page 49).

Indicators (unit)	2019	2020	2021
Number of participations in CSR training (person-times)	418,507	926,288	781,393
Number of outlets hosting "CSR Communication Day"	3,184	3,504	2,929
Number of managers participating in "CSR Communication Day"	1,508	1,548	1,748
Number of customers participating in "CSR Communication Day" (person-times, thousand)	37	24	32

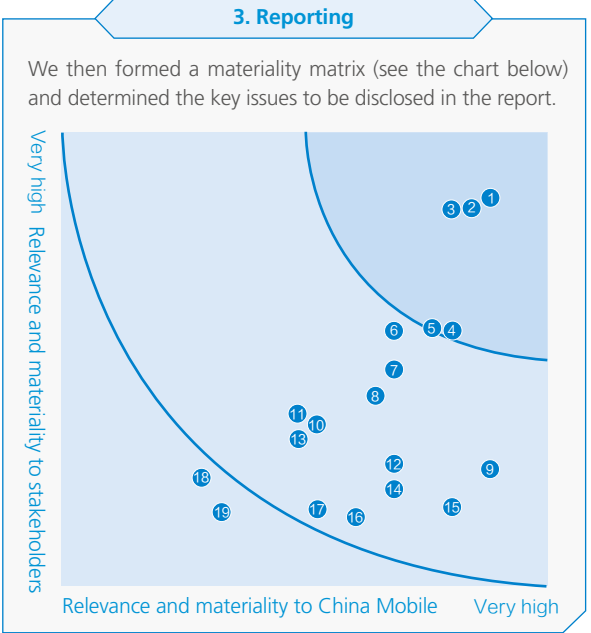
We identify issues that are both important to our own development and highly relevant to the stakeholders from the two dimensions of “relevance and materiality to China Mobile” and “relevance and materiality to stakeholders”. We then develop issue management and disclosure strategies accordingly. In 2021, we identified 19 material issues of high relevance both to our own development and to the stakeholders based on this process. We streamlined the topics of 2020 while taking into account the latest sustainability trends. This led us to update “anti-corruption” to “business ethics and anti-corruption”, “5G development” to “new infrastructure construction”, “information security and privacy protection” to “protection of cybersecurity, information security and privacy”, “coping with climate change” to “implementing carbon peaking and carbon neutrality goals”, “supply chain management” to “responsible supply chain management”, and “charity (including targeted poverty alleviation, emergency relief, etc.)” to “supporting public welfare and charity”. We also combined “social development solutions” and “environmental development solutions” into “digital-intelligent solutions”, added “serving rural revitalization”, and deleted “occupational health and safety” and “environmental management system”. No significant change occurred in terms of topic boundary.

1. Identification

- Domestic and international benchmarks
 - HKEX ESG Reporting Guide
 - GRI Standards
 - UN SDGs
 - UNGC Ten Principles
 - The Financial Stability Board (FSB) Task Force on Climate-Related Financial Disclosures (TCFD) Recommendations
 - China CSR Reporting Guidelines (CASS-CSR)
- Analysis of key sustainability issues and key industry issues
- Corporate strategy analysis

2. Evaluation

We distributed online questionnaires to key stakeholders to study the relevance and materiality of the sustainability issues and collected 2,827 valid responses in total. With reference to industrial practices, our panel consisting of internal and external experts evaluated the relevance and materiality of each issue to China Mobile.



Materiality	No.	Issue	Page(s)	Boundary
Very high	1	Network quality	10-11, 13-14, 18, 55	Customers, value chain partners, government and regulators, community and environmental organizations
	2	Service quality and customer rights protection	17-20, 29-30, 55	Customers, government and regulators, community and environmental organizations
	3	Protection of cybersecurity, information security and privacy	17-18, 54	Customers, government and regulators, community and environmental organizations
	4	R&D and innovations	13-16, 21-24, 51-52	Customers, government and regulators, value chain partners
	5	New infrastructure construction	13-14	Customers, government and regulators, value chain partners, community and environmental organizations
High	6	Digital-intelligent solutions	21-23, 31-34, 51-52, 59	Customers, government and regulators, value chain partners, community and environmental organizations
	7	Business ethics and anti-corruption	52	Employees, government and regulators, value chain partners
	8	Stakeholder communication	48	Customers, employees, shareholders and investors, government and regulators, value chain partners, community and environmental organizations

Materiality	No.	Issue	Page(s)	Boundary
High	9	Corporate governance and risk management	6-7, 40-41, 50	Employees, shareholders and investors, government and regulators
	10	Serving rural revitalization	31-34, 59-60	Customers, government and regulators, community and environmental organizations
	11	Supporting public welfare and charity	36-38, 59-60	Customers, community and environmental organizations
	12	Realizing carbon peaking and carbon neutrality goals	40-47, 60-62	Customers, employees, government and regulators, value chain partners
	13	Reducing environmental resource consumption	42-46, 60-62	Customers, employees, government and regulators, value chain partners
	14	Employee rights protection	27-28, 55-59	Employees, value chain partners
	15	Employee growth and development	24, 26, 57-58	Employees, shareholders and investors
	16	Financial performance and taxpaying	8-9, 51	Shareholders and investors, government and regulators
	17	Responsible supply chain management	44, 53	Value chain partners, community and environmental organizations
Moderate	18	Waste discharge	61-62	Customers, employees, value chain partners
	19	CSR fulfillment overseas	35, 59	Customers, value chain partners

Governance and Economic Performance

Corporate Governance

Management approach

We are committed to the corporate governance principles of integrity, transparency, openness and efficiency. We have developed a sound governance structure with a package of measures in order to create long-term and sustainable value for our stakeholders by efficient governance.

Our Board of Directors consists of eight directors, including four executive directors and four independent non-executive directors. The Board of Directors has three principal committees, namely the Audit Committee, the Remuneration Committee, and the Nomination Committee, all of which are composed of independent non-executive directors. Our corporate governance structure and decision-making mechanism are further improved with their experience and expertise. As appointed and authorized by the Board of Directors, each committee operates in accordance with its terms of reference.

Our Board of Directors has adopted a diversity policy since September 2013. The Board ensures that its composition reflects diversity in a number of measures given the Company's business model and particular needs, including, but not limited to, professional experience and qualifications, regional and industry experience, educational and cultural background, skill sets, industry knowledge and reputation, knowledge of the laws and regulations applicable to the Group, gender, race, language proficiency and tenure. The Nomination Committee shall take into account the diversity policy when considering recommendation for appointment and re-appointment to the Board and continuously monitor its implementation.

In terms of internal audit, we have an internal audit department at the headquarters and all the subsidiaries. They give assurance in relation to the appropriateness, compliance and effectiveness of the Company's business activities, internal controls and risk management in an independent and objective manner by carrying out financial audits, internal control audits, information system audits and risk assessments. They also provide advisory services to improve the effectiveness of corporate governance, risk management and internal controls.

Actions and performance

In 2021, we held seven board meetings, seven audit committee meetings, one remuneration committee meeting and one nomination committee meeting. The Nomination Committee reviewed the structure and composition of the Company's Board of Directors. At the meeting, the members had a discussion on the provisions for board diversity policy set out in the *Consultation Conclusions on Review of Corporate Governance Code & Related Listing Rules* released by the Stock Exchange of Hong Kong. They also contributed opinions and suggestions on board diversity policy and director succession plan in light of the Company's overall business situation.

As regards board oversight and governance of ESG issues, the Company's Audit Committee and Board of Directors reviewed and discussed the sustainability report in 2021. The Audit Committee discussed and supervised ESG-related issues reported by relevant departments from time to time, such as anti-corruption, cybersecurity, and employee training and development, and provided opinions and suggestions accordingly.

We also revised the *China Mobile Internal Audit Charter* to continuously facilitate the direct interaction between internal audit department and the Board of Directors. We instituted audits of 5G construction, information security, R&D investment and other focus areas. Meanwhile, we upgraded "on-site + remote + cloud" auditing model, using innovative means to ensure better risk prevention.

Risk Management, Internal Controls and Compliance

Management approach

China Mobile strives to strengthen internal controls, prevent risks and promote compliance. Our top-level management policies, such as the *China Mobile Internal Control Management Measures* and the *China Mobile Special Risk Assessment Management Measures for Major Projects*, specify the objectives, requirements and content for managing different types of risks and serve as the basis for the risk management across the Group. We have a professional internal control and risk management system composed of internal control manuals, matrixes and professional management approaches, which we regularly optimize and update in light of new business forms and models, new businesses, organizational change, etc.

Actions and performance

Internal control and risk management: We strengthened key risk management and control, conducted risk management by means of risk collection, risk identification, combined assessment, measure decomposition and quantitative monitoring, and formulated 24 measures and more than 30 quantitative monitoring indicators with respect to five key risks. We regularly tracked down the implementation of these measures and indicators and found no major operating risks or losses that occurred throughout the year. We continued to strengthen risk management and control in key areas and carried out special risk assessments on 559 major projects throughout the year, whereby we used the assessment results to inform decision-making and implemented risk management throughout the entire process of the projects. We pioneered digital-intelligent means of risk monitoring and implemented centralized monitoring of major risks across the Group. We built 88 models in 2021, which enabled more effective and timelier risk identification. We embedded internal control requirements in the system and enhanced the IT solidification rate of internal controls from 75% to 80%. This led to more rigidly binding internal controls and more effective prevention and control of human fraud.

Compliance management: Based on the "Compliance Escort" plan, we continued to deepen the construction of the compliance management system. The management team emphasized that one should always keep compliance in mind in all processes in order to serve the Company's strategy and support high-quality

development; strengthened the compliance pre-review and risk warning in 5G new infrastructure, 5G+ vertical applications, supply chain security innovation and other strategic areas; based on extensive studies on online transactions and personal information protection, we extended the key areas of compliance management and formulated relevant compliance guidelines; the Company took advantage of the Joint Session on Accountability for Illegal Operations and Investments to strengthen closed-loop compliance management; continued to cultivate and consolidate a compliance culture and shared outstanding compliance management experience within the Company through business briefings, WeChat subscription account, and the Online Talent Development Center.

Direct Economic Impact

Management approach

Striving towards the new positioning of becoming a world-class information services and sci-tech innovation enterprise, China Mobile has been seizing the opportunities to expand our information services, furthering the development strategy to build a world-class dynamic “Powerhouse”, advancing our “5G+” plan and the comprehensive and integrated development of our CHBN markets, leveraging technological innovation to foster a new growth model driven by information technology and data, and finally comprehensively promoting digital-intelligent transformation.

We strictly abide by relevant tax laws and regulations in China and all locations where we operate or get listed, acting with integrity and paying taxes as required by law. We also keep up to date with any changes in relevant tax laws, regulations and policies, ensuring that all taxes and fees are paid in full.

Actions and performance

Indicators (unit)	2019	2020	2021
Operating Performance			
Operating revenue (RMB billion)	745.9	768.1	848.3
Taxes paid (RMB billion)	35.3	34.2	35.9
Service Scale			
Number of total mobile customers (million)	950	942	957
Number of 4G customers (million)	758	775	822
Number of 5G package customers (million)	/	165	387
Number of wireline broadband customers (million)	187	210	240
Number of corporate customers (million)	10.28	13.84	18.83
Number of IoT smart connections (million)	884	873	1,049
Network Scale			
Number of 4G base stations (thousand)	3,090	3,280	3,320

Indicators (unit)	2019	2020	2021
Number of 5G base stations (thousand)	/	390	740
Number of cities with NB-IoT	347	337	337
5G SA average download speed (Mbps)	/	>750	>750
Internet backbone bandwidth (Tbps)	302	347	456
International Services			
Number of countries and regions covered by our data roaming services	247	255	264
Number of countries and regions with 4G international roaming services	191	207	212
Number of countries and regions with 5G international roaming services	/	33	51
International transmission bandwidth (G)	70,855	90,898	105,683
Year-on-year decrease in international data roaming tariff (%)	32.62	28.92	8.56

R&D and Innovation

Management approach

We push for continuous technological upgrades, business transformation and business model innovation. With the “One System and Four Rings” technological innovation layout, we fully engage all the business segments in R&D planning, the commercialization of R&D output and R&D effectiveness evaluation to better serve industrial transformation and upgrading and high-quality development. We continue to strengthen the protection of intellectual property (IP) rights and promote employee awareness of IP protection and have held the Intellectual Property Awareness Week for 12 consecutive years.

Actions and performance

As of the end of 2021, we had cumulatively obtained over 3,900 registered copyrights and over 7,500 registered trademarks, and our international trademarks were certified in over 100 countries/regions. In 2021, the “Centralized, Standardized and Coordinated Digital-Intelligent Contract Management Platform” established by the Parent Company won the second prize of the 28th National Enterprise Management Modernization Innovation Achievements.

Indicators (unit)	2019	2020	2021
R&D and Innovation			
R&D expenses (RMB million) ¹	2,843	4,898	6,676
Number of patent applications	2,683	3,497	4,760
Number of newly granted patents	1,384	1,659	1,886

Indicators (unit)	2019	2020	2021
Open Cooperation			
Number of enterprises served by full-volume capabilities (thousand) ²	>440	>480	>540
Average number of daily authentication processes carried out on the mobile authentication platform (million)	1,212	1,444	1,777
Number of developers on OneNET	148,642	197,582	247,507
Number of enterprises on OneNET	11,825	13,917	15,049
Number of devices connected to OneNET (thousand)	160,927.7	186,280.3	216,471.7
Number of developers on Andlink	115,900	131,200	153,300
Number of enterprises on Andlink	1,000	1,200	1,384
Number of GTI operator members	136	139	140
Number of GTI industry partners	237	247	251
Number of China Mobile's Smart Home Cooperation Alliance members	230	360	473
Number of China Mobile's IoT Alliance members	1,400+	1,664	1,743
Entrepreneurship			
Investment in innovation and entrepreneurship support (RMB million)	88.30	69.69	56.92
Number of users of the innovation and entrepreneurship platform (thousand)	161	171	179
Number of projects created from innovation and entrepreneurship events	3,183	3,468	3,528
Number of teams participating in innovation and entrepreneurship events	2,817	4,112	3,616
Number of teams participating in "HeChuang Incubation"	128	141	191
Number of people participating in "HeChuang Incubation"	517	577	645

Indicators (unit)	2019	2020	2021
Number of jobs created (million)	2.68	2.16	2.17

Notes:

1.This data does not include depreciation and amortization and employee benefit and relevant expenses related to research and development.

2.This data includes the number of companies served by our communications capability open platform, mobile authentication service, CM Pay service and IoT link service, among other China Mobile services.

Business Ethics and Anti-Corruption

Management approach

We institutionalize every facet of our anti-corruption and integrity efforts. We printed and distributed responsibility checklists and seven annual task lists, to ensure that each unit takes its responsibilities and makes contribution from its perspective.

The reporting channels at China Mobile include: mailing address (address: Building A, 29 Financial Street, Xicheng District, Beijing, China, 100033); on-site supervision and inspections; general manager mailbox is also open to employees and the public to report any violations or illegal conduct.

Actions and performance

Integrity management: We formulated guidelines for embedded integrity risk prevention and control and strengthened accountability for duty fulfillment, risk prevention and control, risk management, and risk monitoring; established an integrated management platform for embedded risk prevention and control, building and piloting early warning models in key vulnerable areas at the grassroots level by technological means; comprehensively standardized and controlled integrity risk points and implemented layered and graded integrity risk prevention and control efforts. In 2021, we added/revised 9,762 prevention and control measures, called off 1,089 illicit projects, and reassigned 623 employees in key positions.

Integrity training: We carried out Anti-Corruption and Integrity Education Month activities, with a focus on studying the Company's requirements for integrity building and anti-corruption efforts and learning about non-compliance cases. During the campaign, we organized 11,300 learning sessions of various types, covering over 90% of our employees.

Indicators (unit)	2020	2021
Anti-corruption education events held during the year ¹	11,947	11,390
Anti-corruption education and trainings — participations during the year (person-times) ¹	899,109	786,085

Note:

1.The scope of statistics for relevant indicators covers units in the mainland of China.

Value Chain Management

Management approach

China Mobile adheres to the principles of fairness, impartiality and transparency throughout all stages of procurement management and embeds social and environmental considerations throughout supplier selection, contracting and evaluation.

Ensuring transparent procurement: We have developed the classification and grading standards for closed bid evaluation rooms, unifying the standards, management and arrangement of nationwide evaluation rooms and instituting audio and video recording of the whole evaluation process; eliminated unreasonable restrictions for vendor qualification; facilitated the handling of procurement-related complaints and kept proper records of complaints across the Group.

Reducing procurement risks: We have developed bid evaluation aids to improve the review efficiency and reduce the risk of information leakage and human error; built a smart compliance platform to automatically identify contract-breach risks in the procurement process.

Grading suppliers: We break down our suppliers into the four levels of A, B, C and D by evaluating their compliance performance, comprehensive strengths and effectiveness of cooperation. We incorporate CSR factors into supplier grading and exclude suppliers with major violations or illegal conduct from the *China Mobile Premium Supplier List*.

Implementing responsible procurement: We incorporate suppliers' certification to ISO 9001 (Quality Management System), SA 8000 (Social Accountability Standards), ISO 45001 (Occupational Health and Safety Management System), ISO 14001 (Environmental Management System) and other standards into the criteria for supplier qualification review, dynamic quantitative assessment and comprehensive strengths evaluation. We require all suppliers to sign an integrity pledge online and, by formulating the *China Mobile Supplier Cooperation Guide*, we require cooperative suppliers to fulfill their tax obligations, pay social insurances, and comply with laws and regulations regarding lawful employment, labor protection, occupational health and safety, social responsibility and environmental protection, among other areas.

Strengthening quality review: We have formulated the *China Mobile Implementation Rules for Tier 1 Centralized Procurement Supplier Information Verification* to verify the basic information, qualifications, performance and other information of our cooperative suppliers to prevent procurement risks; we have formulated the *China Mobile Implementation Rules for Tier 1 Centralized Procurement Quality and Contract Fulfillment* and the *China Mobile Centralized Procurement Quality Management Measures* and strengthened quality management through a mix of on-site quality inspections, inspections on arrival and unannounced inspections.

Fostering win-win partnerships: We organize Supplier Service Day activities to raise suppliers' awareness about business integrity and green procurement requirements, among other areas.

Actions and performance

In 2021, our open procurement rate reached 99%. We built 884 bid evaluation rooms and evaluated over 2,200 projects remotely. Our online compliance training for all personnel involved in procurement activities covered about 5,000 people.

Indicators (unit)	2019	2020	2021
Number of centralized procurement suppliers	12,278	13,133	20,600
Number of suppliers in Eastern China	/	4,159	6,074
Number of suppliers in Northern China	/	1,889	3,292
Number of suppliers in Central China	/	1,911	1,909
Number of suppliers in Southern China	/	1,542	2,391
Number of suppliers in Southwest China	/	1,449	2,169
Number of suppliers in Northwest China	/	1,053	2,286
Number of suppliers in Northeast China	/	1,130	2,479
Number of suppliers overseas	/	0	0
Number of tier 1 centralized procurement suppliers	897	818	842
Percentage of local suppliers in tier 1 centralized procurement suppliers (%)	100	100	100
Number of tier 2 centralized procurement suppliers	11,930	12,851	20,432
Percentage of local suppliers in tier 2 centralized procurement suppliers (%)	55.20	83.93	62.92
Number of information verifications on tier 1 centralized procurement suppliers	2,268	2,156	2,312
Percentage of cooperative tier 1 suppliers verified (%)	100	100	100
Number of on-site supplier verifications conducted	1,330	1,107	1,784
Number of registered experts in e-procurement and bidding system	120,236	129,420	133,824
Number of experts in China Mobile procurement evaluation expert pool	55,597	53,886	50,617

Protection of Cybersecurity, Information Security and Privacy

Management approach

Cybersecurity remains a top priority at China Mobile, as outlined in the *China Mobile Cybersecurity Work Assessment and Accountability Measures (Provisional)*, the *China Mobile Cybersecurity Leadership Team Meeting System* and a number of other policies. We have also set up a cybersecurity leadership team headed by the Chairman of the Board of Directors to strengthen Board-level supervision and leadership over cybersecurity efforts. Based on the *China Mobile Management Measures for Cybersecurity Threat Monitoring and Control* and the *China Mobile Cybersecurity Emergency Response Plan*, we have drawn up the *China Mobile Implementation Rules for Cybersecurity Risk Monitoring and Control*. It details the workflow of cybersecurity warning, investigation, remediation, etc., further improving the Company's cybersecurity management system and forming a closed loop of standardized and systematic management of cybersecurity risks.

Actions and performance

Information infrastructure security: We optimized five guidelines, including the *China Mobile Guidelines for Cybersecurity Protection in Communications Network Critical Information Infrastructure*, and drew six security risk maps of communications network critical information infrastructure; commissioned a national control team to conduct security risk analysis on our communications network critical information infrastructure to help us identify and address hazards in a timely manner and better guard critical information infrastructure against security risks. In 2021, the Company's information security, network and IT systems were classified and recorded by the MIIT's communications cybersecurity protection management system, which brought our classification and record-keeping rate of critical information infrastructure to 100%.

Data and information security: We issued the *China Mobile Guidance on Data Security Classification and Grading and Important Data Control*, leveling up requirements for the identification, classification and graded protection of data assets across the Company; inspected the data security work in 31 provinces on-site and carried out security assessments on 443 businesses throughout the year; investigated external data cooperation businesses and subjected all to regular security audits as required; comprehensively investigated data security risks in systems, processes, account access, security audits, etc. and addressed all the risks identified.

Customer information protection: We revised and optimized the *China Mobile Work Rules for Smart Terminal and Application Security Management*, incorporating violations covered in the *Measures for Determining Illegal Collection of Personal Information by Apps* into the evaluation requirements and tests to guide the security management of our own Apps; formulated the *China Mobile Regulations for the Scope of Necessary Personal Information for Common Types of Mobile Applications*, defining the minimum necessary scope of personal information to be collected by the Company's commonly used Apps, based on which the units would determine the legitimacy of permission collection.

Cybersecurity training: We provided cybersecurity training. For example, the offline training program "LiYing Plan" provided the "Mount Tai Team" of cybersecurity experts with capacity

building on the four topics of "cybersecurity breach prevention and response", "data security protection and management", "cybersecurity emergency response" and "security system planning and construction"; the "5G Shield" online training program provided training for our 5G network maintenance staff, security administrators, etc. in areas like legal compliance awareness about cybersecurity, network cloud security capabilities, 5G architecture and security risks, and 5G data security protection. In 2021, we conducted more than 10 training sessions, including those for cybersecurity certification and for hands-on cybersecurity, recording over 1,000 participations, and our nationwide security practitioners held over 1,000 certifications.

In 2021, there were no major cybersecurity incidents or information leaks at the Company.

Indicators (unit)	2019	2020	2021
Emergency Communications Support			
Number of emergency communications support	6,800	4,887	6,173
Significant political/economic event support	6,658	4,602	5,620
Significant natural disaster support	124	204	304
Significant accident or catastrophe support	16	32	44
Public health incident support	0	47	192
Social safety incident support	2	2	13
Number of emergency vehicles deployed (vehicle-times)	7,931	7,064	8,709
Number of emergency support equipment installed (set-times)	27,755	11,455	10,549
Number of personnel involved in emergency support (person-times)	259,807	264,102	212,317
Spam Management			
Number of scam phone numbers handled	10,500	126,065	150,589
Average number of spam SMS and MMS messages blocked per month (billion)	0.40	0.36	0.52
Average number of illegal RCS messages handled per month (billion)	35.7	29.0	49.9
Average number of illegal 5G messages handled per month (billion)	/	2.5	3.9
Number of nuisance call numbers handled (thousand)	>280	>320	>180
Number of SMS fraud alerts sent (billion)	2.42	5.00	8.19
Number of targeted covert fraud incidents identified and successfully intervened (million)	23.22	35.47	13.01
Number of scam caller ID reminders sent (billion)	2.4	3.6	3.2

Network, Product and Service Quality

Management approach

To ensure coordinated product management, we have set up the Product Management Committee in 2021 to coordinate efforts in CHBN product development and management system optimization. It assists us to fully implement the “five-in-one” product management and operations system, i.e., development, operations, support, sales and service. We integrate quality management into the product operations system, set up a quality report system on key products to further improve our product experience, and also take measures like product experience benchmarking, product optimization tracking, best practice sharing, etc. We continue to upgrade the operations manual for end-to-end product lifecycle quality management, further specifying the control points and quality standards of each part and instituting “usefulness” and “user-friendliness” as criteria for product approval.

For our proprietary brand hardware, all of them must complete pre-delivery inspection (PDI), in-process inspection and quality sampling before shipment. We also conduct random product sampling to ensure quality consistency. For software products, we carry out baseline tests and adoption tests in order to detect and resolve possible problems in time.

Products found nonconforming in our proprietary brand production line will go through factory’s returning and reworking process. The reworked products are only shipped after passing the PDI. Products found nonconforming after sales are repaired by third-parties or returned to the factory if the warranty is still valid. The repaired products can be returned to customers only after passing quality inspections and warehouse inspections.

We also place high value on the compliance management of our basic business. We regulate online marketing with policies that standardize the whole process of marketing activity management: project approval, implementation, resource allocation and outcome review. Every month, we thoroughly audit new marketing activities. We then verify and pinpoint the root of identified problems, for which we develop and implement resolution plans. We have improved marketing activity system control, delivering improved risk control based on a number of processes including an online approval workflow, resource usage tracking, calibration of user targeting accuracy, etc.

Actions and performance

In 2021, we formulated the *Notice on Further Strengthening the Management of Basic Business in the Personal and Home Markets* and the *China Mobile Specifications for Basic Business*, detailing the principles and processes of basic businesses, to eliminate the risk of complaints due to irregular business processes; revised the manual for embedded risks in marketing activities and strengthened the management of worker IDs and approvals during service activities to prevent micro-corruption; carried out dial testing on the service and marketing activities to eliminate breaches; ensured service quality through measures to address problems of great customer concern, such as caller ID spoofing, card reissuance and replacement by non-owners, and service cutoff without notification. In 2021, there were no major quality incidents involving product recalls due to substandard quality.

In terms of network quality, we strengthened targeted 5G coverage, cut down 5G signal interference, and improved the performance of 5G network equipment to continuously improve the user experience of 5G.

Indicators (unit)	2019	2020	2021
Overall user satisfaction (points) ¹	81.99	81.36	81.80
One-time resolution rate of problems over the hotline (%)	88.8	89.4	89.7
Number of customer spam reports handled (million)	1.39	0.85	0.94
Number of customer receptions on General Manager Customer Reception Day (person-times)	141,627	85,493	93,520
Number of complaints and inquiries handled on General Manager Customer Reception Day	126,509	79,336	86,735

Note:

1.The evaluation of overall customer satisfaction in telecom service quality was organized by the MIIT, who also announced the results. The maximum score is 100.

Social Performance

Employment and Compensation

Management approach

In compliance with laws and regulations such the *Civil Code of the People’s Republic of China*, the *Labor Law of the People’s Republic of China*, and the *Labor Contract Law of the People’s Republic of China*, we have formulated the *Labor Management Regulations*, the *Management Measures for Labor Dispatch Unit Cooperation* and other policies. We use them to stipulate requirements regarding labor contracts, forms of employment, recruitment, working hours and vacations, and many other areas. We implement unified management of contract employees and dispatched workers and work to create a fair, equitable, flexible, efficient, harmonious and stable culture of employment.

In terms of compensation, along with a set of policies such as the *China Mobile Guidelines for Employee Compensation Management*, the Parent Company has built a salary system and an employee management system with 19 job grades. We work to broaden employees’ career development paths and establish sound expert development channels. We have standardized the internal income distribution structure for different grades, mandating the principle of weighting pay towards backbone and frontline employees, to ensure fair, orderly and effective distribution.

As regards employee analysis and management, we carry out a regular employee structure analysis on all of our business segments and key areas plus a monthly analysis on employee turnover. We do so to effectively retain backbone employees and facilitate talent exchange, training, reskilling and upskilling.

Actions and performance¹

Employment: The *Civil Code of the People's Republic of China* officially enacted in 2021 further detailed management requirements on a range of topics such as labor contract signing and employee on-boarding and off-boarding. We invited experts to give a detailed explanation of the provisions related to corporate management of labor and employment to ensure legitimate and compliant labor management on the part of relevant personnel. We broadly attracted high-caliber college graduates to meet our needs of talent transformation.

Compensation: We put more compensation resources towards results delivering, value creation, sectors under transformation, key talents and frontline employees. We also required the average pay raise of managers to be lower than that of all employees and the average pay raise of head office employees of all units to be lower than that of all of their employees. We awarded RMB1 billion to above-target results deliveries and to special incentive funds and continued to improve our special incentives such as innovation incentive, periodic payments and annuities for outstanding employees.

Indicators (unit)	2019	2020	2021
Total number of employees	456,239	454,332	449,934
Number of full-time employees	456,239	454,332	449,934
Number of part-time employees	0	0	0
Number of employees in the mainland of China	454,298	451,963	447,849
Number of employees in Hong Kong, Macau, Taiwan and overseas markets	1,941	2,369	2,085
Percentage of employees under 30 years of age (%)	19.76	17.24	14.70
Percentage of employees between 30 and 50 years of age (%)	75.33	77.30	79.15
Percentage of employees over 50 years of age (%)	4.91	5.46	6.15
Percentage of technical personnel (%)	27.13	29.06	34.87
Percentage of marketing personnel (%)	53.27	51.22	47.20
Percentage of management personnel (%)	7.51	7.58	7.02
Percentage of general affairs personnel (%)	10.64	10.71	9.98

Indicators (unit)	2019	2020	2021
Percentage of other personnel (%)	1.45	1.43	0.93
Number of new employees	23,727	19,243	15,775
Number of new female employees	10,122	7,398	6,032
Number of new male employees	13,605	11,845	9,743
Number of resigned employees	13,161	10,044	11,376
Number of female resigned employees	7,375	5,024	5,173
Number of male resigned employees	5,786	5,020	6,203
Number of employees dismissed	1,401	1,131	1,620
Number of female employees dismissed	949	711	991
Number of male employees dismissed	452	420	629
Employee turnover rate (%) ²	/	2.21	2.53
Turnover rate of employees under 30 years of age (%)	7.26	6.03	8.93
Turnover rate of employees between 30 and 50 years of age (%)	2.07	1.50	1.52
Turnover rate of employees over 50 years of age (%)	1.09	0.29	0.18
Female employee turnover rate (%)	3.00	2.07	2.17
Male employee turnover rate (%)	2.75	2.37	2.93
Turnover rate of employees in the mainland of China (%)	/	2.05	2.28
Turnover rate of employees outside the mainland of China (%)	/	16.75	23.95

Notes:

1. The workforce composition and employee turnover indicators are calculated based on the number of employees at the end of the year.
2. The employee turnover rate by category was calculated by the number of employees in the category who voluntarily resigned divided by total number of employees in the category.

Diversity and Non-Discrimination

Management approach

China Mobile is committed to gender equality in employment. We comply with applicable rules and regulations, including the *Special Rules on the Labor Protection of Female Employees*. We uphold fairness, openness and impartiality in hiring. We object to and take measures to avoid discrimination of any form at the workplace. The *China Mobile Recruitment Management Measures* mandates openness, transparency and fairness during recruitment, and we develop recruiting requirements scientifically and reasonably according to the specific positions. We strictly prohibit discrimination based on race, ethnicity, gender, religion, height, appearance and other factors, as well as the setting of recruiting requirements unrelated to the job duties.

We make a point of bringing in talent of different genders and age groups, and in the meantime, given the same competence, we give priority to college graduates from ethnic regions and areas that have just been lifted out of poverty. We also provide jobs for retired soldiers and demobilized army cadres who meet the government's placement requirements. We lay down specific requirements for promoting equal opportunity and employee diversity by continuously improving the employment management system and the workplace discrimination supervision and notification mechanism to create an equal, diverse and inclusive work environment.

Actions and performance¹

Indicators (unit)	2019	2020	2021
Percentage of female employees (%)	53.94	53.30	52.88
Percentage of female employees in senior management positions (%)	16.40	16.55	16.48
Percentage of ethnic minority employees (%)	7.07	7.15	7.24

Note:

1.The diversity indicators are calculated based on the number of employees at the end of the year.

Occupational Health and Safety

Management approach

The Parent Company has set up the Workplace Safety Committee to strengthen risk control over workplace safety, avoid safety accidents, and keep employees safe and healthy. Based on the *Workplace Safety Record Management Regulations* and the duty list of production safety accountability system for construction positions, we manage workplace safety through a safety accountability system and safety management system, education and training, hazard investigation and elimination, strengthened management of business partners, emergency drills, etc. and explore the establishment of a graded construction safety risk control mechanism.

Actions and performance

We built the "Workplace Safety Supervision and Inspection Management Platform" and "Workplace Safety Management Statistics Platform", using technological means to improve the precision and efficiency of safety management. We also revised the *Knowledge Manual for Safety Managers* and enabled safety managers to learn and take tests on the Online Talent Development Center. We developed the *Compilation of Basic Knowledge for Workplace Safety Education and Training for China Mobile Employees* to provide a professional and standard syllabus of training.

In 2021, we provided 6,841 safety training sessions with 290,000 participations. We distributed 530,000 copies of educational materials, sent 250 million SMS, MMS and WeChat messages on safety on occasions like the national Workplace Safety Month to raise public awareness of safety.

Indicators (unit)	2019	2020	2021
Number of safety emergency drills ¹	1,230	1,233	11,170
Investment in workplace safety (RMB million)	2,407	2,488	2,303
Employee's participation rate in safety emergency drills (%)	86.3	87.1	94.3
Accident fatality rate per 1,000 employees (%)	0	0	0.002
Number of fatalities due to workplace safety incidents ²	0	0	1
Lost days due to work injury	/	31,331	39,611

Notes:

1.Because of COVID-19, we avoided large gatherings in 2021 and conducted drills of smaller groups instead, which led to higher frequency.

2.A traffic accident that occurred at the Ali Branch of Xizang subsidiary in July 2021 resulted in the death of one contract employee.

Development and Training

Management approach

Guided by the "Powerhouse" strategy, we place focus on the leadership skills, reskilling and professional qualifications of our employees. Aiming for "new, targeted and practical" training, we invest in capacity building, offering both offline demonstration classes and extensive online sessions, combining training with practice, and providing opportunities for our employees to learn and hone their professional skills and participate in competitions. By doing so, we continue to make our training more opportune, strategic, systematic, targeted and effective and use it to catalyze our transformation.

Actions and performance¹

Implementing the “Helm” Leadership Development Program: We released the *China Mobile Leadership Training N⁵ Model* and a matching curriculum system in alignment with the “20-character standards”. We used the model to inform a targeted training plan. For example, we highlighted strategic management and macro control in the rotation training for our executives and pioneered the “team breakthrough” action learning approach, where we used the discussion results to inform management decision-making, thus maximizing the role of training in facilitating the Company’s transformation; for middle-level managers and non-management employees, we highlighted strategy comprehension and implementation, and encouraged the learning of new technologies and sharing of grassroots practices and experience of innovation, thus boosting the role of innovation in catalyzing digital-intelligent transformation.

Promoting the “New Drivers Capacity Enhancement” Package Plan: Aiming for Group-wide knowledge empowerment, we implemented the “All-Hands Smart Mid-End Platform” and “All-Hands Products” empowerment campaigns in alignment with the Company’s strategic and overall mission requirements. We strengthened mid-end platform capability application to ensure that all of our employees knew, understood and promoted our products. In terms of core talent reskilling, we organized the “Cloud Reform” and 5G core technical personnel training and certification. We also launched security and software development reskilling programs to drive the internalization of key core capabilities. In terms of capacity building for frontline personnel, we focused on key positions of grassroots grid administrators, and with the “Navigation” qualification program, set up a unified qualification system and undertook the first grid administrator certification across the Group. We organized the “Diversification and Empowerment” grid learning campaign, spreading best grid practices based on the centralized co-learning mode. In terms of senior group account managers and smart home engineers, we hosted capacity building training. For new employees, we conducted the “Sailing Plan” orientation program. We fully utilized the Group-level training bases to offer series training programs that could cultivate practical “seed players” in 5G, DICT, cloud and other technical areas.

Creating the unique Online Talent Development Center: In 2021, we continued to upgrade the core service capabilities of our Online Talent Development Center and enabled toll-free data and team learning on the China Mobile Online Talent Development Center App, providing features like speed control, audio play and live streaming to facilitate the study of non-management employees; hosted 484 network maintenance personnel certificate tests, recording over 413,000 participations; offered 94 mobile cloud sales certifications, recording 29,000 participations; improved the relevance and effectiveness of online training through intelligent applications like intelligent customer service, intelligent search and intelligent recommendations.

Indicators (unit)	2019	2020	2021
Training expense per employee (RMB)	2,004	1,730	2,115
Number of training participations (person-times, thousand)	1,825	1,483	1,242

Indicators (unit)	2019	2020	2021
Number of senior management participations (person-times)	1,237	856	1,275
Number of middle-level management participations (person-times)	22,357	20,923	20,214
Number of non-management employee participations (person-times, thousand)	1,802	1,461	1,221
Average training hours per employee	105.7	131.3	142.4
Average training hours per senior manager	107.4	107.0	137.9
Average training hours per middle-level manager	114.2	188.6	179.3
Average training hours per non-management employee	105.6	130.7	141.8
Training participation rate of senior management (%)	98.7	99.2	100
Training participation rate of middle-level management (%)	95.8	98.4	99.7
Training participation rate of non-management employees (%)	98.6	99.4	98.9
Training participation rate of female employees (%)	/	99.8	98.8
Training participation rate of male employees (%)	/	98.9	99.2
Average training hours of female employees	/	125.7	134.7
Average training hours of male employees	/	137.7	153.1
Total number of Online Talent Development Center users (thousand)	460	481	473
Average learning hours of Online Talent Development Center users	65.3	104.3	113.4
Number of mobile Online Talent Development Center learners (thousand)	368	378	339

Note:

1. The scope of statistics for training-relevant indicators covers units in the mainland of China.

Labor Rights Protection

Management approach

In compliance with the *Labor Law of the People's Republic of China*, the *Provisions on the Prohibition of Using Child Labor*, and other applicable laws and regulations, we strictly prohibit the use of child labor and forced labor. We guarantee such compliant labor practices through a mixture of monthly monitoring and quarterly notification system and random inspections.

We foster workplace democracy. We explicitly require the formation, revisions or decisions regarding any rules and regulations or major issues affecting employees' vital interests be determined through discussions with employee representatives or all members of the staff: proposals and opinions should be put forward and subject to decision in consultation with the labor unions or employee representatives in a fair and equal manner. The final decisions on the rules, regulations and major issues affecting employees' vital interests must be made public.

Actions and performance

In 2021, we further facilitated the communications channels within the Company for our employees to speak up. Labor unions at different levels all set up a labor union president mailbox based on their respective circumstances, with clearly defined scope of duties and mail handling and reply process that encouraged and supervised the handling of overdue letters, and improved the tracking of follow-up measures.

Meanwhile, we developed a number of initiatives focused on safeguarding female employees. For example, labor unions at different levels continued to implement the "Women Contribution" campaign, encouraging female workers to actively contribute to the 14th FYP; the "Women Rights Defense" campaign continued to improve the ability to serve female employees and defend their legitimate rights; the ongoing "Women Care" campaign prompted female employee organizations at different levels to secure adequate services for female employees and help solve their difficulties at work and in life; with the "Women Growing" campaign, we continued to make female employee organizations more vibrant and powerful. In 2021, the percentage of female employees at the headquarters who returned to work after maternity leave was 100%.

Indicators (unit)	2019	2020	2021
Number of CEO Mailbox emails and letters	903	573	540
Percentage of unionized contract employees (%)	100	100	100
Percentage of unionized dispatched workers (%)	98	98	98
Collective bargaining agreement coverage rate (%)	100	100	100
Employee health examination rate (%)	97	97	97

Local Communities

Management approach

In collaboration with the Parent Company, China Mobile continues to assist the designated impoverished population by providing education and financial support, boosting their confidence, skills, livelihoods and local industries, and helping them produce and sell products, thus consolidating their achievements in poverty alleviation. During the 14th FYP period, we will rely on the "Seven Assistance Measures" and the "Seven Rural Digital-Intelligence Projects" to advance the construction of digital-intelligent villages. By continuing to keep in place relevant responsibilities, policies, assistance and supervision, we will maintain stable levels of assistance in terms of system construction, measures and volume, and help assisted areas consolidate and expand the results of poverty alleviation in terms of talent, capital, skills and confidence, consumption, industry, and people's livelihood. At the same time, we will expand our offering of online, cloud-based and intelligent products in areas like new rural infrastructure, industry, governance, education, healthcare, culture and finance to provide farmers, rural families and agricultural enterprises with high-quality and efficient IT services, thereby boosting the revitalization of industries, talent, culture, ecology and organization in rural areas.

We also remain a responsible organization overseas, where we give back to local communities by continuously expanding our reach and information service offerings and becoming more locally engaged.

Actions and performance

Rural revitalization and public welfare: The Parent Company released the *Digital-Intelligent Rural Revitalization Plan Whitepaper* and the *China Mobile "Network+" Poverty Alleviation Documentary Report*, fully upgrading the "Network+" poverty alleviation model into the "Network+" rural revitalization model. China Mobile's philanthropy platform was approved by the Ministry of Civil Affairs as one of the third batch of online fundraising information platforms so it could provide carrier-grade support for charity development. We continued to undertake the "Heart Caring" campaign and the "Blue Dream" project, and all the provincial subsidiaries and affiliated units were actively engaged in charitable activities and volunteer services.

CSR fulfillment overseas: In 2021, China Mobile International carried out volunteer activities, such as heart-warming activities during COVID-19 and holiday gatherings on the Spring Festival and Mid-Autumn Festival, to bring care to the community. In 2021, China Mobile International won the Hong Kong "Caring Company Award" for the fourth consecutive year and the *HR Asia's "Best Companies to Work for in Asia 2021"* award for the third time, among others.

Indicators (unit)	2019	2020	2021
Public Welfare Activities			
Total number of registered employee volunteers (thousand)	122.9	131.1	113.1
Total employee volunteer hours (thousand)	615.1	945.2	806.2

Indicators (unit)	2019	2020	2021
Cumulative number of impoverished children who received free CHD screenings	54,968	58,607	61,898
Cumulative number of impoverished children who received free CHD treatment	5,973	6,574	7,069
Cumulative investment in "Blue Dream" (RMB million)	177.3	197.8	219.8
Cumulative number of multimedia classrooms built	2,863	3,380	4,029
Cumulative number of rural primary and secondary school principals trained	127,338	128,338	129,338
Cumulative external donations made by China Mobile Charity Foundation (RMB million)	355.90	388.40	421.10
Local Impact			
Percentage of local employees in Hong Kong subsidiary (%)	88.5	88.1	86.5
Percentage of local management-level employees in Hong Kong subsidiary (%)	66.7	63.9	65.0

Environmental Performance

GHG Emissions and Energy Consumption

Management approach

The Company is highly electrified, with 97% of the energy consumption being electricity and the indirect carbon dioxide emissions from the use of electricity accounting for over 95% of total emissions. As such, the Company mainly reduces GHG emissions by curbing the growth of electricity consumption and increasing the use of renewable energy. We have built a circular management system on the three pillars of target setting, close monitoring and continuous improvements. We use the system to implement energy efficiency measures throughout our production and operations processes, promoting energy efficiency, and low-carbon and green development.

We keep up to date with national policies and regulations regarding the carbon peaking and carbon neutrality goals. In 2021, we identified concrete measures in line with relevant requirements, releasing the *China Mobile Energy Efficiency Management Measures* and the *China Mobile Management Measures for Ecological Pollution Risk Prevention and Control*. We

develop specific assessments every year to ensure full compliance with the latest national standards and norms.

Actions and performance

In 2021, we published the *China Mobile 5G Network Energy Efficiency Technology Application Guidance (2021 Edition)* and the *Notice on 2020 Green Data Center Evaluation Result Announcement* to foster the adoption of technological innovations in 5G network energy efficiency and build low-carbon, green data centers.

We issued a headquarters' energy saving and emission reduction proposal, calling for reduced electricity use in elevators, green travel, timely power shutdown, optimized heat supply and reasonable temperature for daily hot water, to reduce the consumption caused by thermal power operations.

Indicators (unit)	2019	2020	2021
GHG Emissions			
Total CO ₂ emissions (million tonnes) ^{1,2}	/	34.15	33.82
Direct GHG emissions (Scope 1) (million tonnes)	/	0.24	0.24
Indirect GHG emissions (Scope 2) (million tonnes)	/	33.91	33.58
Carbon emissions intensity (tCO ₂ e/RMB10,000)	/	0.445	0.399
SO ₂ emissions (tonnes) ³	9.28	2.75	11.36
Carbon emissions from employee commuting (thousand tonnes)	507.7	438.8	402.4
Carbon emissions from business travel (thousand tonnes)	81.9	57.6	47.2
Direct Energy Use			
Natural gas consumption (million m ³)	11.0	8.5	13.4
LPG consumption (thousand tonnes)	0.23	0.13	0.16
Coal gas consumption (million m ³)	0.08	0.07	0.01
Coal consumption (thousand tonnes)	0.5	0.1	0.5
Gasoline consumption (million liters)	101.3	83.3	84.7
Diesel fuel consumption (million liters)	13.1	16.1	10.5

Indicators (unit)	2019	2020	2021
Indirect Energy Use			
Total electricity consumption (TWh)	/	54.919	57.038
Purchased heat (thousand GJ)	3,672	3,633	4,046
Energy Conservation			
Total electricity saved (TWh)	2.21	2.51	4.35
Equivalent to reducing GHG emissions by (thousand tonnes)	1,415	1,551	2,654
Reduction in overall energy consumption per unit of data traffic (%)	43	21	21
Number of inter-provincial video conferences organized by the headquarters	1,184	762	970

Notes:

- Carbon dioxide (CO₂) is the only type of GHGs generated in our operations, and over 95% of our CO₂ emissions come from the use of electricity. CO₂ emissions are calculated mainly in accordance with the *Guidelines for National Greenhouse Gas Inventories* issued by the Intergovernmental Panel on Climate Change (IPCC) of the United Nations in 2006, and the greenhouse gas emission factors for 2019 as well as the grid emission factor for 2021-2022 issued by the Ministry of Ecology and Environment of the People's Republic of China.
- With the official launch of the "C² Three Energy — Carbon Peaking and Carbon Neutrality Action Plan" in 2021, we updated the scope of statistics on energy consumption and recalculated the electricity consumption and CO₂ emissions of 2020 accordingly.
- SO₂ is the main type of emissions generated in our operations, mainly from heating and coke consumption in certain regions. There was a slight increase in the coke consumption of our Xizang subsidiary in 2021.

Waste Discharge

Management approach

The Company continues to strengthen the management of various types of solid waste and abide by relevant national laws and regulations in all stages and areas of storage, transportation and disposal, to prevent and control environmental risks and continuously enhance the comprehensive utilization rate.

Actions and performance

Indicators (unit)	2019	2020	2021
Waste ^{1, 2, 3}			
Non-hazardous solid waste produced (thousand tonnes) ⁴	71.4	63.2	76.7
Non-hazardous solid waste comprehensively utilized (thousand tonnes)	72.1	69.4	78.8

Indicators (unit)	2019	2020	2021
Non-hazardous solid waste carryover from previous years comprehensively utilized (thousand tonnes)	5.1	11.7	4.5
Comprehensive utilization rate of non-hazardous solid waste (%) ⁵	93.93	91.32	96.89
Non-hazardous solid waste intensity (kg/RMB10,000)	0.96	0.82	0.90
Hazardous waste produced (thousand tonnes) ⁶	18.9	17.8	21.0
Hazardous waste disposed of (thousand tonnes)	21.7	22.6	23.5
Hazardous solid waste carryover from previous years disposed of (thousand tonnes)	5.8	6.1	3.5
Disposal rate of hazardous waste (%) ⁷	84.30	92.06	95.45
Hazardous waste intensity (kg/RMB10,000)	0.25	0.23	0.25
Material Use			
Total amount of materials used for producing end products (tonnes)	12,396	12,899	14,521
Amount of packaging materials for producing end products per unit of production (tonnes)	0.00041	0.00049	0.00041

Notes:

- In the coming years, China Mobile will strive to reduce the non-hazardous waste, electronic waste and hazardous waste produced in the operating and marketing activities. However, it is not easy to set a quantified goal for the time being given that the amount of waste produced in network operations is directly related to the rapid development of the internet as well as the continuous updates and upgrades of equipment.
- Since 2019, we have updated and standardized the scope for the statistics of different types of solid waste in accordance with the requirements of the *Notification on Issuing the Statistical Report on Energy Conservation and Ecological Environmental Protection of Central State-owned Enterprises* issued by the SASAC, supervisor of the Parent Company. We will disclose new indicators on a rolling basis every year.
- Our operations generate three types of solid waste: non-hazardous waste, electronic waste and hazardous waste. In line with relevant environmental requirements, retired fixed assets that constitute hazardous waste are stored separately from general retired fixed assets, and managed and transferred accordingly.
- Non-hazardous waste mainly includes household waste, kitchen waste, office and marketing waste paper or packaging, construction waste, etc.; electronic waste mainly refers to electronic components and equipment replaced in base stations and server rooms and scrapped printers, copiers, fax machines, computers and other equipment in the office. Non-hazardous waste and electronic waste are collectively referred to as non-hazardous solid waste.
- The comprehensive utilization rate of non-hazardous solid waste refers to the amount of non-hazardous solid waste comprehensively utilized minus the amount of non-hazardous solid waste carryover from previous years comprehensively utilized and then divided by the total non-hazardous solid waste produced during the reporting period.

6. Hazardous waste mainly includes waste bare circuit boards and batteries, etc. in base stations and server rooms, scrapped printer toner cartridges, ink cartridges, fluorescent tubes, etc. in the office area, dysfunctional cell phones and other smart terminals, batteries, SIM cards, etc.

7. Hazardous waste disposal rate refers to the amount of hazardous waste disposed of minus the amount of hazardous waste carryover from previous years disposed of and then divided by the amount of hazardous waste generated during the reporting period.

Water Management

Management approach

In compliance with relevant requirements in the *Water Law of the People's Republic of China* and the *Water Pollution Prevention and Control Law of the People's Republic of China*, we continue to strengthen daily water management and strictly control sewage discharge. We endorse water-saving practices, setting the water saving target of "zero growth rate of per capita water availability", and encourage the application of wastewater recycling and reuse technologies to reduce water consumption. The water for our daily operating activities and production mainly comes from the municipal water supply and thus does not contain any water resource risk.

Actions and performance

In 2021, our water withdrawals caused no major impact on water sources.

Indicators (unit)	2019	2020	2021
Total water consumption (million tonnes)	36.29	38.31	43.32
Water consumption intensity (tonnes/RMB10,000)	0.48	0.50	0.51

Environmental Pollution Prevention and Control

Management approach

China Mobile implements national arrangements for winning the battle of pollution prevention and control. The Company specifies the respective responsible departments and puts in place preventive and control measures and emergency response plans for areas of environmental management that are considered risky, such as air, water and soil, solid waste, EMR and noise.

Actions and performance

In 2021, there were no major environmental violations by the Company.

Green Supply Chain

Management approach

The Company plans and implements green procurement initiatives, driving energy saving and emission reduction in the supply chain with actions and technologies, and encourages green innovations in the supply chain.

Actions and performance

We incorporated energy efficiency criteria in equipment bidding and procurement. We prioritized energy saving at the source, strictly controlling the energy consumption and efficiency of equipment admitted into the network. Both of the full-load and no-load power of wireless main equipment procured during 5G Phase III in 2021 decreased by 10% compared with 2020; we applied the calculation of full life-cycle electricity cost into AC procurement, achieving an improvement of 10% from 2020 in the overall end-use energy efficiency of ACs purchased through centralized procurement.

Indicators (unit)	2019	2020	2021
Online sales volume (RMB billion)	563.5	525.2	571.7
Number of e-procurement projects (thousand)	appr. 34	appr. 46	appr. 32
Paper documents saved due to fully digitalized procurement (thousand copies)	appr. 480	appr. 645	appr. 699

Eco-Friendly Products and Services

Management approach

With a rich offering of digital applications and services, the Company works to meet the information needs of industries and individual users to enable improved efficiency in production, life and social governance and drive energy saving and carbon reduction in the wider society.

Actions and performance

Besides great convenience, our rich selection of products, such as MIGU Reading, ViLin, Cloud Life, And-Education and "and-Caiyun", also helped users reduce energy and resource consumption otherwise generated by traditional ways of reading, meeting, entertainment, and learning. We also created digital application demonstrations for multiple industries using DICT solutions, effectively reducing carbon emissions.

Independent Assurance Report



ASSURANCE STATEMENT

SGS-CSTC'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE CHINA MOBILE LIMITED'S 2021 SUSTAINABILITY REPORT

NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION

SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD.(hereafter as "SGS") was commissioned by CHINA MOBLIE LIMITED (hereafter as "China Mobile") to conduct an independent assurance of the Chinese version of China Mobile's 2021 Sustainability Report (hereafter as "the Report"). Online assurance process was executed for Headquarters of China Mobile Limited, China Mobile Hebei Company Limited, China Mobile Guangdong Company Limited, and China Mobile Anhui Company Limited.

The SGS protocols are based upon internationally recognized guidance, including the Principles contained within the GRI STANDARDS for accuracy and reliability and the guidance on levels of assurance contained within the AA1000 series of standards and guidance for Assurance Providers.

This report has been assured at a moderate level of scrutiny using our protocols for:

- evaluation of content veracity
- evaluation of the report against the GRI STANDARDS
- HKEX Environmental, Social and Governance (ESG) Reporting Guide

The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the selected key performance data listed below. Other data and information disclosed were not included in this assurance process. Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

Economic Indicators	Social Indicators	Environmental Indicators
- Number of tier 1 centralized procurement suppliers - Number of tier 2 centralized procurement suppliers - Percentage of local suppliers in tier 1 centralized procurement suppliers - Percentage of local suppliers in tier 2 centralized procurement suppliers - Number of information verifications on tier 1 centralized procurement suppliers - Number of remote rural villages with broadband service newly launched in the "Universal Telecommunications Service Project"	- Number of customer spam reports handled - Number of emergency communications support - Number of emergency vehicles deployed (vehicle-times) - Number of emergency support equipment installed (set-times) - Number of personnel involved in emergency support (person-times) - Number of rural primary and secondary school principals trained in 2021 - Number of impoverished children who received free CHD treatment in 2021 - Number of training participations - Percentage of female employees - Percentage of ethnic minority employees - Total number of new employees - Number of resigned employees - Number of dismissed employees - Number of anti-corruption education activities - Number of participations in anti-corruption education and training	- Total electricity consumption - Natural gas consumption - LPG consumption - Coal gas consumption - Coal consumption - Gasoline consumption - Diesel fuel consumption - Direct GHG emissions (Scope 1) - Indirect GHG emissions (Scope 2) - Carbon emissions from business travel - Carbon emissions from employee commuting - Number of inter-provincial video conferences organized by the headquarters

The China Mobile 's management and relevant functional departments are responsible for the information contained in the Report.

Independent Assurance Report

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all China Mobile's stakeholders.
The assurance comprised a combination of pre-assurance research, online interviews with relevant employees in the China Mobile headquarters and the selected three provincial companies, documentation and record online review and validation with affiliates bodies where relevant.

STATEMENT OF INDEPENDENCE AND COMPETENCE

The SGS Group of companies is the world leader in inspection, testing and verification, operating more than 2,600 affiliates in more than 140 countries. SGS affirm our independence from China Mobile, being free from bias and conflicts of interest with the organization, its subsidiaries and stakeholders.

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

VERIFICATION/ ASSURANCE OPINION

On the basis of the methodology described and the verification work performed, the information and data contained within the Report verified is accurate, reliable and provides a fair and balanced representation of China Mobile sustainability activities in 2021.

The assurance team is of the opinion that the organization has chosen an appropriate option for the reporting and the Report can be used by the Reporting Organization's Stakeholders.

GRI STANDARDS CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

In our opinion the Report is presented in accordance with the core opinion for GRI STANDARDS and fulfils all the required content and quality criteria.

Findings and recommendations

Good practices and recommendations for sustainability report and management process were described in the internal management report which has been submitted to the management of China Mobile for continuous improvement.

Limitations of assurance

Data tracing on headquarters and the selected three provincial companies' level, not including original data of all subsidiaries.

The assurance process only involved interviews with the heads of relevant departments and certain employees of headquarters and the selected three provincial companies as well as consultation with relevant documents. No external stakeholder involved.

Only the key performance indicators selected by China Mobile were involved in the assurance process, and other information in the Report was not involved.

Signed:



For and on behalf of SGS-CSTC

David XIN Director

Knowledge

16/F Century Yuhui Mansion, No. 73, Fucheng Road, Beijing, P.R. China

Mar. 18th 2022

WWW.SGS.COM

About This Report

This report is the 16th sustainability report issued by China Mobile Limited, which focuses on information about our performance in the three spheres of sustainability: economic, social and environmental. This report is an annual report. Unless otherwise specified, the reporting period is from January 1, 2021 to December 31, 2021. Our last Sustainability Report was published in April 2021.

Report Formats

Language: The report is available in both Chinese and English. In case of any discrepancy, the Chinese version shall prevail. The English report is translated from the Chinese version.

Format: The report is available in both print and electronic formats. The electronic format can be downloaded from our website (www.chinamobiletd.com).

Reporting Guidelines

This report draws on current standards and frameworks for sustainability information disclosure and is intended to reflect our industry background and unique business features. The main standards and frameworks we use in 2021 include:

- Hong Kong Stock Exchange (HKEX) *Environmental, Social and Governance Reporting Guide*;
- *United Nations 2030 Agenda for Sustainable Development*;
- *GRI Standards* by the Global Sustainability Standards Board (GSSB);
- *Ten Principles of United Nations Global Compact*;
- The Financial Stability Board (FSB) Task Force on Climate-Related Financial Disclosures (TCFD) Recommendations
- *ISO Guideline on Social Responsibilities (ISO 26000)*;
- *Chinese CSR Report Preparation Guide (CASS-CSR)* issued by the Chinese Academy of Social Sciences.

China Mobile has complied with the “comply or explain” provisions set forth in the *HKEX Environmental, Social and Governance Reporting Guide*. This report has been prepared in accordance with the *GRI Standards: core option*.

Reporting Content and Boundary

Following the principles of “stakeholder inclusiveness, sustainability background, materiality and integrity”, China Mobile determines material issues and boundaries through a materiality analysis. Please refer to page 49 in this report for the process and results of the materiality analysis.

Reporting Scope

Unless otherwise specified, all cases and data in this report are from China Mobile Limited and its subsidiaries.

Currency

All monetary amounts quoted in this report are shown in RMB (*yuan*) unless otherwise stated.

Data and Information Disclosure

The data and information of the 2021 report were mainly collected through:

- Relevant internal data collection systems and statistical reports;
- CSR practice cases submitted by provincial subsidiaries quarterly;
- China Mobile's 2021 excellent CSR practice selection;
- Qualitative and quantitative information collection questionnaires based on the reporting framework.

Report Assurance

In 2021, China Mobile engaged SGS to provide independent third-party report assurance service. See pages 63-64 for the assurance report.

Report Theme and Cover Design

The theme of this report is “Spotlighting Technological Innovation and Leading Digital-Intelligent Development”. It means that the Company will strive to become a world-class enterprise by building a dynamic “Powerhouse” and work towards the “new positioning” of becoming “a world-class information services and sci-tech innovation enterprise”. The Company will continue to pioneer innovations and lead a new wave of IT and business model reforms, serving as the ‘artery’ to help information flow throughout the economy and society, driving the deep integration between digital-intelligent technologies and the real economy through efforts to “promote digital-intelligent transformation and achieve high-quality development”, and empowering industries with a booming digital-intelligent economy. This sums up China Mobile's strategic direction and goodwill for creating a digital-intelligent future together with the stakeholders.



Reader Feedback

If you have any comments or suggestions on this report, you can send your feedback to us in the following ways. We will fully consider your opinions and suggestions and promise to properly protect your information from third-party access.

Email: CR@chinamobile.com

Fax: +86-10-52616167



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Report Disclosure Indexes

HKEX Environmental, Social and Governance Reporting Guide

Subject Areas and Aspects	General Disclosures and KPIs	Page(s)
A. Environmental		
Aspect A1: Emissions	General Disclosure: Information on the policies and 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.	40, 60-62
	A1.1 The types of emissions and respective emissions data.	60
	A1.2 Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	60
	A1.3 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	61
	A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	61
	A1.5 Description of emission target(s) set and steps taken to achieve them.	40-44, 60-62
	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.	61
Aspect A2: Use of Resources	General Disclosure: Policies on the efficient use of resources, including energy, water and other raw materials.	60-62
	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)	60
	A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	62
	A2.3 Description of energy use efficiency target(s) set and steps taken to achieve them.	40-44, 60
	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.	62
	A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	61
Aspect A3: The Environment and Natural Resources	General Disclosure: Policies on minimizing the issuer's significant impacts on the environment and natural resources.	40-44, 60-62
	A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	40-44, 60-62
Aspect 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.	40-42, 60
	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.	40-42, 60
B. Social		
Employment and Labor Practices		
Aspect B1: Employment	General Disclosure: Information on the policies; and 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.	55-59
	B1.1 Total workforce by gender, employment type (for example, full- or part time), age group and geographical region.	56
	B1.2 Employee turnover rate by gender, age group and geographical region.	56

Subject Areas and Aspects	General Disclosures and KPIs	Page(s)
Aspect B2: Health and Safety	General Disclosure: Information on the policies; and 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.	57
	B2.1 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	57
	B2.2 Lost days due to work injury.	57
	B2.3 Description of occupational health and safety measures adopted, and how they are implemented and monitored.	57
Aspect B3: Development and Training	General Disclosure: Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	24, 57-58
	B3.1 The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	58
	B3.2 The average training hours completed per employee by gender and employee category.	58
Aspect B4: Labor Standards	General Disclosure: Information on the policies; and compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labor.	59
	B4.1 Description of measures to review employment practices to avoid child and forced labor.	59
	B4.2 Description of steps taken to eliminate such practices when discovered.	59
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Aspect B5: Supply Chain Management	General Disclosure: Policies on managing environmental and social risks of the supply chain.	44, 53
	B5.1 Number of suppliers by geographical region.	53
	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.	53
	B5.3 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	44, 53
	B5.4 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	44, 53, 62
Aspect B6: Product Responsibility	General Disclosure: Information on the policies; and 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.	19-20, 53-55
	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons	55
	B6.2 Number of products and service related complaints received and how they are dealt with.	19-20, 55
	B6.3 Description of practices relating to observing and protecting intellectual property rights.	51
	B6.4 Description of quality assurance process and recall procedures.	55
	B6.5 Description of consumer data protection and privacy policies, and how they are implemented and monitored.	17, 54
Aspect B7: Anti-corruption	General Disclosure: Information on the policies; and compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	52
	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.	According to regulatory requirements, the relevant data are classified information; further information such as the number of publicized legal cases regarding corruption and the outcomes of the cases can be accessed on the CPC Central Commission for Discipline Inspection's website.
	B7.2 Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	52
	B7.3 Description of anti-corruption training provided to directors and staff.	52
Community		
Aspect B8: Community Investment	General Disclosure: Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	29-38, 59-60
	B8.1 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	29-38, 59-60
	B8.2 Resources contributed (e.g. money or time) to the focus area.	59-60

United Nations Sustainable Development Goals (SDGs)

SDGs	Our Practices	Page(s)
	<ul style="list-style-type: none"> Upgraded the “Network+” poverty alleviation model into the “Network+” rural revitalization model and instituted the <i>14th FYP Digital-Intelligent Rural Revitalization Plan</i>. Contributed to the revitalization of industries, talent, culture, ecology and organization in rural areas with the innovative “Seven Rural Digital-Intelligence Projects”. 	31-34, 59
	<ul style="list-style-type: none"> Accelerated the deep integration of next-generation information technologies, such as 5G, cloud computing, big data, IoT and AI, into agricultural operations and management, optimized agricultural science and technology information services, and pushed forward the digital transformation of agriculture, increasing the yields of and income from agricultural products. 	31
	<ul style="list-style-type: none"> Implemented the “Heart Caring” campaign for 10 consecutive years, providing free screening and treatment for impoverished children diagnosed with CHD, which served to improve medical services and healthcare in impoverished areas. Provided healthcare and physical examinations for employees, carried out EAP, the “Happiness 1+1” program, etc., and protected employee health during COVID-19. 	27-28, 36, 57, 59-60
	<ul style="list-style-type: none"> Launched the “GoTone Blue Dream Public Welfare Program” based on the “Blue Dream” education aid plan to improve basic education in remote rural areas. Innovated different forms and methods of teaching, and developed high-quality training courses for employees of different levels and categories. 	24, 26, 36-37, 57-60
	<ul style="list-style-type: none"> Ensured equal employment and fairness in the workplace. Protected the legitimate rights of female employees with the “Women Contribution”, “Women Rights Defense”, “Women Care” and “Women Growth” campaigns. 	26, 55-57, 59
	<ul style="list-style-type: none"> Continued to strengthen water management at the workplace, advocated water conservation, implemented strict control of sewage discharge and reduced water consumption. 	62
	<ul style="list-style-type: none"> Gradually replaced the use of traditional energy with clean energy through solar power supply and wind-solar complementarity, among other measures suited to local conditions, to push for comprehensive utilization of energy. 	43-44, 60-61
	<ul style="list-style-type: none"> Built a broad career development platform, provided well-established career development paths and formulated/updated special incentive plans. 	24, 26, 55-58
	<ul style="list-style-type: none"> Developed new information infrastructure built on 5G, CFN and smart mid-end platform that offered connectivity, computing force and ability to serve the common need for “online, cloud-based and intelligent” operations. Built the “One System and Four Rings” technological innovation layout; pushed for advances in key technologies and strengthened applied basic research in line with a continued focus on independent innovation. 	5, 8-9, 13-16, 22-24, 51-52
	<ul style="list-style-type: none"> Sped up bridging the digital divide for elderly people, people with disabilities, people living in remote areas, people from different cultural backgrounds and other underserved groups to bring them the benefits of IT and the convenience of a digital-intelligent life. Continued to advance the “Universal Telecommunications Service Project” to reduce inequalities between urban and rural areas. Improved the employment management system to create a more equal, diverse and inclusive work environment. 	29-34, 36-38, 55-57, 59
	<ul style="list-style-type: none"> Built industry-leading 5G pilot projects and developed 5G commercial use cases together with industry partners through the nine industry innovation platforms to drive transformation and upgrades in different industries and achieve cost and productivity benefits and livelihood improvement. Built an integrated government service platform that provided services such as public utilities and basic livelihood support with better service quality and efficiency. 	8-9, 22-24, 45-47, 51-52
	<ul style="list-style-type: none"> Strengthened cybersecurity system and capacity building and improved the cloud-network integrated cybersecurity protection system to protect data security and customer privacy and create a clear and bright cyberspace. Built a service system that covers every aspect of services and processes and engages every member of staff, and launched the “Heartwarming Service” customer service brand to provide trusted customer service based on digital-intelligent abilities. 	8-11, 17-20, 29-30, 44, 52-55
	<ul style="list-style-type: none"> Launched the “C² Three Energy — Carbon Peaking and Carbon Neutrality Action Plan” and established the new green development model of “energy saving, clean energy and empowerment” and “green networks, green energy, green supply chain, green office, green empowerment and green culture”. Worked out “smart environmental protection” solutions, deepened the integration and innovative application of information technology in different industries, and explored IT solutions for green industry transformation to contribute to green social and economic transformation. 	40-47, 60-62
	<ul style="list-style-type: none"> No relevant practice. 	/
	<ul style="list-style-type: none"> Carried out wildlife observation, data collection and analysis, etc. using advanced information and communications technology to contribute to biodiversity conservation. 	45-46
	<ul style="list-style-type: none"> Consolidated accountability, strengthened integrity management, and carried out in-depth integrity education and training. Established a three-level CSR management system of decision-making, organization and implementation that enabled a closed-loop process consisting of strategy management, implementation management, performance management and communication management, thus forming a long-standing CSR agenda. 	6-7, 40, 50, 52
	<ul style="list-style-type: none"> Not applicable. 	/

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For the GRI Content Index Service, GRI Services reviewed that the GRI content index is clearly presented and the references for all disclosures included align with the appropriate sections in the body of the report.



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