



China Unicom adhered to the people-centred value base and fundamental logic, and accelerated the construction of intelligent and comprehensive digital information infrastructure that is high-speed and ubiquitous, cloud-network integration, intelligent and agile, green and low-carbon, secure and controllable, so as to promote regional coordinated development, adhere to network information security, and help build a Cyber Superpower and Digital China.



### Measures adopted in 2021

- Adhering to integrity management and compliance with laws and regulations, the Company achieved remarkable results in anti-corruption.
- The cumulative scale of 5G base stations reached 690,000 and 5G population coverage rate exceeded 60%. Total broadband ports reached 239 million and IoT connections exceeding 300 million.
- The total computing power of the whole network reached 350 PFLOPS, and the high-quality computing power bearing network with low latency was comprehensively upgraded.
- We provided communication support for major national conferences and events such as the “Cloud Diplomacy” and the 2022 Beijing Winter Olympics, and contributed digital intelligence to routine pandemic prevention and control.
- We continued to build an information optical channel to serve the “Belt and Road” Initiative.



### Actions to be taken in 2022

- To deepen the construction of rule of law and create a sound development ecosystem.
- To improve the breadth and depth of wireless network coverage and accelerate 10G PON deployment. To expand the pre-coverage of commercial buildings in order to provide a leading experience.
- To accelerate the construction of green, intensive, secure and reliable computing infrastructure, and promote the construction of intelligent operation support system.
- To provide high-quality communication support services, create a secure and harmonious network environment, and support scientific and technological pandemic prevention and smart pandemic prevention.
- To improve the intelligent network service capability of one network around the world and support the new development of “Cloudification, Digital and Intelligence Enablement” for thousands of industries around the world.

## Building a Solid Foundation for Compliant Operation

China Unicom has always adhered to integrity in operation and compliance with laws and regulations, actively carried out law popularisation activities, popularised compliance knowledge and improved the compliance management system. China Unicom promoted the reform of the discipline inspection and supervision system, and further strengthened the supervision responsibility of the discipline inspection and supervision team by innovating the organisation mode and improving the system and mechanism. The anti-corruption work has achieved remarkable results.

### Promoting integrity and honesty

We built a supervision system and unwaveringly upheld the upright conduct and discipline and conducted anti-corruption with the theme of promoting high-quality development. We improved the supervision mechanism, optimised the rules and regulations, promoted and standardised the informatisation of discipline inspection and supervision, enhanced the ability of supervision and discipline execution, and created a clean and honest atmosphere.

- The Company improved the corporate supervision system, established and improved the supervision system and mechanism for key personnel, key areas and key links around “top leaders” and leadership, young cadres, grassroots governance, and “beyond eight hours of office hours” behavior, etc. The Company built a smart discipline inspection and supervision platform to strengthen the active, accurate and real-time supervision over the entire process of exercise of power.

Coverage of anti-corruption training more than

**495,000**  
person-times

Coverage rate of anti-corruption education activities for directors and employees reached

**100%**

- The Company carried out in-depth anti-corruption training, conducted regular interviews with cadres and took multiple measures to carry out disciplinary education. The Company carried out case notification on “non convergence and non-stop”, “shadow companies”, “shadow shareholders” and “non-compliant action beyond eight hours of office hours”, etc. since the 18th National Congress. The Company carried out routine warning education, covering more than 495,000 person-times, and anti-corruption education activities covering 100% of directors and employees.

- In order to prevent external risks of “Hunting”, the Company revised the “China Unicom Supplier Blacklist Management Measures”, optimised the identification procedures of supplier in blacklist and carried out the fourth batch of non-compliant “supplier blacklist” identification.

- The Company organised and carried out professional line evaluation and inspection on integrity risk prevention and control. The Company promoted the implementation of prevention and control measures for 65 integrity risk points in 42 business matters in 8 key areas such as investment and construction, material procurement, marketing, and personnel selection and employment. The Company regularly carried out rectification through the case study, deeply rectified the problem of “relying on enterprises and squeezing enterprises”, and conducted special inspections on the problems of non-compliant commercial enterprises, so as to continuously improve the ability of integrity risk prevention and control.

- The Company persevered on rectifying the “four styles” problems, vigorously promoted the fine style of work, implemented the eight regulations of the central government and the spirit of the detail implementation rules. The Company regularly carried out special supervision and inspection on the “four styles” problems and included the “social circle”, “life circle” and “leisure circle” of management personnel into the scope of supervision. The Company notified typical cases at important nodes, promoted the formulation of implementation plans to reduce burden for the grassroots level, and continued to rectify the persistent problem of “mountain of paperworks and sea of meetings”. The corporate atmosphere continued to improve.

- The Company deepened inspection supervision and completed a new round of full coverage inspection. The Company carried out special inspection on personnel selection and employment, economic responsibility audit and financial compliance inspection, improved the quality and efficiency of supervision, and urged the implementation of rectification.

- The number of petition reports decreased by 11.3% year-on-year and declined for four consecutive years. The Company continuously consolidated the strategic results of anti-corruption, as a result the clean atmosphere of the Company continued to improve.

- The Company built a supervision system, promoted the reform of the discipline inspection and supervision system and formulated the “China Unicom “4+5+N” Political Supervision System Guidance Manual” and other rules and regulations. The Company improved the supervision mechanism for key personnel, key areas, and key links, promoted and standardised discipline inspection and supervision information, and supervised the ability to enforce discipline.

- For more information on the number of corruption cases and litigation outcome and so on, please go to the official website of the Central Commission for Discipline Inspection of the CPC and the National Supervisory Commission.

## Improving the level of compliance operation

China Unicom continued to deepen the construction of rule-of-law with governance improvement, operation compliance, management standardisation, law-abiding and integrity. The Company strengthened risk prevention and control, and continuously consolidated the foundation for high-quality development.

### Law-abiding operation

China Unicom has established a comprehensive compliance management system of “compliance in full, in all region and in all aspects”. The Company revised and issued the “China Unicom Compliance Management Measures (v2.0)”, and formulated the eighth five-year plan (2021–2025) to carry out legal publicity and education, so as to promote the construction of the rule of law.

- The Company promoted the digital management and intensive operation of law popularisation work. The Company developed the Wo Law popularisation platform and over 76,000 employees attended online learning. The Company organised various law popularisation activities, carried out special law popularisation activities such as “4.15” and “4.26”, etc. The Company actively promoted data security law and other laws and regulations, and personal information protection law, and won the Excellent Organisation Award issued by the National Law Popularisation Office.

- The Company popularised compliance knowledge and held nine sessions of “Legal Compliance Cloud Lecture”, highlighting the features of “cloud + sharing” and “teaching + forum” with more than 73,000 people learning in total. The Company operated the WeChat public account, “Grow Wo with Legal Compliance”, to enrich reading experience.

- The Company actively promoted the digital transformation of contract management to guarantee the business integrity. The legal review rate of the Company’s economic contracts was 100%.

### Risk prevention and control

China Unicom adhered to the goal of “strengthening internal control, preventing risks and promoting compliance” and continued to deepen the construction of risk management and internal control management system. The Company revised and published the “Administrative Measures for the Accountability of China United Network Communications Group Company Limited for Non-compliant Operation and Investment”, and continuously improved the digital level of risk prevention and control to effectively mitigate major systematic risks.

- The Board of Directors is responsible for improving the risk management and internal control management system, consisting the internal control and risk management committee, comprehensive management department and relevant professional functional management departments.

- Based on risk assessment, the Company adopted the COSO internal control framework and established a sound internal control management system based on the basic elements of control environment, risk assessment, control activities, information communication, supervision and control.

- The Company deeply promoted the full coverage of audit and established a mechanism to transfer of problem clues and handle feedback. The Company completed special supervision such as “look back” and “I do practical things for the public” for accountability of non-compliant operation and investment, and recovered more than RMB52 million losses.

- The Company fully fulfilled its overall role of comprehensive budget management in resource allocation and established a performance-based communication system. It strengthened dynamic management and further mitigated operational risks.

- The Company improved the overseas risk prevention and control mechanism and formulated the “Level 4 Catalogue of Overseas Compliance Risks of International Companies (Trial Version)” to regularly carry out special inspections on overseas risks, and form closed-loop management. Focusing on risks in key areas such as the United States, Australia and Europe, the Company kept abreast of the latest developments and made every effort to ensure overseas compliance operations.

Compliance training

**8,010** times

Number of employees trained in compliance

**243,000**

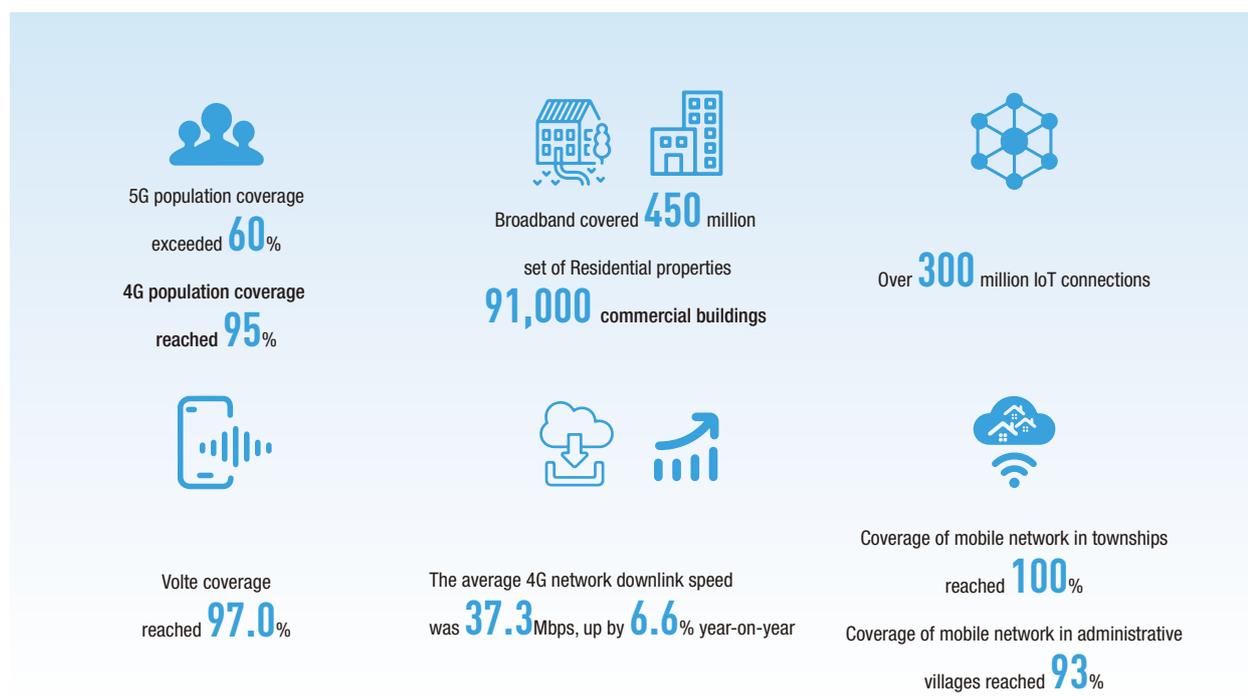
- Audit digital transformation case was selected as a typical experience of China Institute of Internal Audit
- China Unicom Digital Technology Co., Ltd. was awarded the AAA Integrity Level Certification by Beijing Security and Prevention Industry Association

## Opening Up Social Information Arteries

Facing the accelerated demands of digitalization, cyberization and intelligent transformation in various industries, China Unicom has firmly grasped the symbolic characteristics in the era of the information communication industry. It has built a new digital infrastructure, adhered itself to the measures of network information security, and consolidated a solid foundation of information channels for a rapid growth in the digital economy.

## Building a solid digital base

China Unicom deeply understands the strategic deployment about “accelerating the construction pace of new infrastructure such as 5G networks and data centers”. It has focused on building high-quality 5G networks, facilitated 5G IoT technologies evolution and advancement, and strengthened 5G and 4G networks synergy. The Company also deployed gigabit optical networks and improved the end-to-end connection capability of IPv6, enhancing the basic connections and connection efficiency comprehensively.



### Strengthening high-speed and ubiquitous basic connections

China Unicom promotes high-quality network development and connects thousands of households, thousands of buildings, thousands of enterprises, and thousands of scenarios with high-quality networks. It creates new experiences of digital work and life for customers and builds a solid digital base for high-quality economic and social development.

- Created a 5G boutique network with effective coverage, excellent experience, first-class capabilities and outstanding efficiency. New breakthroughs have also been made in the 5G network “co-build co-share” with a total number of 690,000 5G base stations. The Company has intensified the construction of 5G DAS and has continued to improve the deep coverage of 5G network. China Unicom and China Telecom jointly won the GSMA 2021 Asian Mobile Industry Outstanding Contribution Award.

- Created a premium gigabit broadband network connecting thousands of households. The Company constructed 16.84 million broadband ports, which yielded a total number of 239 million ports with an average network access speed of 252Mbps, increasing by 40% as compared to 2020.

- Created a premium government and enterprise network with excellent quality and intelligent security. The 5G industry private network system 2.0 (5G private network PLUS) has achieved a breakthrough in three spectrums: network, industry, and service. China Unicom and Huawei have been jointly awarded the “Best Solution Award for ICT China Innovation” by the project “China Unicom All-Optical Infrastructure Network” at the ICT China High-level Forum 2021.

- Created a ubiquitous and intelligent IoT network with high/low speed synergy. The Company independently developed the Yanfei-zhilian Intelligent Connection Management Platform, and Yanfei-gewu Device Management Platform. It developed 5G + AIoT core capabilities through softwarization of network, software-hardware integration and intelligent upgrade of hardware. The Company was rated as one of the top ten chip/module enterprises in China’s 5G strength ranking in 2021 by the Communications World Omnimedia.

- Continued to push forward network advancement. The Company comprehensively promoted the construction of SDN, cloudification and virtualization of the network. Its network SDN maintained a leading position in the industry, while comprehensively deploying the next generation Internet based on IPv6. IPv6 accounted for 34.57% of mobile network data traffic. It also vigorously promoted the Beidou application. The network innovative products also exhibited excellent performances.



People experiencing the 5G network at Dalian North Railway Station

China Unicom Liaoning branch continued to improve its network coverage. In 2021, it achieved continuous coverage of 5G networks in urban areas and county-level cities. While meeting the needs of 5G hotspots in the developed towns in key cities, the Company achieved in-depth 5G indoor access at transportation hubs such as airports, subways and high-speed railway stations. It provided high-speed 5G services in key areas such as campuses, hospitals, industrial parks, government and enterprises units.

### Improving intelligent and precise network experience

The Company has continued to orient itself towards users' perception. It continued to optimise the network, improve the capability of operating platforms, strengthen the construction of fulfilment system to significantly improve network quality, and maintain a leading position in the industry in terms of low latency network.

- With reliance on platform capabilities such as network AI, wireless and broadband network digital operation, etc., the Company implemented a full-scenario digital transformation of broadband network in terms of “planning, construction, maintenance, optimization and marketing” so as to accomplish automation and intelligent improvement of network operation quality. The maturity of the network AI platform has also reached an international leading level. In intelligent operation and maintenance, it achieved breakthroughs in connected network issue diagnosis and intelligent operation.

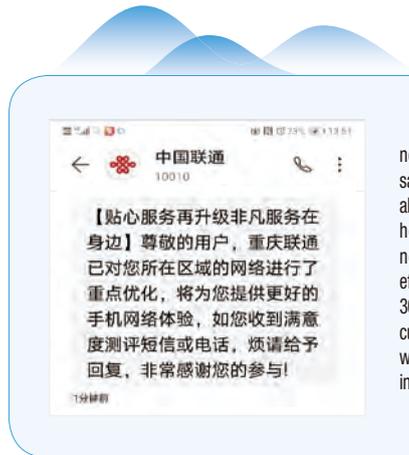
- The Company strengthened the construction of 5G fulfilment and operation system and provided end-to-end automatic activation and management capabilities for 2B network slicing products. It also promoted 100% online and centralised workflows in 5GC regions, and improved the efficiency of inter-provincial collaboration and regional operation.

- The Company also strengthened independent capacity building in the network department and implemented various network independent operation measures such as “self-operation, self-construction, self-maintenance, self-optimization and self-repair”. It improved the training system, with the certification rate of intelligent network engineers exceeding 66%, and introduced talents such as expert-level system architects.

- The Company upgraded the network quality and implemented “serving the community with practical impact” and “a hundred days of tackling” actions. It was ranked first in the industry in terms of the satisfaction level of fixed network quality by the Ministry of Industry and Information Technology. It also kept its first place in The industry for installation and maintenance services. The timely fulfillment rate of broadband installation and maintenance requests increased to 99.62%.

- The 5G users penetration rate continued to increase. In 2021, there were a total of 1,645 complaints-driven construction tasks, and 1,623 of them were completed, with a completion rate of 98.7%. The number of customer complaints from construction regions dropped by 98%.

- The Company built a low latency network, and optimised the China 169 backbone network in key directions, with the average latency of the whole network reaching below 29ms, maintaining its leading position in the industry.



China Unicom Chongqing Branch drives network value enhancement with customer satisfaction. Using on the deep neural network algorithm, the Company established a network health model to assist the identification of network problems, thereby improving the efficiency of handling network complaints by 30%. The Company also targeted high-perception customers through the model, and implemented word-of-mouth scale-up operation, which also increased customer perception by 0.19 points.

## Strengthening smart computing engine

The Company implemented the national strategy of “Eastern Data and Western Computing”, built green, centralised, secure and reliable computing infrastructure. It accelerated the deployment of national hub nodes, and created a new computing power network with national integration, intelligence and agility. It developed Unicom Cloud with cloud-network integration, security, reliability, exclusive customisation, and multi-cloud collaboration, which promoted customer-oriented service model innovation, and empowered the development of digital economy.

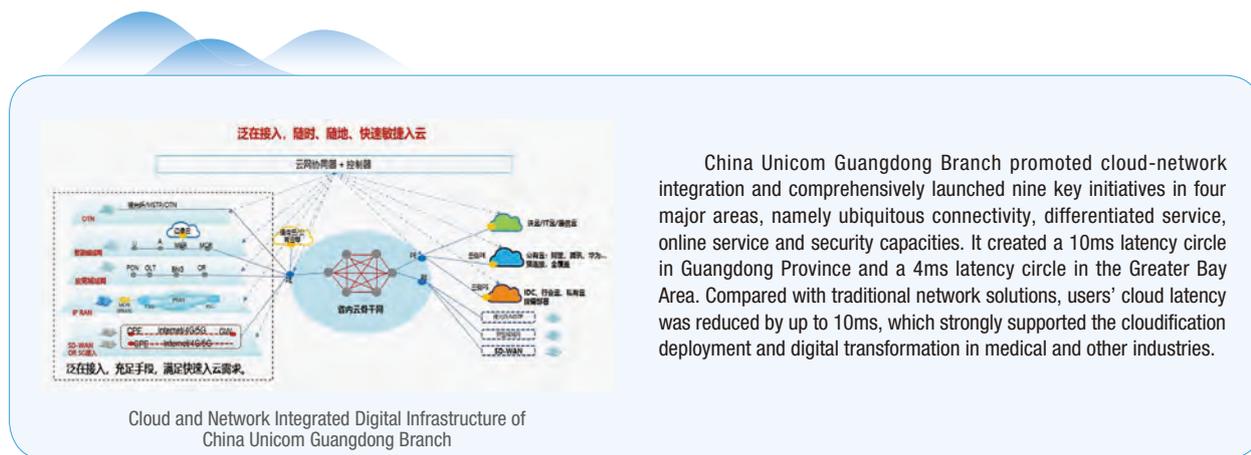
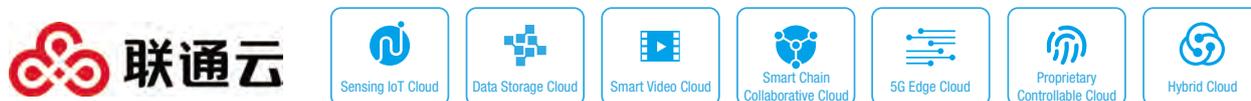
- The Company formed a cloud-network-edge integrated “5 + 4 + 31 + X” new IDC system. The total computing power of the whole network has reached 350 PFLOPS, the computing power scale reached 11.38 million vCPU cores, with a total storage capacity of 959PB. There were about 300 shared MEC nodes. It started to offer one-stop fulfilment of cloud-network resources.

- The Company comprehensively upgraded its low-latency high-quality computing power carrier network. Building on integrated computing-network architecture, it constructed service-oriented computing power networks, such as premium public Internet, multi-cloud ecological premium industrial Internet and smart metropolitan area network. It was shortlisted in the 2020 Data Intelligent Industry “Computing Power 20” by Computing Power Think Tank and was named a Cool Vendor with the best scenario implementation ability.

- The Company created Unicom Cloud with a unified technological base and PaaS platform. It also implemented the PaaS integration project to support the rapid and standardised access to multiple PaaS services such as database, security components, AI atomic capabilities, and blockchain, etc.

- The Company built a multi-cloud cooperation ecosystem with Alibaba, Huawei, H3C, VMware, Unicom Cloud, Os-easy, Tencent, etc. to enrich the number of heterogeneous cloud merchants and create “multi-cloud management + Unicom Cloud + X” hybrid multi-cloud solution.

- Based on the cloud computing dual-engine core base, the Company created integrated and digitally competitive cloud products, and upgraded the performance and diversity of generic cloud products such as computing, storage and network.
- The Company built an open and intelligent scheduling system for cloud-network-edge integration capabilities. It continued to deepen the construction of cloud computing support systems. It obtained more than 30 software copyrights and patents, and was rated as advanced level in the first batch of cloud-network integration comprehensive capability evaluations by the China Academy of Information and Communications Technology.



China Unicom Guangdong Branch promoted cloud-network integration and comprehensively launched nine key initiatives in four major areas, namely ubiquitous connectivity, differentiated service, online service and security capacities. It created a 10ms latency circle in Guangdong Province and a 4ms latency circle in the Greater Bay Area. Compared with traditional network solutions, users' cloud latency was reduced by up to 10ms, which strongly supported the cloudification deployment and digital transformation in medical and other industries.

## Building Cyber Security Lines of Defense

Adhering to the overall national security concept, the Company thoroughly implemented the Cyber security Law, the Data Security Law, the Personal Information Protection Law, the Regulation on Protecting the Security of Critical Information Infrastructure, and other laws and regulations. It has built a network security and data security protection system for the digital era, and also formed the "No. 1 safety shield" as the "first choice of the country, government and people" in the digital economy.

### Enhancing network security capability

China Unicom regards the maintenance of network information security as an important mission of conscientiousness and responsibility. It built a network security protection system with complete functions and leading capabilities. It also integrated security development into all areas and the processes of the Company's development, so as to strive to improve its security protection capability.

- The Company improved its capabilities in the governance of public internet network security threats. The monitoring and processing capacity of 5G SA core network increased by 9.12Tbps, and the broadband Internet monitoring and processing capacity expanded to 29.88Tbps, which effectively mitigated the attack and impact of Botnets, Trojan virus and malware.
- The Company maintained the security of Internet of Things by continuously improving the basic risk model to accurately identify suspected risk cards. As a result, there were no terrorism-related or fraud-related cases in the year.
- The Company improved active security warning capability, with the DDoS protection capability reaching over 8T. It built network security situational awareness, asset security management and other platforms to reduce hidden security threats.
- The Company successfully completed various network security support for major national events and was commended by the Ministry of Industry and Information Technology.

### Combating telecom network fraud

China Unicom resolutely implemented the national requirements for combating and controlling telecom network fraud. It upheld orderly communication, protected personal data privacy, and safeguarded the legitimate rights and interests of users. There was no major information security incident in the year.

- The Company carried out in-depth management of fraudulent calls, harassing call and spam messages. It strengthened source control and implemented card-breaking operation 2.0. It carried out "cat-fighting" action and assisted the police in arresting 2,767 suspected criminals, and seizing 2,691 sets of equipment such as GoIP, which was commended by the Ministry of Industry and Information Technology.
- The Company strengthened data security control and personal information protection, carried out special rectification on APP infringement of users' rights and interests and improved data security support capabilities, with a sensitive data identification rate of 80.54%.
- The Company revised the China Unicom User Privacy Policy, the China Unicom Customer Service Agreement and other rules and regulations. It also formulated the China Unicom Children's Personal Information Protection Policy and Guardian Notices to strictly regulate user real-name registration, maintain user information security and protect children's personal information.

- The Company enhanced the public awareness of information security and promoted information security knowledge through various channels. It provided overseas incoming call alert services. Throughout the year, 565 million alert text messages and 843 million security alert group messages were sent, which were recognised by users.



Bad Information Management Platform of China Unicom Tianjin Branch

China Unicom Tianjin Branch categorised fraudulent calls, harassing calls, and spam messages into “bad information”. It built a platform for managing bad information to centralise the control of risk numbers. In 2021, it optimised and adjusted 11 high-risk areas, 51 high-risk base stations, 9 TAC codes of abnormal equipment such as GoIP. It helped the police to detect and remove three GoIP bases, arrest 8 suspected criminals, and seize 4 fraud-related equipment. It combatted bad information from the source, and the achievement received special commendation by the Ministry of Industry and Information Technology.

China Unicom Anhui Branch has established an anti-harassment/fraud Big Data system that can automatically detect and process harassing and fraudulent calls. It detects 150–200 calls a day. Combined with GoIP data, it enables joint operation with the police by providing accurate fraud clues. In 2021, the Company has helped remove 17 fraud bases, arrest 73 fraud suspects and seize more than 3,000 phone cards, which received wide recognition from the Anhui Provincial Public Security Department and Anhui Provincial Communications Administration.

#### Innovating on security products and services

The Company has strengthened the supply of security products and services in the aspect of network, cloud, application, data etc. It has created Unicom Cloud Shield, password, situational awareness, security island chain and other products. It also established Unicom security operation service platform, optimised the ecological deployment in network information security, and built a strong network and information security barrier for thousands of industries.

- The Company independently developed 9 password products which passed the commercial inspection. Amongst the products, 3 of them were included in the catalogue of information technology innovation. It jointly built the “State-owned CA” business brand with the Information Centre of the SASAC to achieve the implementation of benchmark cases.
- The network situational awareness product entered pre-commercial trial and was named an “Advanced Unit” by the Ministry of Public Security.
- In the “Blooming Cup” 5G Application Collection Competition held by the Ministry of Industry and Information Technology, the Company’s 5G security products and solutions won the first prize and multiple awards.
- The credit information service platform for trusted enterprises, privacy computing, data security and other products and services were awarded the “Galaxy Award” by the Committee for the Advancement of Big Data Technological standard of the CAICT.

## Polishing our Brand as the First Choice of Major Communications Support

China Unicom always puts people’s live and safety in the first place. It contributed to the prevention and control of the COVID-19 pandemic with data and intellectual power. It provided communication support for major activities, devoted itself in rescue missions and disaster relief, and fulfilled its mission with actions.

### Making every effort to fight the pandemic

In 2021, the pandemic situation remained severe and complex. Local confirmed cases and people with no symptoms of COVID-19 were found in many places, the lines of prevention and control were not slackened. China Unicom worked closely with the pandemic prevention and control departments at all levels, and leveraged the edges of communication enterprises to fight the “pandemic” intelligently with information empowerment and provide strong support for regular pandemic prevention and control.

#### Building a smart wall for pandemic prevention

China Unicom continued to and leverage its information services edges in Big Data, artificial intelligence, 5G, etc. It developed digital applications such as travel inquiry system, cloud video conference, Unicom smart community, cloud filling, etc., to fully support the precise prevention and control of the pandemic.

- Utilizing the unique edges such as multi-source, massive, open and strong integration of China Unicom’s Big Data, the Company optimised the national travel card inquiry service system structure, and supported 4.2 billion “health code” inquiries across the country, providing over 8 billion times of service cumulatively, and effectively supporting the analysis and assessment on pandemic prevention and control as well as resumption of work and production.

- The Company developed the Beijing Expressway Identification Checking System, which shortened the travelling time per vehicle from 3 minutes to 20 seconds, and completely solved the problem of queuing to enter Beijing.
- In order to solve the difficulty in holding meetings during the pandemic, the Company deeply looked into the needs of central government agencies and small and medium enterprises at all levels, and provided meeting support to them by introducing the Unicom Cloud Video system. Throughout the year, the Company supported more than 24,000 meetings and provided 38 times of major meeting support services to the central government agencies.
- The Company supported pandemic prevention and control in local communities. Catering for the visitor registration of communities, nucleic acid testing and monitoring of people flow, the Company developed products such as Unicom Smart Community and Cloud Filling, serving 59 cities in 18 provinces with 41.40 million person-times of services in total.

**Ensuring smooth communication services**

Facing the cases in Liaoning, Anhui, Guangdong, Guangxi, Shaanxi, Tianjin and other places, the Company made good use of its network advantages, acted in unison and actively mobilised its branches and subsidiaries to participate in the local communication service support, so as to safeguard pandemic prevention and control.



In 2021 winter, facing another wave of sudden outbreak of the pandemic in Xi'an, Shaanxi Province, China Unicom Xi'an Branch quickly responded to the challenges. The communications support team were standing by around the clock. It strengthened the business support for 901 key areas and units, such as hospitals and nucleic acid testing points. It also provided high-tech pandemic prevention products to facilitate smart prevention. More than 4 million pandemic prevention welfare messages were sent to the general public, and protection knowledge was also promoted through the production of pandemic prevention ringtone reminders, startup pop-up screen reminders, and 5G video ringtones. It deployed a large amount of pandemic prevention resources to ensure the health and safety of employees and workplaces and combat the pandemic scientifically.



China Unicom Tianjin Branch applied 5G slicing to support rapid nucleic acid testing

In January 2022, another wave of COVID-19 pandemic occurred in Tianjin. Approximately 14 million people completed nucleic acid testing within 24 hours. Citizens generally commented that the speed of testing was improving. China Unicom Tianjin Branch applied 5G slicing technology and provided QoS support for the work phones of pandemic prevention personnel with segregated wireless network resources. In the meantime, it rapidly developed a nucleic acid sampling and testing platform to ensure the stable and efficient operation of a large amount of data. The front-line workers could better experience the charm of computing-network integration. Hi-tech pandemic prevention service helped Tianjin to achieve win-win in pandemic prevention and control and the resumption of work and production.

**Fulfilling Responsibilities in Providing Communications – Support for Major Events**

China Unicom adheres to the concepts of “carefulness, focus, trust, excellence and intelligence” in communication support. It strives to achieve the highest standard, the strict organization, the most practical measures, the best services and the best effects. In 2021, the Company provided communication support for major national conferences and events such as the National People’s Congress and the Chinese People’s Political Consultative Conference and the “Cloud Diplomacy”. With its excellent results of “zero mistake, zero error and zero complaint”, the Company was fully affirmed by the superior units and polished its golden brand as the “chief provider of major communications support”.

**“Cloud Diplomacy” communication support**

With regular pandemic prevention and control, “cloud diplomacy” has become the major channel for national and institutional leaders to communicate with the world’s leaders and international organisations. In 2021, the Company successfully completed the communication support for 192 “cloud diplomacy” of central leaders and 31 major events including the China International Import Expo. It ensured network security with Unicom Cloud Shield, anti-D cleaning, domain name resolution and monitoring system, etc. The Company made outstanding contribution to “tell China’s stories and spread China’s voices” in the current complex situation, and contributed China Unicom’s power to a new chapter of Chinese diplomatic relations in the new era.



## Devoting to rescue and disaster relief

With the unpredicted weather and natural disasters, China Unicom insists to make the best efforts. At every critical moment, the company strives to stay at the front line of communications support and secure its network defense line.

### Establishing a sound flooding control system

In response to flooding disasters, China Unicom made early deployment and revised its emergency communication support plan. It has established a robust the cloud-network collaborative emergency responsive system, which could adapt to the regional system, platform, centralisation and cloud resources to enhance its communication support capability and emergency response efficiency. The Company carried out inspection on hidden loopholes in advance, and organised 1,372 emergency drills throughout the year so as to ensure the reliability of the operation.

- The Company carried out “Thousands of Miles Red Journey with Ingenuity Network” campaign. Communication fleets carried China Unicom’s mission of “no absence at major moments” and represented the highest level of major communication support, which lasted for 38 days spanning approximately 4,000 kilometers.

### Dare to bear difficulties and challenges

We carried out flood prevention and rescue work on the front line to ensure communication by riding wind and waves. In 2021, in the face of severe floods in Shanxi, Shaanxi, Henan and Shandong, as well as earthquakes in Sichuan and Qinghai, China Unicom was not afraid of difficulties and engaged in flood prevention and disaster relief with multiple measures. During the year, it dispatched emergency communication support 695 times, disaster relief personnel 134,000 person-times, rescue vehicles 47,000 vehicle times, emergency equipment 10,000 set-times, and 370 million emergency SMS.

Rescue personnel

**134,000** person-times



China Unicom Hebi Branch in Henan Province united to guard the lifeline of communication

In July 2021, in the wake of “720” heavy rainstorms in Henan, China Unicom Henan Branch gathered everyone together in such critical moment. Everyone strived to become more mature in this difficult time and moved forward in the storm. Our staff rushed out to the flood to repair the Jinghanguang optical cable. Veterans insisted to stay in the front line amidst their illness and worked hard for ten days and nights to guide the boats through the waters. In the tests and challenges posed by the floods, China Unicom united its efforts and mobilised rescue teams from 15 provinces to aid Henan and contribute to flood relief. They were warmly welcomed by the local residents. The Company received a letter of thanks from the Henan Provincial Party Committee and Henan Provincial Government, as well as more than 100 letters of gratitude and commendation from provincial units and municipal and county governments.



On 22 May 2021, a 7.4-magnitude earthquake occurred in Maduo County, Guoluo Prefecture, Qinghai Province. China Unicom Qinghai Branch assembled an emergency response team, overcame difficulties such as cold weather, hypoxia, and severe aftershocks, and headed to the disaster area. It set up a hotline for family search and reporting safety, and added 10,010 Tibetan-speaking customer service staff. During the earthquake relief period, of the Company dispatched 14 earthquake relief teams consisting of 81 people, 28 vehicles for 98 times, and more than 100,000 earthquake relief welfare messages to the users in Guoluo Prefecture.

## Serving Coordinated Regional Development

The Company smoothed the domestic and international dual circulation, implemented the national strategy of coordinated regional development, accelerated the construction of a digital pilot demonstration area, promoted the coordinated development of domestic and overseas markets, responded to the Belt and Road Initiative, and fulfilled its responsibilities as a global corporate citizens.

## Promoting the development of classified policies

The Company facilitated domestic circulation, implemented major national strategies and regional coordinated development strategies. It also optimised the regional resource allocation and capital deployment and actively integrated into regional coordinated development. The Company promoted the coordinated development of the Beijing-Tianjin-Hebei region and continued to promote the construction of the Beijing-Tianjin-Hebei integrated network with the sharing of resources, such as data centers. The Company promoted the development of the Yangtze River Delta integration and strengthened the collaborative innovation of industrial system. Furthermore, it facilitated the construction of the Guangdong-Hong Kong-Macao Greater Bay Area by accelerating the application innovation in smart medical care, smart transportation, smart energy and other fields to promote healthy industry development. The Company drove the high-quality development of the Yangtze River Economic Belt and the Yellow River Basin, and promoted universal social livelihood services. The Company accelerated the development of the three provinces in Northeastern China so as to foster balanced development. It also strengthened the construction of Hainan Free Trade Port and Chengdu-Chongqing region, thereby improving the efficiency of resource utilisation and contributing to the construction of beautiful China.

## Serving the Belt and Road Initiative

China Unicom firmly grasped the new development pattern of “building the domestic circulation as the main body and facilitating the mutual promotion of domestic and international dual circulation”. It identified new changes, new space and new opportunities accurately, and strived to promote the edges of global cloud-network integration and cloud service capabilities. It implemented the “Belt and Road” initiative, and promoted the construction of digital Silk Road through cooperative development and digital transformation innovation.

### Establishing the Digital Silk Road

China Unicom deeply implemented the Belt and Road Initiative and firmly promoted the construction of the Belt and Road Digital Silk Road. It upheld innovation-driven development to provide high-quality digital information services for customers and the public along the Belt and Road. The Company insisted on cooperative development, gathered core companions along “the Belt and Road” integrated resources and fulfilled in an agile manner.

- Company continued to build an optical information channel. The Company had established 5 international network management centers overseas, and had more than 130 overseas access nodes, which covered more than 80 countries and regions. The international Internet external connection bandwidth reached 4.85T. Cumulative investment along the “Belt and Road” exceeded RMB2,800 million, and the capacity of the “Belt and Road” submarine cable increased to 26.9T and the capacity of the “Belt and Road” cross-border terrestrial cable increased to 20.1T. In 2021, three new “Belt and Road” network nodes were built.

- The company has set up 30 branches around the world, half of which are located along the Belt and Road, offering high-quality digital services for “out-going” enterprises. Targeting key industries, such as industrial manufacturing, finance, government media, transportation and logistics, energy, commercial retail and TMT, the Company created 23 “Belt and Road” international express routes and achieved global coverage of SD-WAN light-load products. Cloud interconnection service covered 40 resources pools of 10 overseas cloud providers, offering to customers scenario-based solutions.

- Provided product discounts for countries along the Belt and Road. Tariffs were reduced to low-price area in 95 counties and regions.

- Continued to strengthen the construction of “Belt and Road” companions, and actively carried out ecological cooperation such as multi-cloud platform, network and information security, supply chain, system integration and smart city, privileges. 5G NSA was activated in 21 outbound countries and 31 inbound countries. The Company has established long-term partnerships with more than 300 international carriers and has over 120 ICT global partners.

- Actively contributed to the trades between China and Africa and South African pandemic prevention and control. It served the ministerial video conference between China and Africa, increased the investment in South Africa, and participated in the pandemic prevention and control related meetings organised by the Department of Commerce of the Embassy of South Africa.



Awarded with the “Asia Regional Operator of the Year”, “Best Cloud Innovation Operator” and “Best Mobile Operator of the Year” in the 2021 Carrier Community Global Awards



Achieving seamless network connection when the China-Laos Railway passes through the tunnel

### Conscientiously providing excellent cross-border services

Relying on China Unicom Global, the Company strives to become the “value creator of international digital services trusted by customers”. It has established a global customer service system, provides efficient and reliable global end-to-end integrated information services, and provides global voice message and data services.

- In order to meet the personalised demand of customers for express lines, the Company launched in total 55 express lines and achieved rapid fulfilment. In Hong Kong, targeting household demands, the Company provided multi-user data sharing plan and smart home product series. It provided one-stop communication solutions for corporates. In response to the demand for small bandwidth, it provided AS4837 IPT Hong Kong node small bandwidth products. For financial industry, it provided security products and services such as Unicom Cloud Shield.
- During the COVID-19 pandemic, to let users use data at ease during travel, the Company increased the data allowance without price increase for 126 popular outbound international roaming destinations, reduced the data tariff for 35 destinations, provided small data bundle products for 23 destinations. In 2021, the data tariff of outbound international roaming decreased by 11.26% year-on-year, and data roaming covered 249 countries and regions, including 23 countries and regions with 5G network international roaming.
- The Company served the Tokyo Olympics by helping the live broadcast of China Sports and other media platforms to ensure the high-quality coverage of the events.
- In Hong Kong, the Company officially provided 5G services. It helped prevent and control the pandemic by cooperating with the government to promote the “Leave Home Safe” APP and with Xiaomi Corporation to provide mobile devices for the elderly at low prices for the installation of “Leave Home Safe” APP. To better prepare for the quarantine-free re-opening of border between Mainland China and Hong Kong, the Company gave out “one-card with two numbers” services. It developed and promoted convenient services such as free with health code and worry-free cross-border life privileges.

### Carrying out compliance and integrity management

Relying on China Unicom Global, the Company operates in compliance with laws and regulations overseas. The Company has established a sound corporate governance structure, strictly complies with domestic legal and regulatory requirements, and submits external audit reports and pay taxes in a timely manner. Its integrity management was recognised by international awards.

- The Company continued to improve its overseas compliance management system and updated the compliance manual of overseas operating companies on a rolling basis. It organised and carried out a number of risk inspections and held 13 compliance training sessions with more than 3,000 participants, enhancing employees’ awareness of risk prevention.
- In 2021, there were no incidents of dishonesty, violation of laws and regulations and disorderly competition, nor were there any incidents involving infringement of rights of indigenous people and commercial bribery.

### Implementing local responsible operation

Under the principle of “one regime, one system and one group”, the Company continued to optimise its agile and smart supply chain, actively employed local employees, strictly abided by the local market order, business rules, social customs and cultural habits, and strived to build a mutually beneficial and win-win development community.

- The Company integrated its “globalised” supply chain, carried out local cooperation management in different regions and categories, strictly reviewed procurement plans, stepped up scenario-based procurement, and ensured the equipment provided by suppliers were energy-saving, environmentally friendly and safe. Local procurement rate (including Hong Kong headquarters and overseas) reached 94.59%.
- The Company continuously improved the greenness of communication network infrastructure, further promoted energy conservation and carbon reduction, prevented projects from causing negative impact on the local areas, and protected the local ecological environment. The Company won the Merit Award of the 2020 HKAEE Environmental Excellence Award in Hong Kong.
- The Company focused on the introduction of local talents, actively recruited the graduates from Hong Kong in 2021, and launched an internship program with the Henry Business School of the University of Reading in the United Kingdom, which received positive feedback from both the teachers and students locally. As of the end of 2021, China Unicom Global had a total of 896 employees, including 761 overseas employees and 289 overseas female employees. Currently, there are no local employees among the senior management.
- In strict accordance with the legal requirements in the employment location, the Company safeguards the legitimate rights and interests of local employees. It has formulated a remuneration and welfare system respecting local customs. It formulated differentiated monetary subsidies and actively organised recreational activities and welfare publicity, etc., fulfilling its social responsibility of caring local employees with practical actions. It was awarded “Green Office Award Scheme” and “Healthy Workplace” certifications by World Green Organisation, and recognised as a “Good MPF Employer” by the Mandatory Provident Fund Schemes Authority of Hong Kong.
- The Company cares for female employees and fully supports “Breastfeeding Friendly Workplace”, and obtained “Breastfeeding Friendly Workplace” certification from UNICEF HK.



Merit Award of the 2020 HKAEE Environmental Excellence Award in Hong Kong

- The Company actively participated in various activities organised by local associations, improved its overseas news and public opinion monitoring system, and maintained constructive communication with local communities and Chinese enterprises. As the leader unit of the Digital Economy Working Group (Chinese) of the BRICS Business Council, China Unicom deepened the research and exchange cooperation in the digital economy, in order to promote practical cooperation among the working group members.

### Fulfilling overseas social responsibility

China Unicom actively participated in overseas charity activities, and promoted the spirit of love, mutual assistance and care for the community. It also carried out activities such as food saving, environmental protection and care for vulnerable groups in order to contribute to the society and fulfill its overseas social responsibilities.



In 2021 Dragon Boat Festival, China Unicom Global Limited (“CUG”) participated in the caring visits to the elderly living alone organised by the Hong Kong Chinese Enterprises Association, bringing lucky bags and blessings to the elderly living alone in Shatin, New Territories.



CUG participated in the “Food Angel Day” activity organised by Food Angel to sort and process surplus food ingredients. 30 boxes of food ingredients with a total weight of 490kg were recycled to prepare for hot meals and food packs, offering warmth and care to people who are in need in the society.

Over the years, CUG has participated in the Hong Kong charity bazaar named “Handicapped Youth Cookies Gift for Love” organised by the Hong Kong Federation of Handicapped Youth to help the Hong Kong Federation of Handicapped Youth, Pei Ho Counterparts, the Parent’s Association of Pre-school Handicapped Children and other organizations for the underprivileged.