



3

**BUILD
NEW VITALITY
AND CREATE A NEW LANDSCAPE
OF MODERN GOVERNANCE**

Serving as the “Pioneer” to Deepen the Reform of State-owned Enterprises Building a “New Highland” for Innovative Talents Building a “Booster” for People’s Livelihood Striving to be a “Practitioner” of Ecological Civilisation Construction



Promoting the modernisation of the national governance system and governance capabilities is an inevitable requirement for improving and developing the socialist system with Chinese characteristics. China Unicom consistently adhered to system construction, optimised governance efficiency, promoted smart governance and increased the efficiency of livelihood services. It encouraged joint efforts to create a better life, planned development at the height of harmonious coexistence between human and nature, and strived to transform modern governance from a grand blueprint to a better reality.



Measures adopted in 2022

- The targeted assistance work has been rated as the highest level of “good” by the supervising authorities for four consecutive years.
- The Company promoted the implementation of talent-based corporate development, actively adjusted the talent structure for scientific and technological innovation, continued to build a four-level talent pool, and regularly carried out rank and salary promotions.
- The Company carried out the construction of “Digital Village” in more than 3,500 districts and counties, serving more than 230,000 administrative villages in total.
- The Company further promoted the “3+5+1+1” action plan, established three major carbon management systems, focused on five major green development directions, deepened the expansion of co-build co-share, empowered various industries and digital applications, and helped them save energy and reduce carbon emissions.



Actions to be taken in 2023

- The Company will continue to deepen reforms based on strategic deployments, consolidate the results of these reforms, accelerate the improvement of the comprehensive effectiveness of its reforms, and promote more efficient, higher quality and more competitive development.
 - For low-ranking (levels 1-7) employees, the Group will set up special resources to implement the “promotion” plan for raising salary.
 - The Company will continue to deepen the work paradigm of large-scale support, and provide greater assistance to consolidate and expand the achievements of poverty alleviation in targeted areas, effectively connecting with rural revitalisation.
 - In infrastructure construction, the Company will strictly implements the environmental protection regulations on dust prevention and noise control issued by the national and local industry authorities.

Serving as the “Pioneer” to Deepen the Reform of State-owned Enterprises

China Unicom always adheres to integrity management and compliance while further implementing the three-year action plan for state-owned enterprise reform. China Unicom adopts systematic thinking and strives to synergistically integrate the three-year action plan for state-owned enterprise reform and the innovation and reform tasks determined by the “1 + 9 + 3” strategic plan, aiming to promote high-quality corporate development.

Carrying Forward the Spirit of Integrity and Honesty

China Unicom unwaveringly pushed forward the anti-corruption campaign, and promoted a culture of integrity where employees dare not, cannot, and do not want to engage in corrupt activities. With unwavering determination and perseverance, the Company persisted in correcting the “four styles” to create a new atmosphere.

Continuous Improvement of the Anti-corruption System

In 2022, the Company further improved the system and revised the relevant system and measures based on actual situation.

- **Strengthening top-level supervision:** The Company formulated and issued the Work Measures of China Unicom to Strengthen the Supervision of “Top Leaders” and Leading Teams, as well as the task list which further clarified the responsibilities and implementation measures of anti-corruption supervision.
- **Practising integrity construction:** The Company formulated the “Work Plan for China Unicom to Strengthen the Construction of Integrity Culture” and the “Interim Provisions of China Unicom on Discipline Inspection and Supervision Suggestions”, which refined the objectives and implementation plans, and improved the efficiency in promoting reform with cases.
- **Strengthening external risk control:** The Company revised the “Notice on the Correct Application of China Unicom’s Measures for the Administration of Blacklist of Suppliers (Revised)”, which strengthened the hierarchical and dynamic management of suppliers blacklist. It also prevented partners from seeking illegal benefits through unlawful means.

Continuous enrichment of anti-corruption measures

- **Promoted risk classification:** The Company organised 48 secondary units to systematically identify integrity risk points, thoroughly investigated the causes from all aspects, and formulated targeted prevention and control and rectification measures. The completion rate of major investigation and rectification measures for integrity risk prevention and control reached 99.18%.
- **Deepened anti-corruption education:** The Company carried out 5 large-scale anti-corruption warning education throughout the system, covering more than 1,256,000 person-time. A total of 35,000 young cadres received training in various disciplines, and more than 23,000 leaders were interviewed throughout system.
- **Innovated anti-corruption tools:** The Company improved supervision efficiency through informatisation. By using China Unicom’s smart discipline inspection and supervision platform, the Company will continue to explore and innovate the coordination and connection of supervision, and promote the vertical and horizontal coordination of supervision forces.

Increasing achievements in anti-corruption efforts

In 2022, China Unicom’s corporate integrity ecosystem continued to improve. The number of complaints and visits across the system decreased by 22.6% year-on-year in 2022, following year-on-year decreases for four consecutive years from 2018 to 2021. The strategic results of anti-corruption efforts continued to consolidate and expand. For more information on the number and outcomes of corruption-related litigation cases, please visit the website of the Central Commission for Discipline Inspection and the National Supervisory Commission.

1,438
anti-corruption warning
education sessions



New employee representatives of China Unicom Shandong filmed a micro video themed “Youth Advocating Integrity, Integrity Protecting Youth”

Commitment in Compliant and Lawful Operations

China Unicom is committed to building a compliant, resilient and safe operating system. By continuously deepening corporate governance, strengthening legal risk prevention and control, and improving the protection mechanism for major risk prevention and control, China Unicom has effectively promoted the implementation of the Company's new strategic plan and achieved high-quality development.

Enterprise construction led by rule of law

China Unicom adhered to the rule of law to lead enterprise construction. The Company achieved corporate governance in accordance with the law by formulating rules and regulations for compliance operation, building a compliance operation system and improving the compliance review process.

Improving compliance management system

The Company improved its special compliance management system and continuously strengthened the foundation of the compliance management system.

- The Company issued the "Implementation Measures for the Compliance Management of Professional Lines of China Unicom" to further consolidate the main responsibility of compliance management of professional lines and improve the compliance management of professional lines.
- The Company issued the "China Unicom Code of Conduct for Integrity and Compliance" to strengthen compliance training of professional lines and cultivate a culture of integrity and compliance that "complies with regulations and acts with responsibility", 228,000 employees signed online compliance commitments to promote compliance culture.
- The Company iteratively updated the "China Unicom Professional Line Compliance Manual" to comprehensively transform the legal regulations and regulatory requirements closely related to the Company's operation and management into compliance at all levels of each professional.

Building a compliance operation system

China Unicom organised and carried out the "Year of Strengthening Compliance Management". The Company completed 22 tasks in 7 major aspects and continuously improved the compliance management system and level.

- The Company conducted in-depth comprehensive compliance risk investigation at all levels and all fields. It formulated targeted rectification measures for the identified risks and violations of laws and regulations, and strictly and carefully implemented the measures, thus continuously enhancing the ability of compliance risk prevention and control.
- The Company focused on compliance risk management in the areas of trading business, procurement bidding and tendering, engineering construction, and scientific research funding, promoting the rectification of violations in key areas and establishing of a long-term mechanism.
- The Company established a compliance risk database in key areas. It compiled a list of compliance responsibilities for key positions, provided important guidelines for establishing a long-term mechanism for compliance risk prevention and control, and promoted the implementation of a compliance responsibility system for all employees.
- The Company regularly conducted education on compliance operation and management for employees. It carried out a number of legal compliance knowledge contests, and produced and published legal articles and videos through the Company's legal knowledge platform, with nearly 200,000 people learning legal compliance knowledge.

Improving the Compliance Review Process

The Company conducted compliance reviews on the operational and management activities such as formulation of rules and regulations, decision-making on major issues and signing of contracts, to ensure legal and compliant operations.

- In terms of process setting, the compliance review process was embedded in the operational and management process to ensure that compliance review is a pre-requisite procedure for relevant operational and management activities.
- In terms of review, the Company evaluated whether the relevant operation and management activities and their carriers were in compliance with the requirements of national laws and regulations, regulatory requirements, industry standards, international treaties, rules, the Articles of Association, rules and regulations, etc.

Over **300,000**
person-times in law-abiding and
compliance learning

Published **2,150**
legal articles and videos

Reading volume of legal
platform exceeded
6.25 million

Improving risk resistance ability

China Unicom attached great importance to enterprise resilience in the face of major risks. Starting with the three aspects of "internal control, information disclosure and risk management", China Unicom has built a resilient and risk-resistant enterprise system.

Strengthening internal control and building a safety fortress

- China Unicom continued to deepen the construction of internal control system by adding a total of 9 control processes, 24 risk points and 27 control measures in 2022, removing 12 control processes, 28 risk points and 35 control measures, and revising 4 control processes, 14 risk points and 151 control measures, as well as updating 50 institutional basis.

The Company adhered to the internal control objectives and risk-oriented approach. It promoted the continuous improvement and effective operation of the internal control system by continuously deepening the construction of internal control system, strengthening the management and control of professional lines, strengthening supervision and evaluation, and strengthening accountability and assessment and restraint.

- The Company continued to strengthen its legal prevention and control capabilities, consolidate the basic management system of litigation, focus on risk investigation and resolution, strengthen the supervision of major cases, and create a stable and solid business environment, laying a solid foundation for long-term sustainable development.

Regular information disclosure

China Unicom regularly disclosed information to build an effective and reliable supervision system to ensure the compliance operation of the Company.

- The Company regularly conducted self-assessment of internal control and internal audit supervision to ensure that the design of internal controls was reasonable and the execution was effective.

Continuous risk management, timely analysed and summarised

- The Company adhered to the goal-oriented approach. It focused on prevention and combined prevention and control. It strengthened the management and control of the source of major risks, regularly carried out annual major risk assessments across the Group, formulated targeted prevention and control measures, and notified them across the Group.

- The Company determined the quantitative monitoring indicators for major risks. It carried out regular tracking and monitoring, analysed the changes in assessment indicators and changes in risks, analysed and summarised the implementation of prevention and control measures in a timely manner, and effectively ensured the effectiveness of risk management and control.

- The Company formulated the “Working Rules for the Reporting of Operational Risk Events of China Unicom” and the risk management system of relevant professional lines. It clarified the responsibilities and authorities of risk event management and standardised the procedures of event handling, reporting and disclosure.

- With good credit records, the Company has established good cooperative relations with state-owned banks, some joint-stock commercial banks and policy banks, etc. All due debts have been repaid with the principal and interest on time, and there is no debt default. The overall debt risk is controllable.

🔗 Continuing to Drive Enterprise Reform

China Unicom deeply implemented the three-year action plan for state-owned enterprise reform, completed 130 reform tasks in the three-year action plan for reform with high quality, and achieved a series of remarkable and milestone results in the reform.

Strengthening the board of directors

China Unicom has made the construction of the Board a priority to advance the corporate governance capability and governance system to a new level.

- At the group company level, the Company promoted the board diversity. The Company conducted special surveys on independent directors to effectively play their role in supervision and management.

- At the subsidiary level, the subsidiaries have all established a board of directors, if appropriate, with necessary enhancements. The Company focused on improving the governance system of subsidiaries, established the “1 + N” subsidiary governance system, established a differentiated list of powers and duties of the board of directors with one policy for each subsidiary, and promoted subsidiaries to be the market players with sound governance, robust mechanism and vitality.

Improving the market-oriented mechanisms

China Unicom comprehensively improved the quality of tenure-based and contract-based appointment and focused on improving removal conditions, tenure assessment management and differentiated assessment of deputy positions. It achieved 100% full coverage of managers at all levels of operating units.

Branches and subsidiaries established a medium-and long-term incentive system. 87% of the subsidiaries implemented medium-and long-term incentive policies and actively explored more flexible incentive methods such as employee stock ownership and excess profit sharing. They effectively explored and implemented scientific and technological innovation incentives, and carried out joint investment pilot projects in the field of innovation.

The Company deepened the reform of stimulating the vitality of front-line units, with 27,000 “small CEOs” and 210,000 employees joined the grassroots responsibility units. The Company adhered to the guidance of “grid + Big Data + iron foot”, initially formed a customer-oriented and digital-empowered front-line grid operation system which significantly improved the front-line operation efficiency.

Deepening reform

- The Company was granted as a “Double Hundred Enterprises” and a “Science and Technology Reform Demonstration Enterprises”, demonstrating its efforts to explore and promote market-oriented reform and build the technological innovation capabilities.

- The Company steadily promoted the mixed ownership reform of its subsidiaries. China Information Technology Designing & Consulting Institute Co., Ltd. introduced investors with strong strategic synergy and formulated overall plan for market-oriented operation mechanism reform of mixed ownership reform enterprises and employee equity incentives implementation plan. It focused on promoting the transformation of operation mechanism of mixed ownership reform enterprises.

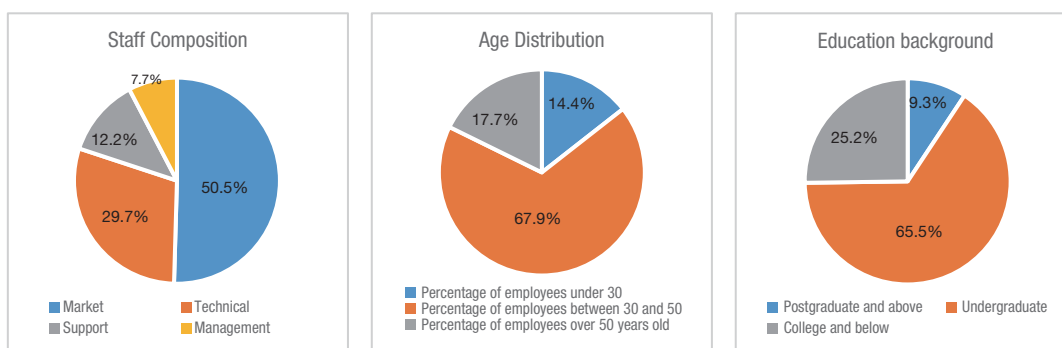
- The Company completed the joint-stock reform of Smart Connection Technology Company that meets the conditions for listing. The Company carried out comprehensive evaluation and started the spin-off and listing process in a steady manner.

Building a “New Highland” for Innovative Talents Aggregation

China Unicom attached great importance to talent cultivation, promoted talent development in depth, accelerated the establishment of competitive advantages in talent resources, built a high-level talent training platform, cultivated a number of leading and high-level innovative talent teams, and continuously built new momentum and new advantages for development. At the same time, the Company fully respected and protected the basic rights and interests of each employee, and committed itself to creating a career platform for employees to demonstrate their talents and grow together with the firm.

Promoting Talent Structure Adjustment

China Unicom actively adjusted the talent structure for scientific and technological innovation, and spared no effort to attract and cultivate talents, so as to promote the healthy development of the talent structure for strategic emerging industries and stimulate the vitality of talents.



Total number of employees	Employees in Mainland China	Employees in Hong Kong	Employees overseas	Percentage of scientific and technological talents	Gender proportion (male/female)	Proportion of ethnic minority employees	Temporary Staff in Mainland China (person)
244,658	243,586	723	349	30%	1.63: 1	6.76%	10,345

Improving the introduction mechanism

China Unicom fully grasped the new requirements of the Company’s new positioning, new strategies and new business deployments for talent recruitment, adhered to the principle of matching talent recruitment with the Company’s development needs and job capabilities, established a sound talent introduction mechanism, and vigorously implemented the talent project.

In 2022, China Unicom recruited a total of approximately 13,000 people through campus recruitment and social recruitment, which was more than “one-thousandth” of the number of new urban jobs in the country in 2022. The scale of campus recruitment increased by 25% year-on-year, realising the dual purposes of talent recruitment and stabilising employment, and fully demonstrating the political, social and economic responsibilities of the Company.

Percentage of number of new urban jobs in the country in 2022

13,000
talents recruited throughout the year

More than “one-thousandth”

Optimising talent team

The “418” talent project was fully implemented. The total number of innovative talents in the special zone reached more than 9,000, and nearly 50 industry experts were recruited in the past two years.

The Company continued to promote the construction of dual channels for employee development, and built a four-level professional talent pool of 20,000, including 1,024 leading and expert talents, 6,377 backbone talents and 12,370 new talents.

Protecting Basic Rights and Interests of Employees

The Company adhered to the employee-friendly and people-oriented principle, fully considered the diversity and equal opportunities of talents, respected labour, knowledge, talents and innovation, creating an inclusive, diversified and happy working environment for employees.

Adhering to fair employment

- The Company strictly implemented the relevant provisions of the Labour Contract Law, signed labour contracts with 100% of employees, and implemented dismissal policies in accordance with relevant national requirements.
- The Company has formulated the Human Resources Risk Prevention and Control Manual to improve the recruitment supervision and inspection mechanism, clarify the list of negative behaviours and policy bottom lines, and prohibit discrimination policies on ethnicity and gender during the recruitment and promotion process and avoid child and forced labour.
- The Company attached great importance to protecting human rights and respecting personal privacy, complied with relevant laws and regulations relating to preventing child and forced labour, with no cases in relation to use of child labour, forced labour or abuse of employees.

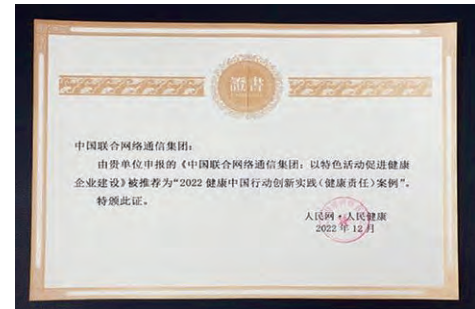
Protecting legal rights

- The Company implemented national regulations on working hours management, implemented a paid leave system to safeguard employees' right to leave; and ensured 100% retention of job opportunities for female employees after maternity leave to protect their legitimate rights and interests.
- The Company implemented a paid leave system for employees whose children were taking the senior high school or college entrance examination, actively responded to and promoted the implementation of parental leave and single-child care leave, and demonstrated humanistic care for employees.
- The Company has established 13,700 labour unions at all levels, with 100% employee participation in labour union.

Optimising compensation and benefits

The Company is committed to optimising labour cost allocation rules, implementing a fair and transparent salary compensation mechanism, improving the welfare system, and building a fair and harmonious compensation relationship. Regarding the performance appraisal and remuneration of the management, total salary management and other important daily matters of the Company, after full discussion by the Remuneration and Appraisal Committee, relevant opinions and resolutions were submitted to the Board of Directors to provide strong support for the scientific decision-making of the Board of Directors. Among them, the remuneration level of senior management was determined through performance appraisal according to performance appraisal measures.

- The Company regularly carried out employee rank and salary promotion, with a rank promotion rate of 18% and a salary promotion rate of 39% in 2022.
- The Company flexibly carried out mid-term and long-term incentives, and completed the grant of 800,000,000 second-phase Restricted Shares of A share company in total for 7,700 persons.
- All units followed the relevant national and corporate policies and regulations to establish enterprise annuity system for employees, and paid social insurance premiums and housing provident funds in full and on time.
- The Company carried out occupational health care and established a "three-in-one" assistance system of critical illness insurance, mutual aid fund and supplementary medical care. 11 health enterprise construction cases of China Unicom were selected as distinctive health cases by labour unions at different levels of the China Association of Communication Enterprises, and won the award of "2022 Healthy China Action Innovation Practice (Health Responsibility) Case" granted by People.cn.



2022 Healthy China Action Innovation Practice (Health Responsibility) Case" awarded by People.cn

Facilitating Communication and Growth of Employees

China Unicom continued to promote the construction of talent teams, encouraged employees to provide advice and suggestions, strengthened employee training, continued to improve the talent and value of the workforce, and increased the care for employees, which significantly enhanced the happiness and pride of employees.

Improving democratic management

China Unicom established a robust democratic management system based on the staff representative assembly, coordinated and promoted the three-in-one democratic corporate management comprising "staff representative assembly, open corporate affairs, and employees' advice and suggestions". It guaranteed the right to know, participate, express, and supervise of employees at all levels, and encouraged employees to contribute their wisdom to the development of the Company.

- The Company kept smooth channels for reasonable suggestions, established a quick response mechanism for employees' demands and feedback through various reasonable suggestions activities such as online "General Manager Online", to effectively protect the legitimate rights and interests of employees. Throughout the year, the Company carried out more than 300 "General Manager Online" meetings, collected more than 6,000 reasonable suggestions, and reached a problem-solving rate of over 90%.
- Throughout the year, the Company held about 700 staff representative assemblies at all levels. Over 300 items of various matters were discussed at the provincial company level, over 3,000 items were discussed at subsidiaries and municipal companies, and there were nearly 10,000 items of various proposals.
- 335,000 employees participated in the employee satisfaction survey throughout the year. The Company continuously improve employee satisfaction in response to employees' demands.
- The Company carried out in-depth class activities with the theme of "Know Your Account in Mind". The Company established a joint discussion and management mechanism to stimulate the vitality of front-line units. During the year, the Company organised more than 50,000 "Know Your Account in Mind" themed class activities, which greatly stimulated the endogenous motivation of front-line employees and effectively protected employees' right to know, participate and supervise.

37 employee complaints were handled through labour dispute mediation organisations in 2022

Problem solving rate
97.5%



Staff representative assembly of China Unicom Zhejiang Branch



Staff representative assembly of China Unicom's Software Research Institute

Supporting capacity development

Strengthening the construction of training system. The Company issued the “China Unicom 2022 Key Training Plan of the Group” to form a three-category training plan for management, profession and Party building based on the principle of full coverage of key groups.

Optimising the professional capability standard system. According to the professional capability certification standards, the Company completed the update and iteration of 8 capability standards. It conducted several professional capability certification examinations, with more than 200,000 participants and 92,536 professional talents passing the certification.

Training participants	Training Content
Management personnel	Continuing to carry out the education and training on Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, with a total of 4652 management personnel participating in the rotation training.
Outstanding young cadres	The Company held the 2022 Youth Management Talent Demonstration Class (Class I and Class II) and a total of 89 outstanding young cadres participated in the training.
High-level talents	For high-level talents in the key technology field, the Company carried out school-enterprise joint training. In 2022, a total of 32 people were selected and recruited for master doctoral degrees in engineering at Beijing University of Posts and Telecommunications, University of Chinese Academy of Sciences, Nanjing University and Sun Yat-sen University.
Professional talents	Improving the digital capabilities of key groups in strategic business key positions, and continued to implement digital empowerment projects; Focusing on the five main responsibilities and main businesses, the Company carried out featured training programmes in 5G, Big Data, cloud computing, AI and blockchain.
Front-line employees	The Company held more than 74,000 training sessions for digital transformation, with a total of more than 5,010,000 participants; More than 70,000 sessions and 2,440,000 person-times of training were conducted for employees in business, operation, hotline and installation and maintenance.

No. of senior management received training (person-times)	9,274	Average training time of female employees (hour/person)	118
No. of middle management received training (person-times)	214,526	Average training time of senior management (hour/person)	183
No. of general employees received training (thousand person-times)	5,012.2	Average training time of middle management (hour/person)	141
Average training time (hour/person)	118	Average training time of general employees (hour/person)	116
Training rate of male employees (%)	98.31	Training rate of senior management (%)	100
Average training time of male employees (hour/person)	118	Training rate of middle management (%)	100
Training rate of female employees (%)	98.31	Training rate of general employees (%)	98.31

Building a skills training platform

In 2022, the labour and skills competition of China Unicom comprehensively focused on the “1 + 9 + 3” strategic planning system. It anchored the five main channels, built a multi-level, multi-professional and high-coverage group-level labour and skills competition system, and united and mobilised employees to improve their skills and make achievements in the high-quality development of the Company.

- Adhering to innovation-driven development, innovation-related competitions accounted for more than 30% of the total competition, with a total of 180,000 employees participating, generating more than 30,000 innovative solutions.

- Through the competition, the Company improved quality and efficiency, promoted transformation and development, and saved operating costs of RMB110 million.

- The Company signed more than 15,000 projects from government and enterprise innovation solutions and self-developed product promotion labour competitions, 101 self-developed products recorded revenue of more than RMB10 million. Total contract value exceeded RMB10 billion, which was more than the sum of the past three years.

The whole Group held
1,410
various competitions

Covering
1.21 million
employee times

Creating a Happy Life for Employees

China Unicom attached great importance to the physical and mental health of employees, strived to create an inclusive, diversified and happy workplace environment with work-life balance, and actively organised various cultural and sports activities for employees, helped employees in difficulties, so as to help them live a healthy life and work happily.

Safeguarding physical and mental health

- For three consecutive years, the Company organised the “Mental Health Month” and offer EAP to the front line. The total number of visits of the “Mental Health Month” activities reached over 1.1 million person-times, with more than 77,000 participants in knowledge competitions, and more than 32,000 participants in mental health examinations.
- The Company set up a total of 140 “psychological station” across the country to carry out rich team counselling, group salons, psychological counselling, pressure reduction massage and other activities.

Supporting pandemic prevention and control

In the face of frequent outbreaks across the country and the severe and complex pandemic situation, the China Unicom Group’s labour union allocated special funds to areas severely affected by the pandemic to help prevent and control the pandemic.

Shanghai Branch and Jilin Branch made every effort to protect the physical and mental health of employees They provided pandemic prevention materials, set up online medical care and psychological counselling hotlines, and offered pandemic prevention psychology classes, etc., to help employees fight against the pandemic with a positive attitude. The labour union of China Unicom Shandong Branch launched a psychological care assistance hotline for employees to help them solve difficulties in work and life. China Unicom Hunan Branch allocated RMB1,443,000 as anti-pandemic special funds to assist front-line labour unions in fighting against COVID-19. The labour union of China Unicom Shaanxi Branch timely provided material support and care, and set up 10 “Employee Care Stations” equipped with abundant instant food and frequently used medicines.

Carrying out cultural and sports activities

Labour unions at all levels carried out online and offline cultural and sports activities, promoted the construction of dance rooms, gyms, yoga rooms and other places of activity, so as to promote national fitness and enrich the cultural life of employees after work.



Fun Sports Gala of China Unicom Yunnan Branch



Sports Gala of China Unicom Guizhou Branch

Protecting the rights and interests of female employees

- The Company actively provided special health examinations for female employees, promoted the screening of “two cancers”, and provided exclusive care and health guidance services for female employees. The labour unions at all levels generally carried out the “March 8 Festival” activities to enhance the happiness and sense of achievement of female employees.
- The labour unions at all levels have been providing childcare services for employees for many years They actively implemented maternity policies and constructed breastfeeding rooms to solve the worries of female employees.

Helping employees in difficulties

The Company established files for employees in difficulties, with a separate file and policy for each employee. The Company improved the files and administrative measures for filing of employees in difficulties and support and assistance, and carried out an assistance work for employees in difficulties according to the files, so as to help them overcome their difficulties. Care and condolences were given to flood, drought and other disaster-stricken units in a timely manner.

In 2022,
labour unions at all levels

organised nearly **6,000**
recreational and sports activities

RMB **81** million spent on
supporting employees in difficulties

RMB **42** million spent as
condolence fund

Building a “Booster” for People’s Livelihood

The improvement of people’s livelihood is crucial to the overall situation of China’s modern development. China Unicom regarded improving the well-being of the people and promoting their all-round development as the starting point and goal of digital development. The Company continuously enriched the connotation of its communication products and services, actively conveyed the warmth of public welfare, promoted employment, safeguarded the legitimate rights and interests of employees, and continuously enhanced the sense of gain, happiness and security of the people.

Providing Warm and Intelligent Services

China Unicom adhered to the people-oriented development goal, focused on the “1 + 9 + 3” strategic planning system, and deeply implemented the action plan for high-quality services to promote high-quality development with high-quality services. Through multi-angle and three-dimensional publicity, the Company told the service stories of China Unicom, improved the brand reputation of the Company, consolidated the foundation of service, and shaped the reputation of high-quality service.

Building a Quality Service System

China Unicom released the “White Paper on High-quality Services” on 27 June 2022, and actively built an integrated dual circulation operation synergy system to continue creating high-quality services that satisfy existing users and attract new customers.

- Strengthening the “1+4+31” integrated dual circulation operation synergy system. The Company built a 1+4+31 collaborative operation mechanism. Its promoted the coordination among four regional call centres, one upgrade investment centre and 31 provinces. The regional call centres and the centralised provinces deeply collaborated in terms of knowledge operation, work order operation, training, service quality, etc. It systematically connected to support provincial branches, coordinated communication, efficiently promoted the implementation of related work, and did a good job in service support of provincial branches.
- During the Beijing Winter Olympics and Paralympic Winter Games (hereinafter referred to as the Winter Olympics), a service team for the Winter Olympics was set up to provide communication business consultation, handling and problem-solving for customers involved in the Winter Olympics. A total of 12,300 person-times were served.
- Building a closed-loop management process for customer satisfaction. The Company built a contact-based evaluation system for hotline services, and the satisfaction evaluation results were monitored in real time to achieve re-activation of dissatisfied calls. The Company promoted the evaluation of all work order deliveries, and re-activated the outstanding unsatisfactory work orders to improve customer satisfaction.
- Newly added 62 self-service scenarios and 71 direct handling interfaces to enable direct and quick handling of simple business through self-service.



Providing Quality Service Experience

China Unicom organised “100% attention for high satisfaction – I do practical things for the public” special activities, and continuously improved the customer service experience monitoring system and mechanism with specific measures. The Company enhanced self-service capabilities, and provided customers with all-round quality services to improve customer service experience.

- The Company established a customer service experience monitoring system for all customers and all businesses, comprehensively understood customer problems, realised all-round supervision and quick rectification, and achieved a leap in industry status. Customer satisfaction reached 98.4%.
- The Company quickly established a production process that focuses on short-chain solutions. In order to solve various problems encountered by users in the communication travel cards, the customer service hotline, as one of the touch points of customer service, cooperated with professional lines to establish a short-chain processing workflow, and effectively solved the “pain point” problems of subscribers. A total of 3.16 million travel card queries were received.
- Introducing a customer-oriented service supervision mechanism. The Company established a more stringent indicator evaluation system, introduced internal and external service supervision mechanisms from the perspective of customers, realised the supervision of hotline from the perspectives of each channel, with quick rectification to provide customers with high-quality services.
- Self-service hotline service quality inspection. The Company carried out quality inspection of hotline services targeted at identifying errors, failures of solutions and repeated calls in self-service hotline calls. The Company optimised 127 self-service processes in a targeted manner to improve the efficiency of problem solving and enable satisfactory self-service of simple business.



Improving problem solving skills

China Unicom continued to improve its problem-solving ability, provided solutions to address customers' concerns, timely and effectively solved problems for customers, built a responsible corporate image, and established a good business reputation.

- The Company continued to improve the integrated operation capability, established the mechanism of “front-line whistleblowing and department reporting” and coordinated the front and back offices of all professional lines to respond to each customer's problem in a timely manner and improve customer satisfaction.

- The Company continued to promote the digital closed-loop management and control, transparent display, and integrated platform carrying of all customer problems. Customer perception improved significantly, and the valid complaint rate by the MIIT reached a new record low. The effectiveness of the service was significantly improved, and the satisfaction rate of customer problem solving increased significantly by 22 percentage points.

- Based on business needs, the Company continuously optimised the perception assessment of product usage, and deeply understood the subscriber experience from five aspects, namely tariff & package content, publicity, handling, notification and use. In 2022, the Company continued to carry out subscriber consultations on product usage, cumulative covering 105 million person-times.

Conducting various service activities

China Unicom actively cooperated with various industries to provide diversified service support and achieved high-quality reputation promotion across the industry.

- Focusing on the unified topic of “Attentive Service of China Unicom for You”, the Company combined provincial and group-level publicity with special features, national linkage and all-round publicity to form a systematic and rhythm-based three-dimensional publicity voice. The cumulative publicity volume in China reached 5.14 billion times, and nearly 20,000 reports were released by major media such as Xinhuanet, People.cn and SASAC News, effectively driving the positive improvement of the Company's reputation.



- The Company made every effort to support the publicity and service of the Winter Olympics to polish the corporate brand of supporting the Winter Olympics. In terms of services support, the Company set up a special service support team for the Winter Olympics during the events, strengthened the rapid handling of complaints, and achieved smooth hot line services and efficient resolution of complaints during the Winter Olympics and Paralympic Winter Games. In terms of publicity and organisation, the Company coordinated the promotion of the Winter Olympics to its 400 million customers, completed 238 original works, and achieved a cumulative publicity view of 780 million, fully demonstrating China Unicom's contribution to the Smart Winter Olympics powered by 5G, and enhancing the Company's brand reputation in Winter Olympics service.



Carrying out activities to help the disabled and the elderly

China Unicom continued to increase its humanistic care for people with special needs, providing all-round and caring services for the elderly and disabled people, and helped to create a warm and harmonious society.

In 2022, China Unicom benefited more than 680,000 disabled subscribers, with an accumulated reduction and exemption of communication fees exceeding RMB240 million. The Company benefited more than 5.4 million elderly subscribers, with an accumulated reduction and exemption of communication fees exceeding RMB270 million. The 10010 hotline for customers over 65 years old served a total of 66.8 million times and served more than 18.2 million person-times. China Unicom's business outlets set up 4,969 smart elderly service experience centres, and organised 50,000 elderly-friendly activities, serving 1,011,000 person-times, which was praised by the community.

On May 17, 2022, China Unicom officially upgraded and released the "Silver-age Exclusive" service plan to the society. With warm service, the Company joined hands with elderly customers to cross the "digital divide" and experience smart living, so that they can have more sense of gain, happiness and security in the digital age.



China Unicom's "Silver-age Exclusive" Service Plan

China Unicom Anhui Branch optimised the elderly-friendly service in the outlets, continued to enhance its elderly service training and created a "face-to-face" service model for the elderly. The Company provided exclusive and comfortable services for elderly customers, truly enabling them to enjoy the convenient life brought by the technological progress.



Elderly-friendly services at China Unicom Anhui Branch

In 2022, China Unicom Beijing Branch actively built a demonstration base for the application of technology to help the disabled, in the form of public welfare services for the Beijing Disabled Persons' Federation. This made the management platform of the municipal service demonstration centre for the disabled more intelligent and scientific products more easily accessible. It also carried out the information accessibility construction of Hui Ai Building, and developed and installed, free of charges, the indoor navigation system for the visually impaired group, the fall prevention system for the handicapped and the statistical system for the service flow of the disabled, so as to build a demonstration base for the application of technology to help the disabled in Beijing.



A hearing-impaired person was experiencing the "Ting Yu Ling" AR subtitle glasses



A visually impaired person was experiencing the indoor navigation system for the blind

In 2022, the overall satisfaction rating of the Company by the Ministry of Industry and Information Technology showed an improvement trend throughout the year



Engaging in Public Charity to Benefit the Society

As a compassionate, responsible, and courageous communications enterprise, China Unicom has always insisted on connecting with science and technology in good faith, delivering warmth through practice, and actively participating in the development of social welfare undertakings. The Company has deepened its focus on the fields of concept inheritance, social livelihood, environmental protection, epidemic safety, etc. As always, China Unicom takes practical actions to fulfil national requirements, fulfil social responsibilities, give back to the people's trust, and contribute to the construction of a warm and harmonious society.

RMB **1.045** million
external donations in 2022

Building a Youth Volunteer Team

China Unicom always attaches great importance to the inheritance and development of the public welfare concept among the youth. In 2022, China Unicom strengthened its efforts in educating and cultivating young people, actively encouraged them to participate in social welfare undertakings and contribute to the creation of a warm society.

China Unicom continued to vigorously promote the youth volunteer service action. Up to now, there are 943 youth volunteer organisations, 43,237 young volunteers, 6,398 volunteer service activities, and 49,918 person-times of service, including 5,909 in rural revitalisation, 6,805 in poverty alleviation, 17,803 in public welfare and environmental protection, and 19,401 in other volunteer activities. A young volunteer team with enthusiasm, courage, dedication, and goodwill has been successfully built.

Donation project	Donation amount (RMB thousand)
Poverty alleviation investment fund	71
Aid to frontier regions (aid to Tibet, Xinjiang)	43
Other donations (culture, sports, education, medical care, public welfare, environmental protection, etc.)	931
Total	1,045

In 2022, China Unicom Hubei Branch officially launched the "WO Love Volunteer" Special marketing campaign, which actively encouraged youth groups to participate in public welfare activities. The campaign provided "WO Love Volunteer" exclusive tariffs to registered volunteers in the province, provided exclusive and customised 5G video call services for mobile phone subscribers in the province who were registered volunteers, and provided part-time and summer internship activities for college students in various regions who were registered volunteers. Up to date, China Unicom has benefited more than 700 volunteers across the province.



"Tribute to Volunteers – Volunteer Public Welfare Creation Camp" commendation ceremony

Addressing the needs of society for livelihood

China Unicom continued to take improving people's livelihood and well-being as its own responsibility, and continued to provide caring assistance to diverse groups such as the elderly, left-behind children, labourers and young students, spreading the warmth of China Unicom in all aspects and lighting up the hope of the society with the power of goodwill.

- Demonstrating "filial piety", the Company carried out elderly care services through public welfare volunteer activities, and effectively improving the sense of achievement and happiness of the elderly from three aspects: providing services, knowledge education and companionship.
- Being concerned about childcare, the Company protected the growth of left-behind children with the aim of cultivating a healthy and happy physical condition.
- Understanding the "people's minds", the Company showed warmth to the people working hard in all walks of life on the premise of equality, respect and empathy.
- With goodwill and to help the self-development of young people, the Company provide a social platform for college students.

In 2022, China Unicom Hubei Branch actively organised volunteers to carry out free haircuts, free medical consultations, distribution of brochures and other activities for the elderly in the community, and frequently carried out special lectures such as “Anti-fraud Knowledge Classroom” to explain telecom fraud issues. In addition, they also visited the elderly who were empty nesters or living alone through on-site visits to satisfy their needs and provide them with supplies.



Charitable medical consultation



Charitable haircuts



Visiting elderly living alone

In 2022, the “East Hedge Home”, a multi-cross-coordinated and integrated moral education platform for left-behind children, built by China Unicom Zhejiang Branch, provided mental health counselling services 854 person-times, and handled 283 outstanding problems in a joint way. The collaborative handling rate of functional departments increased to 98%, and the education conversion rate of problematic children increased to 96%. The abuse rate, illegal crime rate and mental health problem rate all dropped significantly year-on-year.



China Unicom Zhejiang Branch's Child Moral Education Smart Care Application

China Unicom Jiangxi Branch organised a series of volunteer service activities under the theme of “Learn from Lei Feng to foster a new fashion”, and took the initiative to visit local left-behind children at their school to care about their physical and mental health and learning conditions, and encouraged them to continue to work hard.



“Caring for Left-behind Children, Sharing Love Together for Mutual Growth” volunteer service activity of China Unicom Jiangxi Branch

Since 2020, China Unicom’s Zhongxun Design Institute has organised public welfare education assistance activities called “Warmhearted assistance for learning, Unicom connects us” in Geji County, Ali, Tibet, which is located at an average altitude of 4,800 meters. Over the past three years, a total of RMB 1.52 million worth of books, winter clothing, and teacher’s AI evaluation systems have been donated.



“Warmhearted assistance for learning, Unicom connects us” public welfare education assistance activity

China Unicom Shanghai Branch organised voluntary blood donation service activity, with more than 300 cadres and employees participating in voluntary blood donation.



Voluntary blood donation

Wo Creation Community of China Unicom Jiangsu Branch is a social organisation aims to improve the innovation, entrepreneurship and social practice capabilities of college students. The community is under the guidance of the Jiangsu Provincial Committee of the Communist Youth League, supported by all levels of China Unicom Jiangsu Branch, managed by the Youth League Committee of colleges and operated by students.

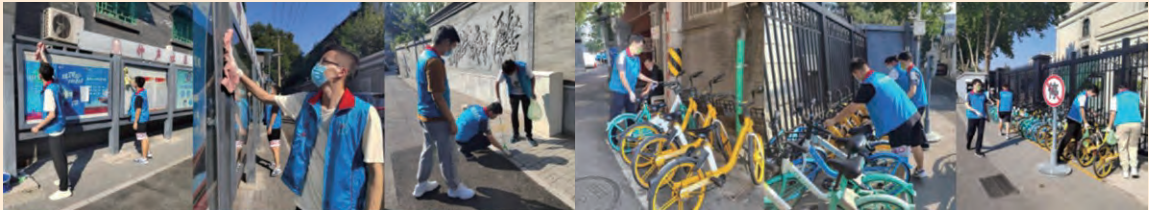


Opening ceremony of the 10th Summer Camp in 2022

Deep Focusing on Environmental Protection

China Unicom adhered to the concept of sustainable development and paid close attention to environmental protection for a long time. Through various public welfare volunteer projects, the Company assisted in ecological protection and restoration, strived to create a green and clean ecological environment for the society, and to explicitly acknowledge and fulfill its corporate social responsibility.

Unicompany Company Limited actively organised young employees to visit Zhongsheng Community, Xicheng District to carry out volunteer service activities. By cleaning up small advertisements on the walls and picking up plastic bags, waste, cigarette butts and various garbage on both sides of the road, they helped maintaining a clean community and conveyed the concept of sustainable living, such as waste reduction at source and waste classification, to the public through practical actions.



China Unicom Hunan Yongzhou Branch actively practiced the concept of green development and organised the "I love Yongzhou, I plant a tree for Yongzhou" tree planting activity to contribute to the ecological environment of Yongzhou.



Relieving the difficulties faced by micro, small and medium enterprises

China Unicom actively responded to the call of the state and undertook the responsibility of a central state-owned enterprise. Through three major measures, namely rent reduction and exemption for micro, small and medium enterprises, settlement of outstanding accounts due to private enterprises and financing cost reduction for micro, small and medium enterprises, the Company spared no efforts to help micro, small and medium enterprises address difficulties and provided strong support for the prosperity and development of the socialist market economy. As at the end of December 2022, the Group's accumulated rent concessions amounted to RMB293 million (RMB199 million reduction and exemption in medium-and high-risk areas in the pandemic), involving 6,910 small and micro enterprises and individual business owners in the service industry.

China Unicom Beijing Branch standardised the relevant processing procedures for rent reduction and exemption for SMEs and individual business owners in the service industry, providing support to effectively ensure the implementation of rent reduction and exemption. In 2022, the Company granted rent reduction and exemption to a total of 412 lessees of property leasing contracts that met the criteria, with an amount of RMB69,357,700.

China Unicom Wenzhou Branch actively carried out special work for the settlement of outstanding accounts due to private enterprises. Through a comprehensive investigation of the amounts due to private enterprises, it sorted out the causes of overdue amounts, established a detailed list, and regularly tracked the progress of the settlement of overdue amounts according to the nature, overdue time and overdue reasons. The Company carried out regular settlement of outstanding accounts due to private enterprises, focused on ensuring the payment to SMEs, and continued to promote the in-depth and solid implementation of the settlement of outstanding accounts.

China Unicom Hunan Branch actively promoted the construction of the financing service system for SMEs. The system was used to innovate financial services, alleviate the problem of information asymmetry, help SMEs to obtain financing more conveniently and quickly, help financial investment institutions to accurately identify corporate risks to strengthen investment confidence, ultimately reducing corporate financing costs, solving the problems of difficult, expensive and slow financing, and achieving the goal of "six stabilities" and "six guarantees" for helping enterprises.



SMEs Big Data Cockpit

Comprehensively Promoting Rural Revitalisation

2022 was a crucial year for China to consolidate and expand the achievements of poverty alleviation and effectively connect with rural revitalisation. The comprehensive promotion of rural revitalisation is a strategic deployment for building a modern socialist country in an all-round way and an objective requirement for the construction of socialism with Chinese characteristics in the new era. China Unicom insisted on making key contributions to rural revitalisation with the responsibility of "national team, key force and frontline troop", regarded digital village as the digital initiative to empower rural revitalisation, and facilitated rural production mode upgrade, governance model innovation and lifestyle improvement in a multi-measure, all-round and in-depth manner, so as to promote the unity of economic and social benefits, and create sustainable development and assistance models.

Shouldering responsibility and actively implementing the rural revitalisation strategy

China Unicom implemented the rural revitalisation policy with practical actions. On the basis of the original "Four New Projects", China Unicom made innovative breakthroughs to keep up with the times, and proposed to fully implement the "Ten Actions" and deepen the "Five New Projects". In accordance with the requirements of the initiatives, the Group clearly defined the overall goals and roadmap, and promoted the development of digital village construction in an orderly manner in five aspects, including infrastructure construction, digital tool base and industrial co-construction ecosystem, so as to write a new chapter of comprehensive rural revitalisation in the new era.



China Unicom Digital Village “Ten Actions” New Initiatives



“Five New Projects” for rural revitalisation

• The Company issued the “Key Points of China Unicom’s Work in Supporting Rural Revitalization in 2022” to plan and deploy the work in four aspects, namely the promotion of rural communication infrastructure construction, agricultural transformation and upgrading, digital application promotion, and a new marketing service model, ensuring clear responsibilities and implementation.

• The Company held the 2022 Conference on Promoting Rural Revitalization to discuss the new achievements of digital rural construction and planned a new chapter of rural revitalisation with practical actions.

• A total of 1552 cadres were selected in 5 counties, 64 towns and 1152 villages for designated assistance by the Group.

• The actual poverty alleviation funds invested amounted to RMB229 million.

In 2022, China Unicom’s efforts in rural revitalisation have been widely recognised. China Unicom’s targeted assistance work has been rated as “good” for four consecutive years by the Central Rural Work Leading Group, ranking top among central state-owned enterprises. At the same time, the “China Unicom Digital Village Service Cloud Platform to Support Information Consumption + Rural Revitalisation” project was selected as one of the 2022 New Information Consumption Demonstration Projects by the Ministry of Industry and Information Technology. The Company received a letter of thanks from the MIIT and the Information Consumption Promotion Alliance of China for organising “information consumption supporting rural revitalization” activities.

Selected cadres for assistance in villages

1,552 people

For four consecutive years
the Company has received
the highest rating of “good”
in the assessment of the effectiveness of targeted assistance work by the central unit.

Over the past 22 years, China Unicom has provided cumulative unconditional assistance funds of
RMB 1.21 billion.

Trained a total of
44,500 cadres and talents of various types for the designated assistance areas.

Benefiting farmers with digital means and paving the way for smart villages

The construction of modern rural infrastructure is an important material foundation for improving rural productivity and developing modern agriculture. As the national team in the operation and service of digital information infrastructure, China Unicom continued to build a digital village base, consolidating the foundation for rural revitalisation and development, and paving an information expressway for benefiting farmers with digital means and for smart villages.

Accelerating the construction of rural digital information infrastructure

The Company carried out the construction of "Digital Village" in more than 3,500 districts and counties in 31 provinces, autonomous regions and municipalities across the country, serving more than 230,000 administrative villages in total. The mobile network coverage of administrative villages nationwide was 95%, and the 4G coverage was 94.3%. After the 900MHz was re-farmed to 5G, the coverage of 5G administrative villages exceeded 70%, the national broadband network covered 26,000 towns and 312,000 administrative villages.

The Company carried out over 50,000 activities to care for the elderly and helped over 1.5 million villagers upgrade their digital intelligent terminals. A wide range of mobile phone training activities for farmers were carried out nationwide to empower 2.3 million people to improve their digital skills.

Optimising the construction of digital village public service platform

Relying on the advantages of its 5G digital infrastructure, China Unicom has independently developed the "Unicom Digital Village" platform, which has the features of full system, modularisation, rapid deployment and diversification, and has become a powerful tool for the government, the village committee and the villagers. By the end of December 2022, the "Unicom Digital Village" platform has covered 253,000 administrative villages and served over 22 million villagers.

In order to empower smart agriculture and smart tourism through information technology, China Unicom Henan Luohe Branch actively expanded 5G network coverage in township and hotspot rural areas. The Company invested RMB7.56 million to build 78 5G base stations in township and provided high-quality 5G services to 63,000 local farmers.



Rural network construction

China Unicom Shanxi Branch adhered to the working policy of radiating to the western region and striving to be the leader in the western region. It actively responded to and supported the business needs of all provinces in the western region. In Jinhua Village and Bageqi Village, Aksu, Xinjiang, China Unicom Shanxi Branch has customised and developed a digital village APP with local characteristics, and developed special functions such as Supporting Xinjiang and VR Party Building Museum. At the same time, it initiated the construction of the Big Data centre project for agriculture and rural areas, promoted the integration and sharing of basic data of agriculture and rural areas, expanded digital village applications for "agriculture, rural areas and farmers", and empowered the development of digital village through data, thus improving the overall informatisation level of the two villages.



Digital Village APP developed by China Unicom Shanxi Branch

Helping farmers get rich through industries and consolidating the achievements of poverty alleviation

Industrial revitalisation is the top priority of rural revitalisation. On the way of promoting agriculture and rural development with science and technology, China Unicom relied on the distinctive resources of agriculture and rural areas to actively carry out in-depth cooperation with ecosystem partners in live broadcast, education, tourism, media, terminals and finance. The Company cooperated with the government, industry associations and enterprises to promote the penetration of social resources to rural areas, and promote digital agriculture and digital commerce to boost agriculture.

In 2022, the Company implemented more than 500 digital agriculture and rural ecological service projects nationwide, vigorously supported the integrated development of primary, secondary and tertiary industries, and promoted the upgrading of the entire industrial chain in rural areas.

Since 2016, the Company has invested a total of RMB760 million in poverty alleviation funds and specially supported more than 3,000 digital industrial projects.

China Unicom actively explored combining its own business capabilities with rural revitalisation, sharing the development results and contributing to common prosperity while revitalising villages and benefiting farmers. For example, the Company combined digital village construction and digital technology to enable online sales of agricultural products, helping to cultivate a number of unique and high-quality agricultural product brands. For another example, China Unicom and village collectives jointly established the “Communication Cooperatives”. Through the model of “digital village platform + village collective economic business cooperation”, the digital villages were built and operated with cloud-network integration. By introducing the communication cooperatives as a project to strengthen the collective economy, the interests of the village collectives were expanded through the combination of “resource co-construction + terminal financing instalment”.

Building distinctive industrial advantages

China Unicom Heilongjiang Branch built a modern agricultural park for breed cultivation base project based on 5G + agricultural Big Data in Wudalianchi. Through the 5G high-speed network and combined with Big Data capabilities, it realised the integrated data collection, analysis, processing and intelligent calculation, built an industrial chain operation system integrating primary, secondary and tertiary industries, realised the overall cost reduction and efficiency improvement of the base, solved the problem of fragmented and decentralised agriculture, so as to scientifically manage agricultural production. It effectively guided farmers for their farmland operations, and improved crop production and farmers’ income. The project was selected as the MIIT 2022 Big Data Industrial Development Pilot Demonstration Project, and won the third prize of the World 5G Convention - 5G Application Design Competition.



Digital Agriculture Cloud Platform

The working team of China Unicom Shanxi Branch in Shangshile Village, Liyang Town, Heshun County actively sought agricultural projects suitable for the development of the village, and built a 50,000 sq.m. Shanxi cultivation base in Shangshile Village to support rural revitalisation with industrial revitalisation. The oyster mushroom industry realised a employment of hundreds of local people, and drove a steady growth in average monthly income of local people. With the support of the oyster mushroom industry, the per capita income of the village has reached RMB12,600, far above the local income poverty alleviation line of RMB 6,500.



Oyster mushroom harvest in Li Yang Town, Heshun County

China Unicom Yibin Sichuan Branch actively addressed the problem of fruit oversupply by launching live promotion activities in Gao County and promoting the construction of communication infrastructure in rural areas. The farmers spoke highly of the company’s services and recommended them to others, and more farmers were able to achieve agricultural prosperity through using China Unicom’s digital village services.



China Unicom Sichuan Branch helped farmers boost sales through live broadcast

Actively Fulfilling Overseas Responsibilities

China Unicom shouldered the mission of smooth domestic and international dual circulation and actively fulfilled its responsibilities to help China achieve high-level external development. China Unicom not only earnestly fulfilled its social responsibilities in China, but also actively fulfilled its overseas responsibilities in international operations. It achieved remarkable results in actively helping the global fight against the pandemic, participating in the “Belt and Road” initiative at a high level, and vigorously supporting the global poverty reduction cause.

Conscientiously operating international services

China Unicom relies on China Unicom Global (CUG) to establish a global customer service system and leverage its strong global network and service advantages. China Unicom is committed to becoming the “value creator of international digital services trusted by customers”. It provides global operator customers, commercial and enterprise customers and mobile business users with global end-to-end integrated information services.

Sincerely providing excellent cross-border business

China Unicom actively implemented the requirements of five main responsibilities and main businesses. At present, it has formed five product systems, namely Big Connectivity, Big Computing, Big Data, Big Application and Big Security. Through an international interconnection bandwidth of more than 100 Tbps connecting to five continents of the world, it provided digital empowerment for people and enterprises in these countries, and promoted the stable and healthy development of the global digital economy.

- **Providing diversified services.** In order to meet the needs for express lines, the Company launched in total 156 express lines and achieved rapid fulfilment. In response to the needs of enterprises, the Company launched a new 10099 SLA support service, launched the “computing power centre + DC Internet access + X” IDC full-stack product, launched the Global Unicom Cloud service, global intelligent networking solution service, etc. In response to the demands for global cloud SMS, the Company provided A2P, a dual-node, cross-network and cross-cloud deployment platform, which reached over 200 countries and regions around the world. In response to the needs of various vertical industries, the Company provided solutions for eight major industries, namely manufacturing, energy, retail, warehousing and logistics, finance, government, TMT and media, as well as integrated security services including phishing mail drills, Sky Engine, vulnerability scanning, cloud WAF, cloud shield, terminal security services and information security consulting services. In respect of Big Data, the Company provided Big Data visualisation platform, Wokelai marketing platform products, and Big Data intelligent park, automotive industry solutions and other services.

- **Providing high-quality services.** After years of development, China Unicom has more than 130 business access points around the world, and has established international Internet interconnection with more than 140 operators around the world, and 4G international roaming access to 210 countries and regions; 5G international roaming access to 45 countries and regions; data roaming is accessible to 249 countries and regions. In 2022, the data centres provided by China Unicom through cooperation covered 43 countries and regions. At the same time, the Company actively promoted the construction of cross-border projects, and put into operation cross-border land cable with the capacity of more than 9 Tbps in 2022. The capabilities of cloud network and computing power were significantly improved. The total storage capacity of overseas cloud resources reached 45,000-core vCPU and 17,000TB, 4 times larger than the vCPU scale at the beginning of the year. The storage capacity in Hong Kong reached 9,000-core vCPU and 1,400 TB, representing an increase of 50% from the beginning of the year.

Over **130**
global business
access points

4G international roaming
accessible to
210
countries
and regions

5G international roaming
accessible to
45
countries
and regions

Data roaming accessible to
249
countries
and regions

Building a digital Silk Road

China Unicom deeply implemented the Belt and Road Initiative, actively participated in and fully promoted the construction of the Belt and Road. It was always full of confidence in the construction of the Belt and Road, and continuously promoted the high-quality development of the Belt and Road Initiative.

- **Enabling connection of facilities in the “Belt and Road”.** In accordance with the “Belt and Road” north, middle and south routes planning, the Company has built a multi-path, multi-system, secure, stable and high-quality information optical channel for the Silk Road Economic Belt. The Company has further constructed high-quality transmission lines between Asia and Europe along the north route, worked with the Central Asian countries to build an ultra-low latency channel between Asia and Europe along the middle route, and formed international multi-way access capability with submarine and terrestrial cables along the south route. In 2022, the capacity of submarine cables in the “Belt and Road” direction increased from 26.9T to 44.8T, and the total capacity of cross-border terrestrial cables increased from 20.1T to 25.6T, which enable access to major countries and regions along the “Belt and Road”.

- **Promoting network improvement for the “Belt and Road”.** China Unicom actively responded to the national initiative and stepped up its efforts in network layout and project construction along the “Belt and Road”. The Company invested more than RMB550 million along the “Belt and Road”, and set up 30 branches around the world, half of which are located along the Belt and Road, offering high-quality digital services for “outgoing” enterprises. In 2022, China Unicom continued to lead in international Internet quality. According to the MIIT Report, China Unicom delivered the best Internet quality among the basic telecom operators in terms of latency and packet loss performance for 20 consecutive months. In 2022, the Company newly established five overseas access points in the “Belt and Road” regions, including Jakarta in Indonesia, Vladivostok in Russia, Phnom Penh in Cambodia, Manila in the Philippines, and Muse in Myanmar.

• Driving joint development of the “Belt and Road”: On the one hand, the Company continued to strengthen the construction of the core friends circle of the “Belt and Road”. This was achieved through joining industry alliances, joining the global operator open collaboration platform, promoting cooperation with key customers for joint development. The Company actively carried out ecological cooperation such as multi-cloud platform, network and information security, supply chain, system integration and smart city, and privileges. The Group has established ecological partner system, international roaming partner system, industry solution partner system and cloud computing service partner system with more than 300 carriers, more than 500 mobile carriers, more than 130 ICT enterprises and 12 major cloud providers in the world respectively, to achieve mutual benefit and win-win. On the other hand, China Unicom has become the “chief consultant of international smart applications for inbound and outbound business and travel customers” by providing preferential products and services for public users in countries along the “Belt and Road”.

The capacity of submarine cables in the “Belt and Road” direction reached

44.8_T

The capacity of cross-border terrestrial cables in the “Belt and Road” direction reached

25.6_T

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 caring for women’s health, environmental protection, care for vulnerable groups and supporting local communities to fight against the pandemic, in order to contribute to the society and fulfil its overseas social responsibilities.

Through social media platforms such as SMS, WeChat and Facebook, the Group released pandemic updates and anti-pandemic tips to the whole network, and vigorously promoted the new version of My CUniq APP and CUniq online shopping mall. Since the fifth wave of the pandemic, the Company sent a total of 860,000 SMS messages in three times, encouraged the public to use online self-service 7x24 at home instead of leaving home to minimise gathering. The Company participated in the “Central Government’s Assistance to Hong Kong – Health Guard YouAndMe” activity, distributed the CUniq 5G Luna Card (Public Welfare Version), offered warmth to the youth and children’s families, and helped each family solve problems such as communication and remote courses. The Company gave away 2,000 anti-pandemic gift packs to Hong Kong citizens, and provided 100 5G routers and 300 phone/Internet cards to people with urgent needs for Internet service, met the network and communication needs of some citizens under the pandemic.



CUG participated in the “Central Government’s Assistance to Hong Kong – Health Guard YouAndMe” activity

In September 2022, CUG participated in the “Caring for the Community – Celebrating the Return of Hong Kong, the Mid-Autumn Festival and the National Day and caring for the elderly visiting activity” and “Celebrating the return of Hong Kong and the National Day and caring for the elderly - home visit for the elderly who live alone” activities organised by the Hong Kong Chinese Enterprises Association, offered warmth to the elderly in the community.



CUG offered warmth to the elderly in the community

Over the years, CUG has participated in the Hong Kong charity sale of “HKFHY’s Cookies - Gift for Love” organised by the Hong Kong Federation of Handicapped Youth and provided help to those in need. In 2022, CUG obtained the “Caring Company” certification and received the special award certificate from the organiser. CUG awarded the “Caring Company” certification for five consecutive years.



CUG participated in the Hong Kong charity sale

Actively protecting local people's livelihood

China Unicom carried out various business activities overseas in compliance with laws and regulations. Under the principle of “one set of regulations, one system and one framework”, it continued to optimise the agile and smart supply chain, actively employed local employees, strictly abided by the local market order, business rules, social customs and cultural habits, and strives to build a mutually beneficial and win-win development community.

<p>Developing local supply capacity</p>	<p>In 2022, China Unicom's overseas procurement and supply centre relied on the local market, aiming to build a secure, efficient and flexible smart supply chain system. In terms of procurement policy, it was based on the Group's procurement policy, the Company formulated localised procurement strategies according to local conditions, issued 1 first-level system, 2 second-level systems, 4 third-level systems, and revised 1 third-level system. The Company completed the export of short list of overseas hotspot areas to 20 cities. In 2022, the localised procurement rate was 100%.</p>
<p>Adhering to green and low-carbon operation</p>	<p>The Company strengthened the supervision and control of energy conservation, environmental protection, health and safety from the formulation of procurement plans, aiming to support low-carbon and low-energy consumption partners. The Company continuously improved the greenness of communication network infrastructure, further promoted energy conservation and carbon reduction, prevented the negative impact of implementation projects on the local area, and protected the local ecological environment. In 2022, the Company won the Certificate of Merit of the Hong Kong Awards for Environmental Excellence.</p>
<p>Focusing on local talent employment</p>	<p>The Company actively solved the problem of local employment and other livelihood issues, vigorously promoted the “Bauhinia Plan” and “U Talent Recruitment and Training Plan” of the CUG, to provide more employment opportunities for local young talents. In 2022, China Unicom Global Limited had a total of 918 overseas employees, including 349 foreign employees; it had 351 overseas female employees, with the proportion of female employees continuing to increase.</p>
<p>Protecting the rights and interests of local employees</p>	<p>In strict accordance with the legal requirements in the employment location, the Company safeguarded 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 2022” certification by World Green Organisation, and recognised as a “Good MPF Employer” by the Mandatory Provident Fund Schemes Authority of Hong Kong.</p> <div data-bbox="858 961 1366 1317" data-label="Image"> </div> <p>Awarded the “Green Office” certification by the World Green Organisation</p>
<p>Carrying out compliance and integrity business operations</p>	<p>China Unicom adhered to the bottom line of overseas compliance operations. In 2022, China Unicom continued to improve its overseas compliance management system based on the unified deployment of the CUG in accordance with the “Compliance Management Enhancement Year” and the actual situation of overseas operations, effectively ensuring global compliance operations.</p> <ul style="list-style-type: none"> • The compliance manual of overseas operating companies was updated on a rolling basis to provide legal guidance for overseas compliance operations; • Organised and carried out a number of risk investigations and improved the long-term risk management mechanism; • Focused on major risk issues, actively and properly responded to them, and made every effort to protect the legitimate rights and interests of the Company; • Organised compliance and contract training to enhance employees' awareness of risk prevention and ensured compliance operations. <p>In 2022, there were no incidents of dishonesty, violation of laws and regulations and disorderly competition, nor were there any incidents involving infringement of the rights of indigenous people and commercial bribery.</p>

Striving to be a “Practitioner” of Ecological Civilisation Construction

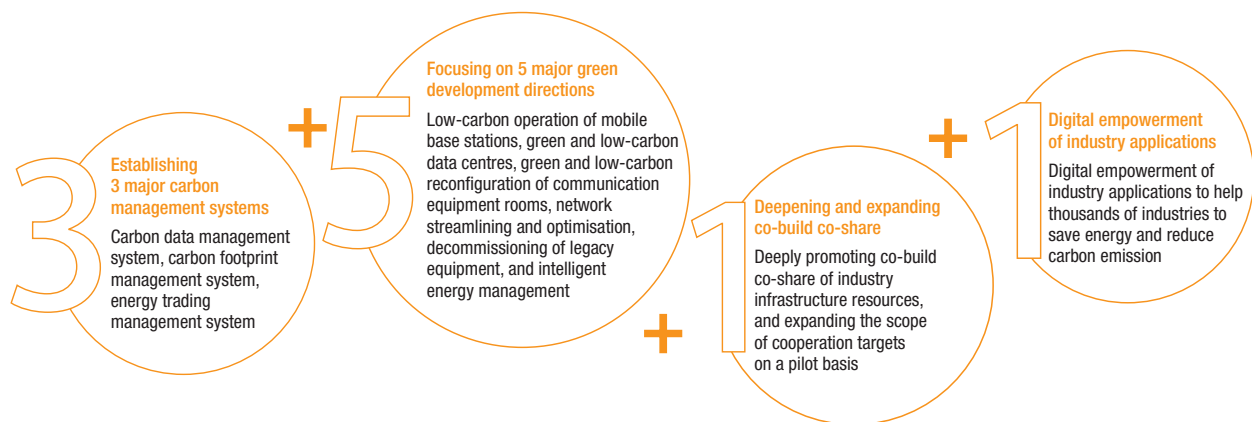
People live up to lucid waters and lush mountains. Adhering to the concept of green development, China Unicom actively responded to the threat of climate change, improved the green management throughout the full life cycle of products, coordinated and promoted green management, network construction, operation and other work, built a green supply chain, innovated information-based solutions, empowered the green development of the whole society, thereby contributing to carbon peak and carbon neutrality, and promoting the formation of a green and low-carbon production mode and lifestyle.

Fulfilling the Responsibilities of Climate Governance

China Unicom attached great importance to tackling climate change and fully implemented policies and systems such as the “Opinions on Completely, Accurately and Comprehensively Implementing the New Development Concept to Realise Carbon Neutrality and Carbon Peak” and the “Action Plan for Carbon Peak by 2030”. It complied with the Environmental Protection Law of the People’s Republic of China, the Energy Conservation Law of the People’s Republic of China and other laws and regulations related to environmental protection. In 2022, there was no violation of laws and regulations in the environmental field.

Optimising the green management system

Following the decision and guidance of the “Carbon Peak, Carbon Neutrality” Management Committee, the Company established and improved the “Carbon Peak, Carbon Neutrality” management system. According to the “Carbon Peak, Carbon Neutrality” 14th Five-Year Action Plan of China Unicom, the Company implemented the “3 + 5 + 1 + 1” action plan. In terms of low-carbon operation, research and development of energy-saving and carbon-reduction technologies, and sustainable use of resources, the Company took a number of improvement measures to comprehensively, systematically and deeply promote energy-saving and carbon-reduction work, so as to improve the effectiveness of environmental protection. With the goal of green and low-carbon circular development, the Company continuously improved the greenness of communication network infrastructure, and helped bring the green and low-carbon development of the industry to a new level. It made a positive contribution to the country’s 2030 targets to increase the proportion of non-fossil energy consumption to about 25%, and reduce the carbon dioxide emissions per unit of GDP by more than 65% as compared with 2005. It is expected that by 2025, the comprehensive energy consumption per unit of information flow will decrease by about 20% compared with 2020, and the comprehensive energy consumption per unit of telecommunications business will decrease by about 15% compared with 2020.



Details of the “3 + 5 + 1 + 1” action plan for carbon peak and carbon neutrality

Actively responding to climate change

Under the framework of national policies, regulations as well as listing rules, the Company comprehensively considered factors such as legal compliance, strategy, operation and information technology to organise climate change risk identification and assessment on an annual basis, strengthened climate change risk management, and conducted special risk identification and assessment on specific projects from time to time.

List of Climate Change Risks

Risk type	Risk categories	Risk descriptions	Time horizon	Countermeasures
Transition risks	Legal and policy risks	The goals of carbon peak and carbon neutrality have led to more stringent measures to limit greenhouse gas emissions, and the carbon emission statistics and accounting system has been gradually standardised.	Short to medium-term	Complying with the carbon emission trading system and reducing emissions, completing carbon emission accounting and quota performance, and regularly tracking the development of climate change-related laws and regulations.
	Technology risks	With the evolution of 5G technology, the energy consumption of equipment has increased significantly compared with 4G, and the number of base stations has increased several times. The Company faces greater challenges in energy conservation and consumption reduction.	Short to medium-term	The Company innovatively proposed a 4G/5G collaborative intelligent energy-saving system, developed and used energy-saving technologies in 5G networks, data centres and other facilities, improved energy-saving and carbon-reduction monitoring and management methods, and carried out network streamlining and energy-saving transformation.
	Market and reputation risks	Sustainable development has become a global consensus. Individual and household subscribers were more inclined to use low-carbon services. The process of green transformation of the industry is accelerating, and more and more stakeholders are concerned about the Company's climate actions.	Short to medium-term	To monitor market changes, promote paperless services, enrich product offerings, launch information-based solutions such as emission reduction and carbon reduction, smart water conservancy and environmental monitoring, timely disclose the progress of the Company's ESG work, promote the concept of green development, and establish a responsible brand image.
Physical risks	Acute risks	Extreme weather such as floods, snowstorms, earthquakes and mudslides may cause various degrees of damage to equipment and facilities, and threaten the safety of personnel.	Short to medium-term	To improve disaster prevention and emergency plans, carry out potential danger investigation in advance during flood season, and organise emergency drills. The emergency command and dispatch centre implements 7×24-hour on-duty to achieve rapid response.
	Chronic risks	Global warming resulted in an impact on the operation, maintenance and power consumption of communication facilities, and the rise of sea level may cause damage to coastal equipment and facilities.	Medium to long-term	To allocate special funds for energy conservation and emission reduction, actively promote the energy-saving transformation of communication infrastructure, improve the comprehensive energy utilisation efficiency, and strengthened coastal flood prevention facilities.

🌱 Achieving Low-carbon Production and Operation

Promoting green and low-carbon production

China Unicom actively promoted the intelligent transformation, energy-saving innovation and green upgrading of communication infrastructure to improve comprehensive energy utilisation efficiency. The Company enforced strict control from the source of equipment procurement, promoted the green management throughout the full life cycle of products, allocated RMB168 million of special fund for energy-saving transformation, and continuously improving the greenness of communication network infrastructure.

Promoting energy saving and consumption reduction in 5G network

- Focusing on equipment, sites, and networks, the Company achieved low-carbon operation of base stations without affecting subscribers' network use. At the equipment level, it actively introduced technologies such as high bandwidth and multiple antennas, gradually improving the integration and energy efficiency of 5G equipment. At the site level, through co-build co-share, centralised machine room deployment, outdoor site deployment and the use of natural cold sources to reduce air conditioning energy consumption, it significantly improved site efficiency. At the network level, the Company adopted artificial intelligence algorithms to predict base station traffic trends and automatically optimised by shutting down some active devices based on time, frequency, space, power and other dimensions.

- Based on the hierarchical energy-saving architecture comprising network level, site level and equipment level, the Company innovatively proposed a 4G/5G collaborative intelligent energy-saving system, realising intelligent energy-saving management of wireless networks, and intelligent control of power supply and other basic peripheral facilities.

- The Company utilised artificial intelligence to forecast base station traffic and put base stations in deep sleep during zero or low traffic windows, with the ability to wake up within seconds. This technology saved approximately 20 million kilowatt-hours of electricity and reduced carbon emissions by about 5,400 tonnes annually without compromising subscriber's experience.

- The Company improved the monitoring and management methods of energy conservation and carbon reduction, realised the simultaneous deployment of energy consumption monitoring of new power facilities, and the simultaneous implementation of energy consumption monitoring of existing power facilities and transformation projects.

China Unicom Research Institute, forged core independent capabilities and achieved industry-leading levels of 4G/5G collaborative intelligent energy-saving management platform technology. In 2022, the Company was awarded the “Top 10 Copyright Owners of 2021” by the China Copyright Protection Center and was selected as an “Excellent Case of Green and Low-Carbon Development in the Information and Communication Industry for 2022” by the China Communications Enterprise Association. The platform was also included in the 2022 World Internet Conference’s “Charm of Science and Technology” achievement manual. The platform’s pilot promotion in Tianjin and other provinces showed significant results, with annual cumulative electricity cost savings exceeding RMB 12 million.

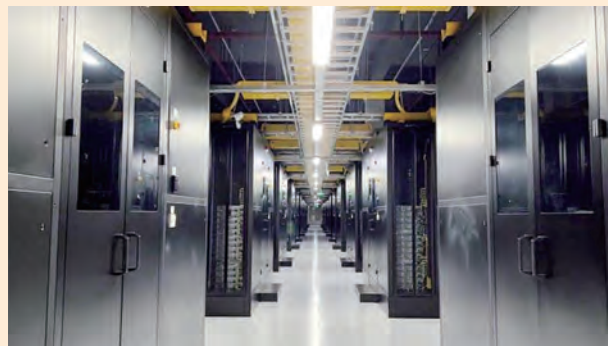


The collaborative intelligent energy-saving platform for 4G/5G has shown significant results in pilot applications on live networks

Building green data centres

- The Company adjusted the layout of its data centers and relying on the “Eastern Data and Western Computing” project, actively guided the construction of non-real-time data centers to move to western regions, using green energy generation in the western regions to alleviate energy consumption pressure.
- The Company strictly adhered to national and local environmental protection regulations for the construction of new communication equipment rooms (including data centers). It built a dual-carbon demonstration park and constructed a green and centralised, secure and reliable computing power infrastructure. The first large-scale new integrated power supply equipment was put into operation in the Hohhot base.
- The Company created the first centralised evaporative cooling air conditioning system in China, a practical case in the field of cloud data centre machine rooms, achieving optimal operational efficiency. This technology uses water evaporation to absorb heat and renewable energy from outdoor dry air to achieve natural cooling of data machine rooms. The Company built the world’s largest data centre indirect evaporative cooling water system cluster application, which achieved a 65% reduction in annual energy consumption compared with traditional cooling and air conditioning systems.

China Unicom’s Shenshan Cloud Data Center is located in the Shenshan Cooperation Zone of Shenzhen, Guangdong Province, a hot and humid area with an average wet bulb temperature of 27.8°C during the summer. Without using new energy-saving products such as evaporative cooling, magnetic levitation units, and fluorine pumps, Unicom Guangdong branch relied on refined operation to tap its potential, and achieved an advanced level of traditional centralised water-cooling air conditioning system PUE of 1.23 annually through management methods such as PUE factor analysis, coordinated operation of cooling system conditions and IT loads, and won the “Leading List” and “2022 Green and Low-carbon Energy-efficient Big Data Center” of China Finance TMT.



Building 2, Shenshan Cloud Data Centre

Promoting green and low-carbon technology for energy conservation

- The Company introduced high-voltage direct current and direct power supply technologies to optimise the air flow of the server room and improve the cooling efficiency. The Company conducted in-depth research on key technologies for energy conservation of 5G network peripheral equipment, installed small air-conditioning and energy-saving equipment such as fresh air ventilator, and made full use of clean energy, appropriate hibernation, time-specific shutdown and other measures to effectively reduce the high energy consumption of 5G.
- After construction was completed, the Company conducted electromagnetic radiation testing on the base stations and made the results public, accepting public supervision to ensure that the electromagnetic radiation from the base stations met the requirements of national standards.

Building a green supply chain.

- The Company enforced strict control from the source of equipment procurement, separately set out green and low-carbon requirements, and increased its weighting in active equipment procurement by 20%. The Company promoted green management throughout the life cycle of products, advocated green logistics, required suppliers to provide products that meet the requirements of green packaging, and imposed strict penalties on unqualified products in energy consumption.

Promoting green and low-carbon operation

The Company attached great importance to energy saving and consumption reduction in its operations, actively promoted paperless services, improved the level of digital office, strengthened energy consumption control requirements in office premises, and required rational use of water resources to further improve the efficiency of resource utilisation.

- **Promoting paperless services.** The Company launched the “Electronic Business Registration Form for Non-physical Business Outlets” function nationwide, and recommended users to use it through China Unicom APP, China Unicom Online Business Outlets, 10010 hotline and other channels, with a total of 125 million transactions completed and more than 546 tonnes of paper saved.

- **Practising green office.** The Company improved and optimised the management system of energy and resources conservation, strengthened the target management of water consumption, electricity consumption and energy consumption, and timely completed China Unicom’s carbon emission accounting and quota performance in 2021. It optimised the operation plan of air conditioning, elevators, lighting and other facilities in office buildings, and carried out energy-saving transformations.

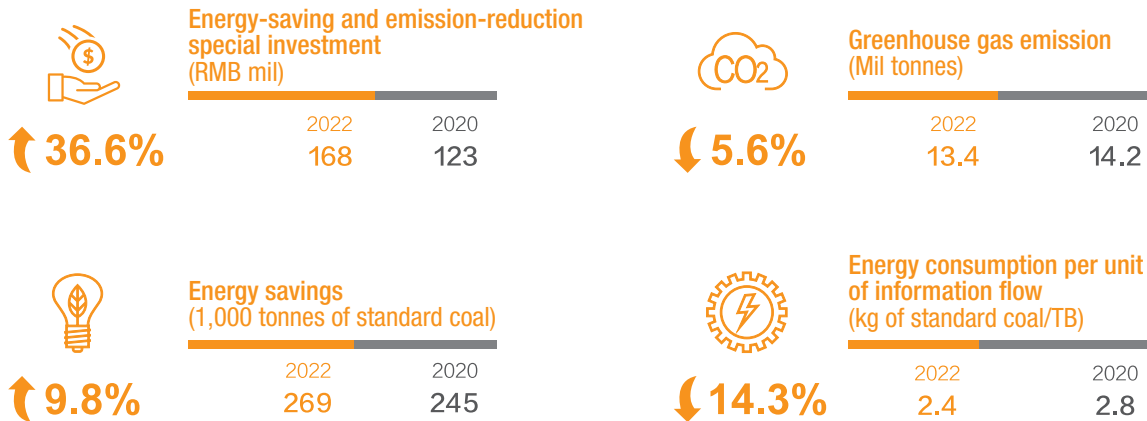
- **Reasonable utilisation of water resources.** The Company strictly complied with the relevant requirements of the Water Law of the People’s Republic of China and the Law of the People’s Republic of China on the Prevention and Control of Water Pollution. In the main water resource usage scenarios, such as water-cooled air conditioning systems and domestic water use, water-saving technologies were adopted to improve water resource recycling. Necessary water appliances were added to the office building, and measures such as using residual boiled water and tea water for cleaning and watering flowers after cooling, and collecting rainwater for outdoor green space irrigation were taken to increase recycling. The reclaim water systems of buildings were improved to reduce the use of tap water. The cooling tower make-up water and return valves were adjusted to prevent water overflow. The water flow of buildings’ faucets was adjusted to avoid splashing and waste. The Company’s daily office and production and operation water mainly came from the unified water supply of the municipal government, and there was no risk of water pollution.

- **Improving the utilisation rate of materials.** The Company increased the internal revitalisation of idle resources and revitalised materials amounting to RMB180 million. The Company strengthened the recycling of materials and reduced waste pollution. The Company completed the public auction for the disposal of scrapped assets of RMB630 million through the Internet auction platform, of which RMB90 million was from the disposal of rechargeable batteries and RMB540 million was from the disposal of other scrapped assets.

The Company vigorously promoted trade-in programs and provided convenient door-to-door service to upgrade devices, thus reducing the pressure on the environment.

- **Spreading the concept of low-carbon and environmental protection.** Internally, the Company organised publicity activities and employee trainings such as the National Energy Conservation Publicity Week and the Low Carbon Day, and increased publicity efforts on low-carbon technology innovation, energy conservation of 5G base stations for the Winter Olympics, and solar energy application. A number of typical cases of green and low carbon cases were selected as the “2022 Model Cases of Carbon Peak and Carbon Neutrality Action”.

Recycled amount upon
scrappage and disposal
RMB 630 million



Empowering the Green Development of Society

China Unicom actively leveraged the important role of 5G in promoting the green transformation of the industry, accelerating the process of energy conservation and emission reduction, and protecting the natural ecology. The Company launched digital solutions for carbon reduction, smart water conservancy, environmental monitoring and energy consumption management, empowering the green transformation and upgrading of various industries.

Empowering ecological and environmental protection

The Company supported ecological protection with digital technology integration and innovation, and have developed a number of solutions such as China Unicom’s smart water conservancy and smart ecological environment. The Company provided applications for smart river and lake management, smart sand mining and other fields. Such protections have been widely applied in provinces along the Yellow River, such as Henan, Qinghai and Gansu, and rivers under the administration of the Yellow River Conservancy Commission, to support precise pollution control in areas such as water environment, atmospheric environment, pollution sources and hazardous solid waste, and help protect biodiversity.



Infrared cameras successfully captured an image of a wild panda

In the Sichuan Fengtongzhai National Nature Reserve, China Unicom Sichuan Branch has created a 24-hour integrated monitoring system, a power supply system, an intruder dissuasion system and a high-quality network transmission system. Located in the Qionglai Mountain series, a key corridor belt for the habitats of pandas, the nature reserve plays an important role in promoting the genetic exchange among the panda population. Through the infrared cameras, a precious picture of a wild panda playing in the tree cave was successfully filmed.

Empowering the green transformation of industries

Focusing on the adjustment of industrial structure and the improvement of resource and energy utilisation efficiency, it has been a direction of China Unicom to promote the deep integration of emerging technologies such as the Internet, Big Data, AI and 5G with green and low-carbon industries. In 2022, the Company submitted the “5G Full Connection and Integration Network to Empower Green and Intelligent Manufacturing” solution and won the third prize for Green Manufacturing in the 5th “Blooming Cup” 5G Application Collection Competition.

To address issues such as waste of resources, environmental pollution and ecological damage caused by unreasonable mining development, China Unicom relied on its smart mine team to launch three major solutions including “5G network construction, intelligent equipment transformation, and intelligent management and control of mining”, thereby promoting the development of the mining industry towards safe, green, intelligent and efficient development.

China Unicom Fujian Zhangzhou Branch entered into a cooperation agreement with Zhangzhou Keneng in relation to a “5G + Industrial Internet” digital project. Both parties would integrate and upgrade each other’s advantages based on China Unicom’s “Energy Consumption Cloud” platform and Keneng’s “Energy Cloud” platform to jointly build an energy consumption management cloud platform of Zhangzhou and create typical application scenarios of “5G + Industrial Internet”. Through 5G + unmanned inspection system in power distribution room, 5G + intelligent fault early warning, 5G + intelligent security, 5G + distributed power monitoring, 5G + intelligent charging piles and other 5G innovative applications, the Company provided enterprises and parks with smart and green industrial Internet solutions such as safe energy use, energy consumption management, operational management, etc., to create an industry benchmark for energy consumption management.

China Unicom Shanxi Branch actively responded to the call of “dual carbon” action and, through 5G digital empowerment, comprehensively penetrated the whole production process of Jinnan Steel, realising automation of production process and refinement of production management, which in turn enabled quality improvement, cost reduction and efficiency enhancement as well as green, low-carbon and environmentally friendly development for the traditional iron and steel industry.



Jinnan Steel's 5G + Industrial Internet Architecture