Digital Intelligence Innovation

As we progress into a new round of technological revolution and industrial transformation, data has emerged as a factor of production, computility as a new fundamental energy, and artificial intelligence as a new tool of production, and they together constitute important driving factors for new quality productive forces. Striving towards the strategic positioning of becoming “a world-class information services and sci-tech innovation enterprise”, China Mobile fully contributes its “Mobile Power” in the digital intelligence era, becoming a leading force behind China’s leapfrog development of science and technology, making active contributions to the building of “Cyberpower” and “Digital” China to accelerate the construction of a new type of information service system. Focusing on propelling China towards greater technological independence and strength, we promote the reform of the cyberspace information industry, and fully implement the “Three Major Programs” of “Two New Elements” upgrade, the “BASIC6” sci-tech innovation initiative, and the “AI+” initiative. China Mobile is dedicated to fulfilling three primary tasks, namely, enriching a digital-intelligent life, supporting digital intelligence in production, and promoting digital-intelligent governance, while continuously expands ecological collaborations. By building a digital economy ecosystem with close partnership and connection, the Company aims to develop new quality productive forces and accelerate the advancement of Chinese-style modernization.

5G

Leading New Information Services

Enabling a Future of Digital Intelligence

Leading New Information Services

China Mobile is comprehensively advancing the "Two New Elements" upgrade, accelerating the construction of new types of information infrastructure and information service system, and promoting high-quality reform in research and development management mechanisms. By leading industrial innovation with technological innovation, the Company accelerates revolutionary breakthroughs in technology, innovative allocation of production factors and the deep transformation and upgrading of industries. China Mobile is fully upgrading its new information infrastructure that integrates a broad range of communication technologies (from space to aerial to land), computing capabilities (from general-purpose, intelligent, super- and quantum computing) and processes (from perception, transmission, storage and processing). This will fuel the development of new quality productive forces with robust and sustained momentum.

Building High-speed and High-quality Network Connections

China Mobile is committed to enhancing the 5G and gigabit optical fiber networks to create a high-quality "dual-gigabit" network. This initiative aims to offer faster speeds, higher quality, enhanced security, and broader coverage across various sectors, facilitating smooth digital-intelligent transformation throughout society.

※ Strengthening the 5G network

China Mobile is dedicated to the precise planning and construction of the 5G network and leveraging wireless network data to expand the depth and breadth of 5G coverage, thus enhancing overall network quality. We have established the world's largest high-quality 5G network, encompassing over a third of global 5G base stations, with almost continuous coverage in cities, counties and townships nationwide, as well as effective coverage of key locations and areas.

Newly built **467,000** 5G base stations, bringing the total to more than **2.4 million**

Covered over **90%** of Chinese administrative villages and **96%** of the population with the 5G network

Deployed over **450,000** 5G-A lightweight (RedCap) base stations across **337** cities nationwide

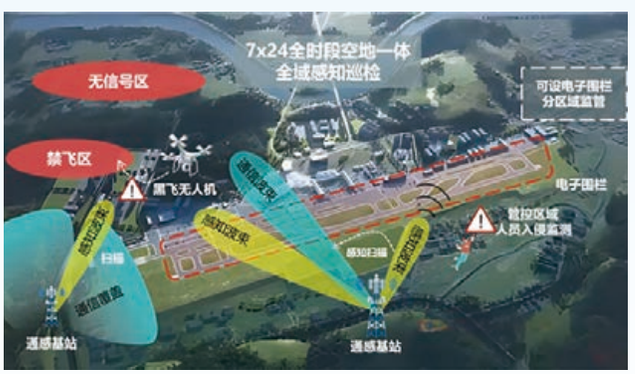
Installed more than **500** integrated sensing and communication 5G-A base stations

Achieved commercial use of 5G-A downlink three-carrier aggregation[1] in over **90,000** communities, facilitating extensive deployment in key cities and scenarios

Creating the world's first "5G-A" integrated sensing and communication base stations to safeguard airport runways

Safety is a critical aspect of smart airport infrastructure, with a focus on preventing airspace and runway incursions. The 5G-A integrated sensing and communication base stations provide round-the-clock monitoring. These stations detect and track drones, aircraft, and other intrusions in low-altitude runway areas in real-time, and monitor unauthorized vehicles and pedestrian access on the ground, significantly promoting the safe development and intelligent transformation of airports.

China Mobile has launched an innovative collaboration with Baoshan Yunrui Airport in Yunnan, utilizing 5G-A technology to build a proactive, real-time interactive sensing safety monitoring system. This system enables continuous 24/7 real-time sensing and tracking of various intrusions within the airport's boundaries, offering comprehensive real-time monitoring of critical areas, including runways, aprons, and surrounding no-fly zones. With a detection accuracy rate of 99%, the system reduces construction costs by 50% and labor costs by 20% compared to setting up primary and secondary radars and millimeter-wave radars for low-altitude runway intrusion prevention, effectively addressing key challenges in low-altitude defense management at airports.



Yunnan Baoshan 5G-A airport safety project

[1] The core principle of Carrier Aggregation (CA) is to combine multiple contiguous or non-contiguous carriers, also known as frequency bands, to form a wider transmission bandwidth. In downlink three-carrier aggregation, three carriers are aggregated in the downlink (from the base station to the terminal device) for data transmission, boosting the speed of downlink data transfers.

※ Enhancing gigabit networks

China Mobile actively extends the national “Dual Gigabit” initiative, continuously enhances the precise development of our gigabit capabilities, and improves the breadth and depth of our gigabit optical fiber network coverage, and creates a high-quality gigabit broadband network connecting millions of households. We prioritize the deployment of 10G passive optical networks (PON) in high-demand areas while continuously expanding pipeline coverage. We persisted in co-development of network and business, made breakthroughs in connecting low-access rate communities, thereby enhancing our network resource utilization efficiency and investment return.

By the end of 2024

100% of Optical Line Terminals (OLT) in cities, counties, townships, and rural areas nationwide had gigabit service access capabilities

Household pipeline covered over **670 million** households, among which gigabit broadband covered **480 million** households

Served **270 million** household broadband users, including **100 million** gigabit broadband users

Each 10G PON port served an average of **8.3 gigabit** users

Household broadband user disconnection time was kept ≤**1 minute**

Dedicated line failure rates was ≤**0.65%**, while the service compliance rate for IoT and Private 5G was ≥**93%**

※ Deepening joint construction and sharing

China Mobile continues to advance the 5G network construction and sharing cooperation with China Broadnet. By collaborating on 5G technology R&D as well as application innovation, both parties aim to build a nationwide 700MHz 5G network with advanced technology and high quality. This will establish a shared network quality assurance system centered around customer experience, enhancing resource utilization efficiency, achieving mutual benefits, and fostering high-quality industry growth.

An additional **119,000** new **700MHz** 5G base stations have been jointly built and shared, bringing the total to **739,000** stations

An agreement has been reached with China Broadnet for full-band cooperation at **160MHz** in the **4.9GHz** band

Over **150** new government and enterprise cooperation projects have been launched nationwide

Upgrading the Ubiquitous Converged CN

With the rapid growth of the digital economy and the extensive application of artificial intelligence, big data, and cloud computing, industries are experiencing an explosive demand for computility. In 2021, China Mobile pioneered the concept of CN. By 2024, the Company had accelerated the evolution of computility infrastructure towards an integrated general-purpose computing, intelligent computing, supercomputing and quantum computility model, developing a diverse, ubiquitous, green and low-carbon intelligent computing cluster, and bolstering the grid integration of social computility like supercomputing and quantum computility. Additionally, the self-developed CN Brain reached commercial scale, enabling unified management and real-time allocation of CN resources and making computility a public service that is as accessible on-demand as water or electricity.

Upgrading the Ubiquitous and Converged CN

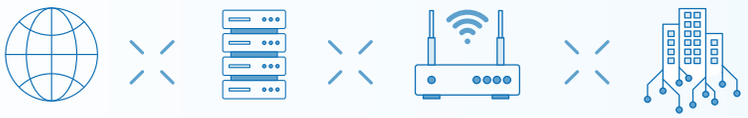
※ Deepening the construction of CN infrastructure

China Mobile is implementing the national Eastern Data and Western Computing project by integrating the intelligent computing centers into the "4+N+31+X" computility system[2]. The Company has devised an "N+X" intelligent computing center layout featuring advanced technology, green energy efficiency, and comprehensive services, advancing the construction of national hub nodes to create a nationwide computility assurance base. This initiative aims to achieve integrated and coordinated computility across eastern, central, and western regions, promoting a green CN upgrade. By the end of 2024, China Mobile had independently established intelligent computing capacities reaching 29.2 EFLOPS (FP16) and general-purpose computing capacities of 8.5 EFLOPS (FP32), together accounting for 6.4%[3] of China's total computility.

29.2 EFLOPS (FP16)
intelligent computing capacities

8.5 EFLOPS (FP32)
general-purpose computing capacities

6.4 %
of China's total computility



Deploying CN resources

The first 13 intelligent computing center nodes have been established, with intelligent computing centers equipped with more than 10,000 GPUs successively set up in cities of Hohhot and Harbin.

Strengthening CN foundation

China Mobile's CN layout now covers all key "Eastern Data and Western Computing" hub nodes.

Building a green intelligent CN

China Mobile led the industry by proposing new standards for "Green Intelligent Computility Parks" and took the initiative to draft the Cold Plate Liquid Cooling Industry Standard. Additionally, the Company promoted the application of energy-saving technologies including high temperature water, liquid cooling, and AI, with a total of 27 data centers included in the National Green Data Center list.

China Mobile is building an integrated intelligent computility system, promoting the integration of data, intelligence, and computility. The Company is fully establishing a leading advantage in computility optical networks and computility internet, deploying a ubiquitous, flexible, and efficient access network to accelerate the intelligent and rapid development of the computility network.

The 400G all-optical backbone network: building a high-speed connection for "Eastern Data and Western Computing"

In June 2024, the world's largest and most extensive 400G all-optical backbone network, developed in collaboration with domestic industry partners, was fully put into operation. By integrating cutting-edge technologies and leveraging an innovative network architecture coordinating optical and electrical resources, this Network establishes a high-speed connection among over 135 cities across 30 provinces in China. The Network fully connects the eight key hub nodes of the national Eastern Data and Western Computing project, creating a "super transport system" spanning east to west and radiating from these hubs. With four times the transmission bandwidth compared to traditional technologies and a network capacity exceeding 30PB, the Network significantly enhances data transmission capabilities, providing robust support for social digital-intelligent transformation. In December 2024, the Network was recognized as one of the "Top 10 mega-projects of China's central state-owned enterprises in 2024" of the year by the SASAC.

The 400G all-optical backbone network was put into operation

[2] The "4" hot spot regions refer to the Beijing-Tianjin-Hebei region, the Yangtze River Delta, the Guangdong-Hong Kong-Macao Greater Bay Area, and the Chengdu-Chongqing region. The "N" central nodes correspond to the ten national hub nodes, which house ultra-large/large data centers within data center clusters, as well as the Harbin Data Center. The "31" provincial nodes refer to ultra-large/large data centers deployed across each province. The "X" edge nodes refer to city-level data centers and aggregation rooms deployed in various regions.

[3] As of the end of 2024, the Company's total computility reached approximately 17.3 EFLOPS (FP32), while the national total computility stood at around 268 EFLOPS (FP32). The national figure is calculated based on the MIIT's recent announcement that China's computility scale increased by 16.5% in 2024 compared to the end of 2023. According to MIIT data, the national computility at the end of 2023 was approximately 230 EFLOPS (FP32).

※ Innovating CN Technologies

The computility underlying technology is one of the key elements of CN. China Mobile pursue continuous innovations, comprehensively upgrade the New Intelligent Computing Center (NICC) for large models across five major areas: storage, computing, networking, management, and efficiency, and strategically positioning ourselves with a series of pioneering technologies.

Omni-directional intelligent sensing express architecture: Focusing on breakthroughs in high-speed interconnectivity technology for intelligent computing GPUs, China Mobile is driving the upgrade of domestic AI chips towards super-node configurations. In collaboration with the Beijing Municipal Science & Technology Commission and 48 enterprises, universities, and research institutions, we have established an Omni-directional Intelligent Sensing Express Architecture (OISA) Collaborative Innovation Platform to jointly promote the development of OISA GPU interconnectivity technology.

Computility Routing: China Mobile unveiled the world's first computility router at the 2024 Mobile World Congress, and launched a pilot project for computility routing across 20 cities in five provinces.

Full-scale Ethernet scheduling: China Mobile has developed new inter-router Ethernet forwarding mechanisms and collaborated with industry partners to develop network chips, accelerating the commercial deployment of fully schedulable Ethernet.

In collaboration with **48** enterprises, universities, and research institutions, established an Omni-directional Intelligent Sensing Express Architecture (OISA) Collaborative Innovation Platform

across **20** cities in **5** provinces

launched a pilot project for computility routing

Wide-area high-throughput: Addressing the demand for wide-area high-throughput transmission, China Mobile has solved the industry challenge of high-throughput transmission in "Long Fat" networks (networks characterized by long distances and large bandwidths). We successfully completed a 5,000-kilometer ultra-long-distance, 70Gbps ultra-high-throughput "express data delivery"[4] trial in the route from Harbin City, Heilongjiang Province to Guiyang City, Guizhou Province.

5,000-kilometer
ultra-long-distance

70 Gbps
ultra-high throughput

※ Expanding CN Services

To enhance the unified management and intelligent scheduling of CN resources, China Mobile has developed the industry's first CN Brain system, thus facilitating the aggregation and efficient utilization of computility from various sources. In 2024, the Company continued to upgrade the function and performance of the CN Brain, officially launched it for large-scale commercial use, injecting new impetus into empowering the digital-intelligent upgrades of industries.

One-stop ordering of CN elements

By constructing a CN Map, China Mobile enables real-time sensing and presentation of computility, storage capacity, transport capacity, and capabilities. The creation of the "AppNest" platform allows developers to build a basic CN application within ten minutes, cutting software and resource management costs by over 30% and quadrupling business development and deployment efficiency, thus significantly lowering the entry barrier for small and micro enterprises to access computility resources.

Empowering digital-intelligent upgrades across industries

Innovating more than 20 task-based services including Express Data Delivery and simultaneous training and inference, China Mobile has achieved task-based upgrades for over 100 typical cloud products and solutions. The Express Data Delivery, applicable in fields like astronomical observation, film editing, and gene sequencing, was honored with the Winner at the 2024 World Summit on the Information Society (WSIS).

Supporting the construction of a national integrated computility system

The CN Brain has been deployed across multiple hub nodes, including those in the Yangtze River Delta and Beijing-Tianjin-Hebei regions. The Wuhu cluster computility public service platform in Yangtze River Delta Hub has become the country's first integrated Four-Computing-In-One scheduling platform, enhancing computility resource utilization efficiency through optimized resource allocation.

[4] "Express Data Delivery" is a new type of CN service designed for the efficient online transmission of massive data volumes. Leveraging China Mobile's robust CN infrastructure and integrating key technologies of high throughput, high reliability, and high security, Express Data Delivery seamlessly connects with data sources to offer a one-stop, efficient long-distance data transmission service across wide areas.

Building an Open and Intelligent Integration Platform

China Mobile has developed an innovative digital infrastructure of the “Ability as a Service” (AaaS) integration platform, pooling high-quality capabilities across multiple domains including big data, artificial intelligence, and blockchain and providing digital capability support to the entire society. Leveraging the integration platform, China Mobile actively participates in the GSMA Open Gateway initiative[5]. Currently, the Company has implemented several distinctive capabilities including 5G new call services, click-to-call, and quality on demand (QoD), accelerating the opening of network and customer service capabilities within industry models and facilitating global industrial collaborative innovation.

※ Strengthening Capability Development

China Mobile’s integration platform encompasses three core capabilities: “business + data + technology”. It offers standardized, available on-demand Ability as a Service (AaaS), along with a comprehensive operational system. The platform helps enterprises reduce costs, increase efficiency, and improve quality, while also facilitating cooperation, mutual benefits, and intelligence empowerment.

China Mobile’s AaaS integration platform

By the end of 2024, the AaaS integration platform had pooled over 1,000 high-quality capabilities, spanning communications technology, information technology, data technology, and artificial intelligence. It responded to 777.6 billion calls from internal and external users throughout the year.

1,348
capabilities launched

60+ billion
average monthly capability utilizations

650 PB
of core value’s data scale

851 capabilities
open to external users

RMB29.8 billion
in direct value generated

25,570
external users

777.6 billion times
of response to calls from internal & external users

[5] GSMA Open Gateway is a universal network application programming interface (API) framework designed to provide standardized interfaces. It facilitates faster integration for developers and cloud service providers with operator networks to enhance and deploy related services.

※ Deepening capability products

China Mobile has been focusing on innovating capability products. By meeting the personalized business scenario needs of diverse users, the Company empowers digital-intelligent transformation across various industries, accelerates the deployment of AI applications and fosters the development of new quality productive forces.

Highlights

Significant achievements accelerate AI application deployment

In October 2024, at the "AaaS+ Integrated Innovation and Development" Forum, China Mobile unveiled the latest achievements in AI large models and domestic innovation within the integration platform.

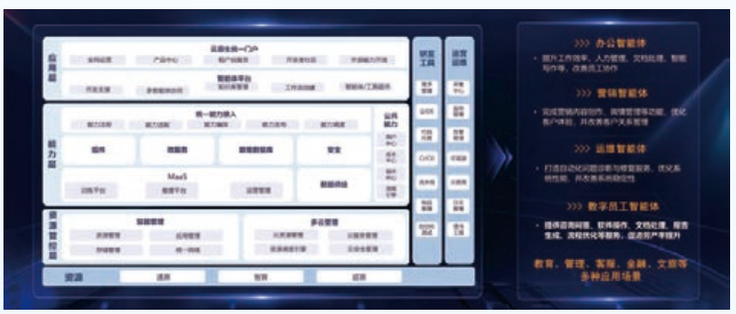
China Mobile's intelligent agent development platform

Built on China Mobile's *Jiutian* foundational large model, this platform integrates six self-developed industry models including Real-time Travel, Finance, and Marketing. It offers users a "zero-code" intuitive experience for building intelligent agents, enabling them to quickly integrate capabilities and create agents within minutes, thereby addressing challenges from large models to AI application development.

Panwei intelligent agent

Offering a one-stop solution for enterprise digital-intelligent transformation, *Panwei* leverages AI and other cutting-edge technologies to provide multiple products, including a platform with comprehensive model training and deployment tools, and an integrated general-purpose computing and intelligent computing scheduling platform. These products ensure unified resource supply, technical management, development and delivery, as well as operation and maintenance services, facilitating customers' cloud migration and intelligent upgrades. The sub-product, *Panwei* Database, caters to the needs of different enterprises by providing tailored configuration options. It simplifies data management and enhances data processing efficiency for data-intensive industries including telecommunications, finance, government, and manufacturing.

China Mobile's intelligent agent development platform



Panwei Stack offers one-stop AI solutions for extensive application scenarios

Pioneering the Frontier of Independent Innovation

China Mobile is deeply advancing the "BASIC6" sci-tech innovation initiative, continuously strengthening high-quality R&D management reforms. With a focus on propelling China towards greater technological independence and strength, the Company vigorously promotes the deep integration of technological and industrial innovation. By improving the innovation system, enhancing innovation capabilities, and stimulating innovation vitality, the Company is dedicated to forging strong national strategic technological strengths to support and lead high-quality development through higher-level technological innovation.

※ Establishing a Technological Innovation Management Framework

The Company enhances the strategic leadership by establishing a Science and Technology Committee, chaired by the Chairman and comprising over 30 top experts from the information technology industry. As the highest-level advisory body, the Committee provides high-level decision-making consultation, direction validation, performance evaluation, and outcome review for major decisions, significant technological issues, and key projects, thus driving the high-quality development of the Company's technological innovation.

※ Optimizing “Unified Five Rings” Scientific Research Layout

The Company optimizes the scientific research layout, focusing on core competencies of R&D enterprises, capability development of industry-research collaboration professional enterprises, application enhancement of provincial enterprises and regional innovation institutions, ecosystem building of the university-enterprise collaboration platforms, and international expansion of overseas R&D institutions. By pooling innovative resources, this layout enhances the efficacy of technological innovation.

Inner Ring

the *Jiutian* Research Institute has been established to enhance core competencies in artificial intelligence.

Middle Ring

dual-track reforms have been advanced by piloting the concurrent management of cost centers and market-oriented operations.

Outer Ring

the role of provincial subsidiaries in technological innovation has further clarified, and provincial subsidiaries were encouraged to leverage regional strengths and explore distinctive “innovation” and “introduction” initiatives, thus producing a series of exemplary cases in technological innovation management and production.

Partnership Ring

the system layout has been optimized by building a R&D cooperation management “1+N” framework. Currently, a total of 35 group-level joint R&D institutions have been established.

Overseas Ring

the Hong Kong Innovation Institute and the China Mobile-Sinar Mas AI Joint Laboratory have been launched and operated. Meanwhile, an overseas capability collaboration R&D management platform has been built to promote international talent exchanges and business expansion.

※ Establishing and Improving Technological Innovation Mechanisms

Innovation Incentive Mechanism

China Mobile adheres to three guiding principles of strategy, business, and innovation, and implements precise incentive allocation strategies. The Company is steadily advancing the *China Mobile Implementation Plan for Incentive and Guarantee Mechanisms to Support Sci-tech Innovation*. Additionally, we incentivize technological innovation talents and establishes a mid-to-long-term incentive mechanism to elevate the Company’s technological innovation to higher levels.

Achievement Commercialization Mechanism

The Company has gradually established a comprehensive achievement commercialization mechanism. Focusing on two main internal and external commercialization paths, we refine an integrated commercialization process for different types of technological innovation achievements. By accelerating the efficient conversion among “technological innovation, capability, product, market, brand, and value” advantages, the Company ensures smooth commercialization of technological innovation achievements from theory to practice.

Internal Focus: Concentrating on cost reduction and efficiency enhancement, the Company accelerates the evolution of technology into capabilities, promoting the application and dissemination of common capabilities to support efficient operation and development.

External Focus: Targeting revenue growth and effectiveness, the Company accelerates the aggregation of capabilities into products, promoting market-oriented sales expansion. This approach gradually nurtures a series of high-impact products with revenues reaching the billion and ten-billion yuan levels.

※ Strengthening the Technological Innovation Talent Team

Cultivating innovative talents

- The Company continuously expands the "Ten, Hundred, Thousand" expert talent pool and increases the recommendation of sci-tech talents for honors and training programs by the Ministry of Industry and Information Technology (MIIT), the SASAC and the CAST;
- The Company boasts two group-level chief scientists, 24 group-level chief experts and over 5,500 provincial-level experts;
- The Company has established a Chief Technology Officer (CTO) System, with 18 individuals appointed as the first batch of CTOs;
- The Company is implementing a patent talent training and certification system, with over 13,000 patent talents, representing about 2.8% of the total workforce.

Building a sci-tech association system

- The Company continuously strengthens the sci-tech association organizational structure, including 13 sci-tech association divisions, 44 sci-tech association branches and four sci-tech association zones, bringing together 374 division experts and over 235,000 members;
- The Company organized sci-tech association brand events, including the 5th Sci-Technology Week themed "Empowering Innovation with New Quality Productive Forces to Pursue a Brighter Future". Additionally, we hosted 30 professional forums and broadcasted 66 expert micro-lectures online, reaching an audience of over one million;
- During the China's National Science and Technology Workers Day on May 30, the Company held an expert symposium titled "Exemplifying the Spirit of Scientists", with over 50 organizations watching the live broadcasting via online platforms.

※ Enhancing the Cultivation of Technological Innovation Achievements

The Company continuously strengthens the reform of the technological innovation achievement commercialization mechanisms, accelerating the conversion of technological innovation achievements into new quality productive forces and fully unleashing the potential of technological innovation.

Technological breakthroughs

- The *Jiutian* Large Language Model is the **first** large model from a state-owned enterprise to pass dual national registrations, and is also among the **first** batch of large models to pass the national standard tests in China, earning an A-level security evaluation certificate from the China Software Testing Center.
- The Company has announced ten 5G-A innovative achievements, leading the development of key technologies including low-altitude intelligent networks, integrated sensing and communication, passive IoT, network intelligence, and duplex evolution to expand the capabilities of 5G networks.
- The 6G Collaborative Innovation Base has been officially integrated into the Northern Node of Pengcheng Laboratory's "Pengcheng Hongyan" scientific facility.
- The Dayun Panshi DPU (Data Processing Unit) chip boasts a data transmission capacity of 400 Gbps, setting a leading benchmark in China.
- The Company has developed **China's first Four-in-One Computing Integration** public service platform for computility in the Wuhu cluster of the Yangtze River Delta to support the construction of a national integrated computility system.
- China Mobile launched the **world's first** 6G architecture validation satellite and the **first** 5G-A NTN regeneration technology validation satellite (China Mobile-01), and completed the in-orbit validation.
- The Company has taken the lead in establishing integrated 5G-A intelligent sensing and communication technology systems and a "communication-sensing-navigation-monitoring" fusion low-altitude intelligent network technology system. We have independently developed the "China Mobile Lingyun" UAV management platform, achieving low-altitude coverage over the **world's first** cross-sea route spanning over a hundred kilometers from Shanghai City to Zhoushan City, Zhejiang Province.
- "Zhi Suan Zhuo Guang" is the **first** DPU chip to fully support the GSE standard, **filling the gap in high-performance DPU chips for new intelligent computing center networks in China.**

Standard setting

China Mobile has led the release of the *General Large Model Evaluation Standards.*

China Mobile has led over 300 initiatives in the 3rd Generation Partnership Project (3GPP) and the International Telecommunication Union (ITU) for 5G standards, alongside over 180 initiatives for 5G-A standards, facilitating the release of the first 5G-A R18 standard version by 3GPP.

China Mobile acted as a joint rapporteur for the world's first 6G standard initiative in 3GPP and led the first 6G standard initiative for C-RAN.

China Mobile led the development of the first 6G standard and security by ITU-T.

China Mobile led the development of the world's first international standard on IoT-domotics security technology.

Research and innovation awards

The project *Key Technologies and Engineering Applications of the Fifth Generation Mobile Communication System* (5G), led by China Mobile, and the project *Multilingual Intelligent Speech Key Technologies and Industrialization*, in which the Company participated, both won First Prize awards in The State Scientific and Technological Progress Award.

Three projects of the *Key Technologies and Large-scale Application of On-demand Reconfigurable Intelligent Business Networks*, the *Key Technologies and Applications of Integrated Supercomputing and Intelligent Computing, and the Key Technologies and Applications of Efficient and Reliable Mass Data Storage Systems*, in which China Mobile participated, have been awarded Second Prize award in The State Scientific and Technological Progress Award.

The achievements of China Mobile, Technology Innovation and Application of Ultra-Large-Scale Computility Grid Integration and CN Brain and Innovation, Industry Development, and International Application of New Type SRv6-Based Next-Generation Key Internet Technology, have won the 2024 World Internet Conference Awards for Pioneering Science and Technology.

The *Large-Capacity Wide-Area Data Express for Scientific Computing Breakthroughs* was honored with the Winner at the 2024 World Summit on the Information Society (WSIS).

The 6G sensory computing fusion (crowd-sourced) R&D test apparatus 1.0 was selected as one of the top ten digital achievements by the SASAC for Digital China and a major scientific and technological achievement at the 2024 ZGC Forum.

Patent development and application

- The cumulative number of domestic patent applications exceeds **44,000**, with **17,000** patents granted; overseas patent applications have accumulated nearly **2,000**, with **820** patents granted.
- In 2024, the number of domestic patent publications reached **9,720**, with **348** PCT international publications, and **384** publications in foreign countries.
- China Mobile has joined a total of **8** international patent pools and licensed patents to more than **140** overseas companies across **21** countries. We have successfully implemented 5G patent licensing fees for the first time and became the first domestic operator to join the world's largest LINUX patent licensing platform.
- A total of **118** patents covering **10** products, including cloud computers and integrated energy cabinets, have been recognized as national patent-intensive products.

※ Advancing the "BASIC6" Sci-Tech Innovation Initiative

B-Big Data — Promoting the transformation of big data capabilities

China Mobile launched a "1+2+N" data circulation service system, upgraded the capabilities of the "One Platform, One Network, One Terminal" product suite and deployed the product in six locations including cities of Tianjin and Guizhou.

The Data Switching Service Network (DSSN) solution has been officially included in the *National Data Infrastructure Construction Guide*, becoming part of the mainstream technological route and practical solutions for national data circulation and utilization infrastructure.

China Mobile strengthened the autonomous and controllable foundation of *Wutong* Big Data, achieving large-scale deployment of lakehouse integration.

A-Artificial Intelligence — Accelerating AI innovation breakthroughs

China Mobile launched the first online large model evaluation tool, offering a one-stop large model evaluation service.

China Mobile accelerated the integration of AI with the network by independently developing large-scale network models. We focused on automating end-to-end network operations under the "AI+" initiative, enhancing network optimization and fault handling capabilities. As a result, the self-optimization processing time for wireless capacity issues has been reduced from days to minutes.

S-Security — Enhancing security product capabilities

China Mobile launched the security large model and developed various AI+ security products, including a smart assistant for security operations, an AI agent and an intelligence assistant, which have been applied across multiple security scenarios.

China Mobile launched the first one-stop, all-scenario anti-fraud service product, providing dual protection with "AI protection + insurance claims". The product has been fully launched and promoted across the entire network.

China Mobile independently developed the integrated, full-process trustworthy "Meta Trust" security solution, pioneering the "connection + security + insurance" one-stop service network security insurance product.

I-Integration Platform — Promoting integration and innovation in the integration platform

The integration platform has aggregated over **1,300** high-quality capabilities from both internal and external sources, with more than **800** capabilities now available for external access. It responds to over **60 billion** calls per month, empowering hundreds of industry solutions, including "Digital Government", "Dongfeng VOYAH High-Precision Positioning" and "Nanjing Intelligent Tourism".

C-Computility Network — Leading the development of CN

- China Mobile addressed key technologies including inter-router connectivity, GPU-to-GPU connectivity, and cross-architecture application migration. In collaboration with the industry, we developed the Omni-directional Intelligent Sensing Express Architecture (OISA) protocol, and established a complete set of fully schedulable Ethernet inter-router connectivity technology standards and the first commercial product suite.
- China Mobile utilized wide-area high-throughput technology to achieve a 5,000-kilometer, 70Gbps ultra-high throughput data transmission service.
- China Mobile realized the world's first hollow core fiber with losses ≤0.1dB/km, deployed the first 800G hollow core fiber technology test network and set a world record for single-fiber transmission capacity of 377.6Tb/s over 100 kilometers.
- The CN Brain achieved large-scale commercial use, covering more than 250,000 network links across over 300 cities.

6-6G — Systematic layout for 5G-A/6G

- China Mobile achieved the world's first commercial use of 5G-A.
- China Mobile released ten innovative achievements in 5G-A and established the industry's first set of 5G-A technology systems.
- China Mobile constructed the industry's first integrated sensing and communication system solution for 5G-A and proposed original technical solutions around "architecture, air interface, hardware, and networking", thus building a pioneering advantage.
- China Mobile proposed a network-based passive IoT technology solution and developed commercial products, conducted over 60 trial projects across ten provinces and established demonstration projects in Hebei, Guangxi and Beijing, covering an area of over 10,000 square meters of warehousing space.
- China Mobile pioneered the "communication-sensing-navigation-monitoring" integrated low-altitude intelligent network technology system, achieving global-first low-altitude coverage along a 100-kilometer maritime route from Shanghai to Zhoushan City of Zhejiang Province and facilitating demonstrations of low-altitude monitoring in Zhejiang and low-altitude delivery applications by Meituan in Shenzhen City.
- China Mobile established a 5G-A new technology test platform, comprising one central laboratory and over ten field sites. This platform promotes the large-scale commercial use of RedCap, with integrated sensing and communication meeting the requirements for pre-commercial deployment and facilitates the commercial implementation of network-based passive IoT.
- Focusing on key technologies including new network architecture, collaborative network sensing and communication, Intent-driven networks, and intelligence-endogenous networks, China Mobile developed 15 leading 6G prototype units. Four of its achievements were selected by the SASAC as "Major Achievements in the 6G Sector for the Future Industry in 2024". The Company's 6G papers and patents rank among the top tier among global operators.

Launch of the *Jiutian Shanzhi* multi-modal base large model and 30 self-developed industry-specific large models

In October 2024, China Mobile unveiled the latest development in the Jiutian series of general large models—the *Jiutian Shanzhi* Multi-modal Base Large Model. This model achieves significant enhancements across four key functions: intelligent parsing of long texts, full-duplex voice interaction, dual advancements in video and image processing, and deep insights into structured data. Besides, multiple critical technical metrics of this model have reached industry-leading levels.

Additionally, leveraging the *Jiutian* series of general large models, the Company has independently developed over 30 industry-specific large models spanning more than ten sectors, including finance, transportation, and energy. Currently, the *Jiutian* · Haisuan Government Affairs Large Model has collaborated with Heilongjiang Province to create China's first comprehensive search platform for government affairs. The *Jiutian* · Healthcare Large Model has been deployed at leading institutions including Peking Union Medical College Hospital and Guangzhou 120. Moreover, the *Kunlun* Large Model, jointly developed with CNPC, stands as a benchmark for AI+ applications in the energy and chemical industries. By accelerating the deep integration and application of "AI+" across various industries, China Mobile significantly promotes the intelligent transformation and upgrading of the national economy.

The "Intelligence Empowerment" through digital employees initiative boosts the digital-intelligent transformation of human resources

Digital employees represent a new form of digital labor achieving business automation and intelligence by integrating AI and digital human technologies under a "small data for grand objectives" paradigm. In 2024, China Mobile launched the "Intelligence Empowerment" through Digital Employees initiative, and established a distinctive "Three Dimensions, Two Foundations, Four Beams, Eight Pillars" model, making us the first Chinese central SOE to incorporate digital employees into human resource management. Leveraging the *Jiutian* large model, the Company has developed an integrated agent platform for service, management, and capability orchestration, established a full lifecycle management system for digital employees, transforming the Company's operational dynamics from being primarily human-centric to a collaborative approach involving "human + data + intelligence". This system covers 15 business areas, including finance, procurement, human resources and auditing, with over 60,000 digital employees deployed across more than 22,000 application scenarios, achieving a reduction of over 2.87 million person-days in workload. These digital employees have been fully implemented across 57 provincial specialized units.

Currently, the "Digital Employee+" industry applications have made significant progress. Numerous intelligent industry solutions have been created, covering intelligent healthcare, and intelligent finance, leading to the successful implementation of numerous exemplary projects including telecom fraud prevention, video surveillance, and one-stop government affair services.

Topic Analysis: Technological Innovation

In 2024, the Company conducted the first identification and assessment of the impacts, risks, and opportunities related to technological innovation. We also organized relevant management processes and objectives, laying a solid foundation for developing strategies to achieve technological innovation.

※ Establishing a Governance Structure

China Mobile has built a three-level governance system for technological innovation featuring strategic decision-making, overall management, and agile response, creating a clear responsibility and authority framework for technology risk management. At the decision-making level, the Science and Technology Committee, as the highest-level advisory body, provides high-level decision-making consultation for major decisions and significant technological issues in technological innovation. At the management level, the Science and Technology Innovation Department has established a three-tier planning structure and the "531" planning system, while also implementing a technology innovation tolerance mechanism to strike a balance between innovation exploration and risk prevention. At the execution level, various divisions within the Science and Technology Innovation Department regularly conduct risk assessments on major R&D projects and key processes, continuously optimizing the risk management mechanisms in technological innovation.

※ Formulating Response Strategies

	Risk/Opportunity Type	Risk/Opportunity Description	Timeframe	Strategies
Risks	Reconstructive risks in the information and communications industry	Currently, emerging technologies such as artificial intelligence and quantum computing are advancing rapidly, driving technological innovations in traditional sectors such as the information and communications industry. This creates opportunities for generational leaps in upgrades, potentially disrupting core business operations within the industry chain, reshaping business logic and altering the competitive landscape of the sector.	Long term	• Developing a comprehensive technology innovation planning system that integrates current needs with long-term vision, focusing on global industry transformations and technological innovation trends. Strengthening the advantages in traditional technologies, strategically positioning in emerging technologies, and ensuring the advanced reserve of core technologies and capabilities. • Forming a Science and Technology Committee to enhance strategic planning and stay abreast of global industrial transformations and technological innovations.
Opportunities	Development of strategic emerging and future industries	Currently, the Company's implementation of the "Powerhouse" development strategy is at a critical stage. Developing strategic emerging industries and future industries is essential for achieving high-quality growth and advancing towards global leadership. This focus also underscores the Company's commitment to driving technological innovation, leading industrial development, and providing robust security support.	Long term	• Focusing on the next-generation mobile communications, artificial intelligence, 6G, CN, quantum computing and other strategic emerging and future industries, accelerating innovation and empowering industrial upgrades. Continuously strengthening R&D investment. Enhancing international patent applications to boost IP influence and competitiveness;
	Acceleration of digital transformation in traditional industries	As the new round of technological revolution and industrial transformation advances, next-generation information technology will be deeply integrated into economic and social development over a long period and across all aspects. As a key builder of China's critical information infrastructure, the Company will encounter greater opportunities for market expansion.	Medium term	• Accelerating capability conversion, product development, and large-scale application in areas like 5G-A, CN, and AI+. Accelerating the implementation of application scenarios in domains including low-altitude intelligent networks, integrated space-air-ground networks, humanoid robots, integrated vehicle-road-cloud systems, Metaverse and visual IoT; • Expanding new industries, business forms, and models to upgrade information service offerings and empowering digital-intelligent transformation in production, life and governance.

	Time range and definition
Short term	Within one year after the end of the sustainability reporting period (inclusive)
Medium term	From one to five years after the end of the sustainability reporting period (inclusive)
Long term	More than five years after the end of the sustainability reporting period.

※ Strengthening Management Capabilities

China Mobile has consistently adhered to the philosophy of “controllable risks and innovation-driven”, actively developing a systematic and scientific risk identification and assessment mechanism to address the impacts, risks, and opportunities presented by technological innovation, while continuously enhancing the Company’s technological innovation capabilities and resilience.

Identification

- At the strategic level, strengthen the think tank expert system, regularly analyze technological trends, assess the impact of policies, and identify risks related to technological path deviations.
- At the business level, establish a multi-dimensional risk identification framework for high-risk and exploratory research activities, such as managing major project consortia and special research zones.
- At the project level, leverage the R&D management platform to accurately identify risks such as R&D errors, cost overruns, and supply chain dependencies throughout the project lifecycle.

Assessment

- Regularly assess technological innovation risks and opportunities by considering multiple factors including urgency, scope of impact, complexity of stakeholders, and the difficulty of response;
- Conduct a thorough analysis through interviews and surveys with key business departments, analyze expert opinions, and integrate data from relevant technological sectors to accurately assess significant risks.

Response

- Develop a three-tier planning architecture and a “531” planning system to manage significant risks or opportunities in technological innovation and formulate specific plans and strategies tailored to significant risks and opportunities.
- For significant innovation opportunities, refine these into strategic projects, ensure targeted resource allocation and focus on critical milestones, and establish a closed-loop and full lifecycle management mechanism;
- For areas where risks may intersect and overlap, establish a new cross-organization collaboration model to enhance the organizational system for effectively addressing risks and opportunities.

※ Clarifying Management Objectives

In the future, the Company will align with national strategy for emerging and future industry requirements, as well as advance the “BASIC6” sci-tech innovation Initiative. With strategic investment as the driving force, the Company will further focus on the R&D in key areas including artificial intelligence, CN, and 6G, and other foundational studies and critical technology breakthroughs. This effort aims to develop a series of major strategic R&D projects, thus continuously strengthening original innovation capabilities and enhancing the production of original and disruptive technological achievements.

Enabling a Future of Digital Intelligence

China Mobile fully implements the "AI+" initiative to drive transformation in the AI landscape. The Company focuses on advancing "AI+" infrastructure, expanding application scenarios, fostering technological innovation and building collaborative ecosystems. By harnessing strengths in data, models, algorithms and computility, China Mobile aims to deploy AI across production, life and governance domains. As a leader in the modern information industry chain, we build a digital economy ecosystem with close partnership and connection and seek to jointly create a brighter future with various industries and the public.

Efficiently Promoting Digital-intelligent Production

China Mobile is deeply integrating AI technology into all scenarios, cycles, and stages of production and manufacturing. Leveraging our independently developed industry platform for government and enterprises, the Company consolidates critical scenario capabilities, offers comprehensive solutions tailored to specific industries, opens up one-stop empowerment tools to partners, and provides integrated delivery to customers. With over 40,000 information-based solutions implemented in areas like intelligent transportation, intelligent factories, and intelligent tourism, China Mobile supports traditional industries in achieving digitalization, networking, intelligence, high-end development, green growth, and low-carbon development.

※ Industrial Internet

The Industrial Internet represents the integration of next-generation information and communication technologies with industrial economies, forming a novel infrastructure, application model, and industrial ecosystem. The Company vigorously promotes the innovative integration of next-generation technologies including 5G-A and AI in the industrial sector, driving the digital transformation of the entire production process. This facilitates increased operational efficiency and reduced production costs for enterprises, contributing to the effectiveness of new industrialization.

China Mobile leveraged the fully-stack autonomous and controllable "*Jiutian*" General Large Model to create an industrial safety supervision model; developed a series of high-quality AI-native applications for core production aspects such as industrial equipment operation and quality inspection.

With the integrated innovation of 5G-A and AI technologies, China Mobile has advanced the integrated innovation of 5G-A and AI technologies, completing over 7,500 commercial 5G projects in the industrial energy sector by the end of 2024. Meanwhile, the Company ranked first in the MIIT's *2024 List of 5G Factories.*

Partnering with Chint to create an UHV "Dual Million" intelligent factory

UHV is hailed as the "Crown Jewel" of the power industry, with "Dual Million" UHV referring to transformers operating at the highest voltage level of 1,000kV and having a maximum capacity of 1,000MVA. Chint Group's Wuhan factory is one of the few "Dual Million" facilities in the sector. To help establish it as a benchmark for a 5G+ green intelligent factory, China Mobile utilized technologies such as 5G, IoT, cloud computing and AI to build an integrated intelligent manufacturing platform for the Chint Wuhan factory. This platform enables seamless connectivity among personnel, machines, materials and products within the factory, serving as a strong intelligent system for production and delivery inspections, significantly enhancing operational and decision-making efficiency. Following the upgrades, the Chint Wuhan factory has witnessed an increase of RMB30 million in its annual output value, with workforce and machine efficiency improved by 10% and acceptance cycles reduced by 50%. The factory also achieves annual cost savings of over RMB5.6 million.

Intelligent production lines inside the Chint High Voltage Electrical Equipment (Wuhan)

※ Low-altitude Economy

China Mobile is committed to the "integrated space-air-ground" strategy, establishing a dedicated low-altitude economy task force to break through integrated technologies in low-altitude communication, navigation, sensing, and monitoring. By seizing opportunities in the low-altitude economy, the Company accelerates the development of an integrated information service system merging terrestrial and aerial domains. We promote the deep integration of digital technology with low-altitude economic activities, advancing scenario-based applications in logistics, public services, consumption, and travel, thus empowering the improvement of industry in quality and efficiency.

Creating new paradigms in transportation and logistics

- China Mobile achieved the world's first 5G-A low-altitude network coverage over a hundred-kilometer cross-sea route, enabling rapid food delivery from Zhoushan to Shanghai.
- China Mobile completed the world's first eVTOL (electric vertical takeoff and landing) intercity and inter-bay flight, reducing the travel time from Shekou Cruise Homeport in Shenzhen to Jiuzhou Port in Zhuhai from three hours to just 20 minutes.

Initiating new models for social governance

- China Mobile introduced a new social governance model featuring "one low-altitude device + one government affair inspection platform", implemented across six districts and counties, covering 27 government affair inspection scenarios, and reducing manual inspections by 180,000 instances per year.
- China Mobile helped to develop a UAV monitoring system for forest fire prevention in Chongqing City. This system enables automatic fire detection and real-time reporting of warnings, significantly decreasing frontline engagement and operational risks.

Renewing safety production with new approaches

- China Mobile established a new integrated emergency service system spanning "high-altitude, mid-altitude, low-altitude, and ground" dimensions, and participated in over 30 major rescue operations and emergency drills.
- China Mobile utilized 5G-A integrated sensing and communication technology to monitor two major safety risks: UAVs, airborne objects and birds in the sky and people and vehicles on the runway.

Collaborating with Meituan to launch a UAV low-altitude logistics delivery project

With the thriving growth of e-commerce and food delivery services, urban delivery demands are on the rise, raising expectations for efficient and convenient delivery. China Mobile, in collaboration with Meituan, has explored a shared low-altitude network. By leveraging UAV/unmanned delivery systems, 4/5G technology, and *Beidou* high-precision positioning, we have established a safe, efficient, economical, autonomous and controllable intelligent urban low-altitude delivery network. Currently, Meituan's UAV logistics delivery has been implemented across 53 routes in cities like Shenzhen and Shanghai. The service covers various scenarios including office areas, tourist attractions, municipal parks, medical facilities, and campuses, offering over 90,000 types of deliverable goods. Currently, it has completed more than 450,000 orders.

Meituan's UAV low-altitude logistics delivery project

※ Intelligent Transportation

Transportation is critical for urban economies. China Mobile focuses on application needs in various intelligent transportation segments, including intelligent human-car-home mobility, integrated vehicle-road-cloud systems, intelligent rail transit, intelligent logistics, intelligent maritime services, and intelligent port navigation. The Company actively explores the deep integration of 5G information and communication services with the intelligent transportation sector, enhancing and deepening Internet of Vehicles (IoV) connectivity to accelerate the industry's transformation towards digitalization, networking, and intelligence.

Human-car-home

Focusing on the digital-intelligent and globalization strategies of automakers, the Company integrates internal and external ecosystem resources to develop cross-scenario intelligent human-car-home operation products, along with a global IoV operation and management platform to support the acceleration of domestic automakers' global expansion.

Vehicle-road-cloud

The Company proposes a "four-integration" solution encompassing 5G+C-V2X, vehicle-road compatility, car-city-cloud to car-enterprise-cloud and human-car-home. We actively participate in pilot programs for integrated vehicle-road-cloud applications and have launched a widespread initiative to promote the "car-road-cloud integration".

Intelligent rail transit

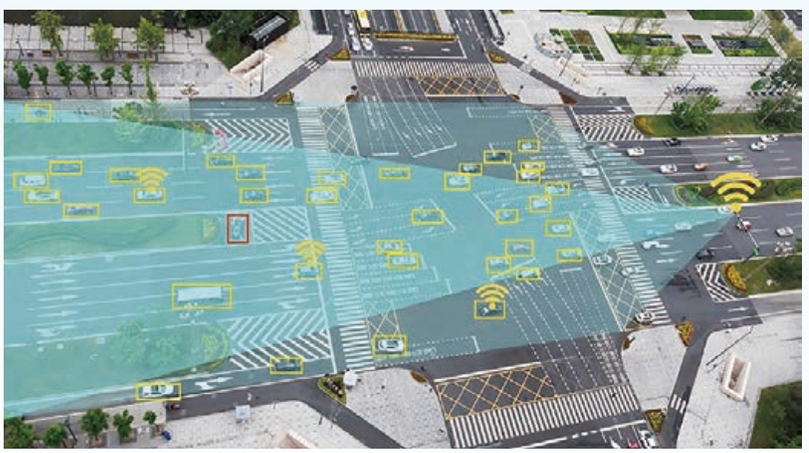
The Company integrates internal and external resources to develop 5G intelligent rail transit solutions. Collaborating with universities and industry associations, we work jointly on setting standards for the railway transit sector.

Intelligent logistics

The Company actively implements national initiatives to reduce costs and enhance efficiency in the logistics industry. Seizing the opportunity for strategic transformation, we have facilitated the implementation of projects including the China Postal Express & Logistics intelligent customer service platform and the SF Express cloud customer service platform.

China's first 5G-A IoV demonstration route in Jinqiao, Shanghai City

The Shanghai Jinqiao 5G-A IoV Demonstration Zone is a benchmark project developed by China Mobile in collaboration with multiple IoV ecosystem partners. It transformed a 1 km stretch on Keqiao Road and Shenjiang Road into the world's first 5G-A IoV demonstration route, featuring digital upgrades at three intersections. A new 5G base station operating at the 4.9GHz band provides seamless coverage along the entire route, ensuring stable low-latency communication of 20ms for vehicle-road coordination. In scenarios where fiber or wired networks are unavailable at intersections, 5G technology is used to transmit sensor data from cameras back to the system. This project paves the way for future large-scale deployment of connected zones and city-level 5G IoV private networks, completing the exploration of 5G IoV network models.



Shanghai Jinqiao 5G-A IoV pilot demonstration route

※ Intelligent Culture and Tourism

The Company leverages the core strengths in information technology to enhance the culture and tourism industry through continuous empowerment by AI, data elements and CN. This drives comprehensive innovation within the industry and creates a new AI + digital-intelligent culture and tourism ecosystem, promoting high-quality development in the industry. To date, for three main stakeholders: government bodies, industries, and tourists, the Company has developed a standardized and platform-based tourism service system with industrial production. The Company has established over 1,700 benchmark applications integrating culture and tourism with virtual and real-world elements using 5G+ intelligent culture and tourism solutions.

Creating intelligent tourism and culture

China Mobile has built the world's largest and most extensive 5G network, enhancing network access at cultural and tourism sites, offering more convenient service experiences;

China Mobile revitalized the intelligent tourism and culture product suite with "AI+" empowerment, providing efficient and personalized AI services for culture and tourism regulation, intelligent marketing and service experiences;

China Mobile advanced the conversion of data elements' value in the culture and tourism sector, improving data storage, computing, management, analysis and circulation capabilities to support precise decision-making and efficient promotion in the industry.

5G + digital twin technology revitalizes Beijing Central Axis

Beijing Central Axis is a magnificent creation in urban planning that embodies Chinese civilization. Under the guidance of the Beijing Municipal Cultural Heritage Bureau, China Mobile, in collaboration with the Beijing Institute of Surveying and Mapping, has integrated modern communication networks and digital technologies with cultural heritage protection measures. They have developed a "5G + Urban Digital Twin Collaborative Monitoring System" for the Central Axis, combining both heritage protection and visitor experience enhancement. This allows the Central Axis heritage to be comprehensively protected while being digitally revitalized.

The "5G + Urban Digital Twin Collaborative Monitoring System" mirrors the physical Central Axis with a digital twin system. By deploying monitoring and operational support networks around the Central Axis, it ensures that the cultural heritage is safeguarded against physical damage and theft, significantly improving operational efficiency and inspection processes.

5G + urban digital twin collaborative monitoring system

China Mobile actively utilized the advantages of information technologies such as 5G to contribute to the protection of intangible cultural heritage

5G Empowering Intangible Cultural Heritage — Cuju

5G Empowering Intangible Cultural Heritage — Dezhou Black Pottery Clay Shaping Art

Innovatively Serving Digital-intelligent Life

China Mobile closely caters to the people's demand for a high-quality digital life, strengthening digital-intelligent technology integration to upgrade service experiences. By delivering superior quality, the Company aims to win customer trust, and is dedicated to developing AI product suites that are user-friendly, effective and appealing, enabling the broader population to fully enjoy a digital-intelligent lifestyle.

※ Innovating Digital-intelligent Products

The Company continuously drives reform in product innovation mechanisms, upgrading distinctive products including 5G new call services, super SIM, mobile cloud disk, cloud computers, cloud phones, mobile home security and video ringback tone. We are fully implementing the AI+ initiative to promote the integration of digital and physical life scenarios, meeting consumers' diverse digital needs.

5G new call services

Innovating with AI+ applications, China Mobile has fully launched features such as AI transcription, screen lighting and intelligent translation. In 2024, the Company won the SAIL Award at the 2024 World Artificial Intelligence Conference. By the end of 2024, the number of subscribers for new 5G call applications exceeded 30 million.

5G Messaging

Integrating with the *Jiutian* Large Model, China Mobile launched its AI intelligent assistant *Lingxi*, offering over 20 functions including intelligent writing, translation, schedule reminders and holiday greetings.

Super SIM Card

Focusing on delivering distinctive features such as dedicated storage, secure communications, digital authentication, lifestyle and travel convenience and family protection, China Mobile is expanding the range of scenario-based applications. By the end of 2024, the number of Super SIM cardholders reached 120 million, with over 26 million active users.

120 million
the number of Super SIM cardholders

26+ million
active users

Mobile Cloud Disk

Mobile cloud disk provides users with digital asset management services, meeting their needs for various digital content assets such as photos and videos through cloud storage, multi-device synchronization and online management. AI technology empowerment significantly improved file search, document handling and image processing capabilities. By the end of 2024, the mobile cloud disk service had an active user base across all scenarios of 130 million by the end of 2024.

Cloud Computer

As a cloud-based virtual desktop service, Cloud Computer moves desktop applications and data to the cloud, allowing users to access their cloud-based computer via tablets, laptops and other devices with just an account and providing flexible and portable access anytime and anywhere. In 2024, China Mobile AI intelligent assistant *Lingxi* was launched, introducing 24 AI capabilities like a code assistant. These features offer intelligent Q&A, intelligent customer service and document reading, with a net increase of over 3 million users across all scenarios of the Cloud Computer service within the year.

Cloud Phone

By providing users with cloud-based resources simulating real devices through APP, H5 and mini-programs, Cloud Phone overcomes the limitations of traditional phone storage, performance, and battery life. It is suitable for various scenarios including mobile office work, simulation testing, and home entertainment. By the end of 2024, Cloud Phone had over 20 million active users across all scenarios annually.

MIGU Video

Focusing on a content strategy centered around sports, with films and documentaries as highlights, MIGU Video is advancing upgrades in "media integration, community engagement, and intelligent services" to achieve dual improvements in content quality and quantity. In 2024, it aggregated 30 sports categories, featuring over 9,000 sporting events, more than 66 million online videos, and over 14,000 high-quality film, drama, and variety show contents, serving 460 million monthly active users across all scenarios. As the authorized broadcaster for the Olympic Games Paris 2024, MIGU Video provided comprehensive live coverage of all events, incorporating advanced technologies such as AI China Highlights, AI Matchpoint Recognition and AI Intelligent Commentary. It created branded shows like Paris Morning Call, Chinese Role Models, Chinese Strength and AI *Ping Pong* China. During the Olympic Games Paris 2024, MIGU Video's content was played 5.48 billion times across both small and large screens, with 2.94 billion plays on mobile devices and 2.54 billion on TV screens.

Mobile HD

Offering a variety of devices including set-top boxes (including *Huiyan* set-top boxes), smart TVs, smart speakers, mobile screens, and projectors, Mobile HD meets the comprehensive needs of "watching, learning, exercising, listening, and playing" for all scenarios. It provides over 200 million household users with all-around, high-quality home entertainment services, ushering in a new era of ultra-high-definition AI immersive experiences.

MIGU Reading

Upgrading to create a "web novels + short dramas" platform, MIGU Reading has produced and aggregated nearly 10,000 short dramas and a historical total of more than 600,000 e-books. By integrating web novel and short drama content on the MIGU Reading app, it offers users an experience of "ad-free viewing of premium books and dramas without consuming network traffic", achieved through traffic bundling and integration with other key products. In 2024, the platform attracted over 25 million short drama users, with billions of views and over 30 appearances on major platform short drama charts.

Video Ringback Tone

Serving 420 million users, the Video Ringback Tone service has innovated with "Colorful Media", a media-based service on video ringback tone. It launched a "Self-Set and Self-View" caller video ringback tone service for 80.63 million users. Additionally, it introduced AIGC tools such as "AI Transfers to Song" and "AI Transfers to Video". Over 9.71 million users have experienced AI-created video ringback tones.

420 million
Users served by Video Ringback Tone

80.63 million
Users served by "Self-Set and Self-View" caller video ringback tone

Mobile Home Security

Utilizing cameras and other visual terminals, Mobile Home Security integrates AI analysis capabilities such as video recognition, video understanding, and video generation. It has developed a comprehensive AI product matrix for four key scenarios: elderly care, child care, pet monitoring and home security. This provides household users with services including elder and child care, pet companionship, and lifestyle recording, offering intelligent and efficient living experiences. By 2024, Mobile Home Security had attracted over 60 million users and connected more than 71 million devices.

Rejuvenation with Intelligence: China Mobile Developed AI Intelligent Assistant *Lingxi*

In October 2024, the Company unveiled the China Mobile AI intelligent assistant *Lingxi*, which was, developed with the *Jiutian* large model, at the AI Product Innovation Development Cooperation Forum. As an "expert across all domains", it has human-like traits and memory capabilities. In addition to providing general services, it supports a variety of smart functions, including scheduling, lifestyle services, AI note-taking, and chat companionship. It also provides specialized services in communications, office work, and home management. Through various product platforms, including the China Mobile app, 5G messaging, TV screens, cloud phones, and mobile cloud disk, it offers users cross-scenario intelligent services spanning office work, learning, life, and entertainment.

China Mobile's "AI Assistant Lingxi"

※ Upgrading Service Experience

The Company is dedicated to ensuring an exceptional customer service experience by reinforcing our reputation for "Heartwarming Service". We advance a comprehensive service system reform aligning with customer needs, deepening the construction of an all-encompassing service system that involves a "Three-All" (all-round, all-process and all-staff) suite of services. Innovations such as "AI+ Service" are explored to strengthen customer rights protection and enhance customer perception, aiming to provide high-quality services. By the end of 2024, the favorability rate for "Heartwarming Service" reached 88.54.

Exploring "AI+ Service"

Advancing "AI+ Service", China Mobile has launched the "China Mobile 'AI+ Service' Action and Initiative". This initiative explores upgrading the intelligent service system with a focus on three key areas: continuously innovating customer interaction models, enhancing capabilities to solve problems at the frontline, and boosting the efficiency and effectiveness of intelligent operation management. The goal is to provide every customer with a more comfortable and caring "Heartwarming Service" experience.

Three Core Elements of "AI+ Service"

Customer experience

Leveraging AI can be leveraged to innovate and optimize interaction interfaces, methods and content to meet customers' growing demand for convenient, efficient, and personalized services.

Production efficiency

An AI tool cluster can be utilized to improve service response times and capabilities to solve problems. Coupled with precise data governance and advanced digital technologies, this approach ensures the optimal allocation of service resources and continuous improvement in service quality.

Agile management

The application of AI streamlines the quality management loop, encompassing "data collection-insight prediction-traceability improvement-feedback evaluation". This enables seamless cross-department collaboration and intelligent monitoring of service quality. Throughout the continuous optimization process, service standards and procedures undergo autonomous iteration and update.

The Company strengthens the technology-driven approach by launching the industry's first fully self-developed and registered large model — the Customer Service Large Model — powered by our proprietary *Jiutian* Base Large Model. This model leverages China Mobile's rich, diverse, and reliable high-quality professional datasets from the service sector. Additionally, the model continuously undergoes training iterations using Reinforcement Learning from Human Feedback (RLHF), enabling it to swiftly and deeply integrate into intelligent customer service scenarios, thereby enhancing the quality and effectiveness of Q&A interactions in customer service. In 2024, the Company utilized technologies such as the Customer Service Large Model to develop applications like intelligent customer service systems and digital employees. The intelligent customer service system has been deployed across 30 provinces, while over 37,000 digital employees are now put into operation, covering more than 3,700 application scenarios, including "intelligent handling of complaints".

Safeguarding Customer Rights

Improving complaint management system

- China Mobile clarified customer service response scenarios and definitions, identified complaint risk prevention and control scenarios and measures and established clear complaint handling and management responsibilities across all units;
- China Mobile refined complaint handling procedures, standards, and norms to strengthen closed-loop management, expanded and diversified internet-based complaint channels and processing workflows and optimized refund and service compensation policies for complaints;
- China Mobile improved processes and standards for complaint monitoring, early warning, traceability and corrective actions and reinforced the quality of service responsibility system.

Continuously implementing the "Sunshine Action"

- China Mobile launched a semantic recognition model for all customer call work orders to "intelligently identify" potential subscription disputes;
- China Mobile conducted routine monitoring, analysis, and verification of complaints related to business subscriptions to ensure timely rectification;
- By the end of 2024, China Mobile achieved a complaint rate of business subscription dispute complaints of 3.4 complaints per million customers.

Strengthening service quality oversight

- China Mobile 10080 is responsible for addressing complaints from customers regarding issues related to products, networks, and services that have been reported through channels like the 10086 hotline and service centers, but have not been effectively resolved. The 10080 team ensured high-quality resolution of these problems.

Enhancing Customer Perception

Listening attentively to customer feedback

Establishing a service quality evaluation system

China Mobile has created a customer perception model based on service components (such as personnel, processes, technology) and lifecycle stages (including planning, implementation, and service operation), covering dimensions like functionality, security, and reliability to accurately understand customer needs and enhance their experience.

Implementing a multi-dimensional evaluation system

China Mobile regularly conducts customer perception evaluations through various methods, including telephone evaluation, post-use evaluation, experience test, and use measurement. The Company performs over ten types of phone conducts for services including mobile, home broadband, and government-enterprise products. It has expanded post-use evaluation scenarios to 234 scenarios, continuously using these evaluations to drive improvements and address satisfaction gaps. In 2024, the "Listening to Storefront" campaign saw participation from 461,000 individuals who provided 29,000 suggestions, achieving an optimization and improvement completion rate of 98.8%.

Enhancing contact channel service quality

- China Mobile focused on enhancing service quality at three key contact channels: service centers, hotlines, and home broadband installation and maintenance. We also addressed 10 critical service scenarios with integrated support mechanisms.
- China Mobile upgraded the interactive 5G video customer service, gradually applying it to 13 business scenarios such as recharge record inquiries and traffic/package subscriptions. This service handles millions of transactions monthly.
- China Mobile promoted the standardized operation and management of service response work orders, resulting in a 1 pp year-over-year increase in the timely complaint resolution rate.
- China Mobile provided digital-intelligent empowerment tools, such as call intent prediction, to hotline agents, installation and maintenance personnel, and service center staff to resolve customer issues effectively.
- China Mobile focused on persistent pain points in customer complaints, continuously strengthening front-end handling capabilities, leading to a 2.14 pp year-over-year increase in the first-contact resolution rate.

※ Deepening Brand Operations

The Company continuously refines the customer-centric brand-building system, aligning with the distinct needs of CHBN segments. We construct a "1+4+4" strategic brand framework in a science-based way, enhancing the mechanisms for sub-brand development and rejuvenation. The Company also optimizes core product strategies to elevate brand value, aiming to cultivate distinguished brands that are recognized for their high quality, character, and sophistication. By the end of 2024, the comprehensive brand awareness of the three individual brands reached 78.5%, with a customer base exceeding 400 million.

78.5 %

the comprehensive brand awareness of the three individual brands reached

400 million

with a customer base exceeding

Customer brand development

GoTone offers premium customers "Exclusive Services, Exclusive Gifts, and Exclusive Events". Focusing on business travel and health activities, it provides airport VIP lounges, Star Days events, and special rewards like Global Champion: Running Plan.

M-Zone dives deep into young people's interest circles by launching targeted products such as Mango Cards and eSports Package. It also hosts activities like Music Festivals and Campus 5G Pioneer Matches to build the brand image.

The EasyOwn brand focuses on senior citizens and delivery personnel. It has comprehensively upgraded its Happy Filial Cards and Delivery Rider Cards, and launched initiatives such as the "Elderly Guard" and the "Delivery Riders Guard" to create a brand image of "warmth".

China Mobile *Aijia* is aimed at family customers, offers one-stop digital home solutions such as broadband networking, TV entertainment, security monitoring, education and health care services, and whole-home smart integration, to create a smart, warm, and secure brand image.

Product brand development

MIGU, positioning itself as the "National New Media Team", utilizes AI to enhance the live operations of Olympic Games and UEFA European Championships, building a brand reputation for "Watching the Olympics with AI powered by China Mobile".

Mobile Cloud is advancing its evolution from cloud to intelligence by promoting the commercial use of its "CN Brain" and hosting the inaugural Computility Network Conference to solidify its image as a robust national cloud provider.

Wutong focuses on data element circulation, developing three core product systems: Insight, Trigger, and Risk Control. Serving over 100,000 customers across various industries, it has established itself as a leading big data brand.

Jiutian has built a full-stack AI product system centered around "computility, data, platforms, models, and applications". It fully empowers China's Central SOEs, and various industries in their AI+ transformation efforts. As a result, *Jiutian* has become a iconic brand in the AI industry.

"China Mobile *Aijia*" Brand Renewal

In October 2024, China Mobile unveiled a comprehensive "Five New" brand upgrade for China Mobile *Aijia*, encompassing a new logo, new accesses, new products, new services, and new ecosystem. This initiative fully revitalized the Mobile Love Homes brand. As part of this launch, Olympic champion and former national diving team athlete, as well as FINA referee, Guo Jingjing was honored with the title of "China Mobile *Aijia* Ambassador". Centered on the theme of "Love and AI", the Company offers one-stop solutions covering home broadband networking, TV entertainment, security monitoring, education and health care services, and whole-home smart integration. By using the China Mobile *Aijia* app, we have achieved unified management of smart home networks, devices, services, and data, refreshing the brand with a new image of "smart, warm, and secure", thus redefining the brand to embody "An Intelligent Home with AI" and "A Beautiful Home with Love". By collaborating with industry partners, China Mobile aims to build a smart home service ecosystem based on "One Line + One Network + One Home", open a new chapter for China Mobile's home brand, offering a comprehensive digital and intelligent living service experience across all scenarios for individual and family customers, thus positioning China Mobile *Aijia* as the top choice for family customers.

China Mobile *Aijia* Ambassador · Guo Jingjing

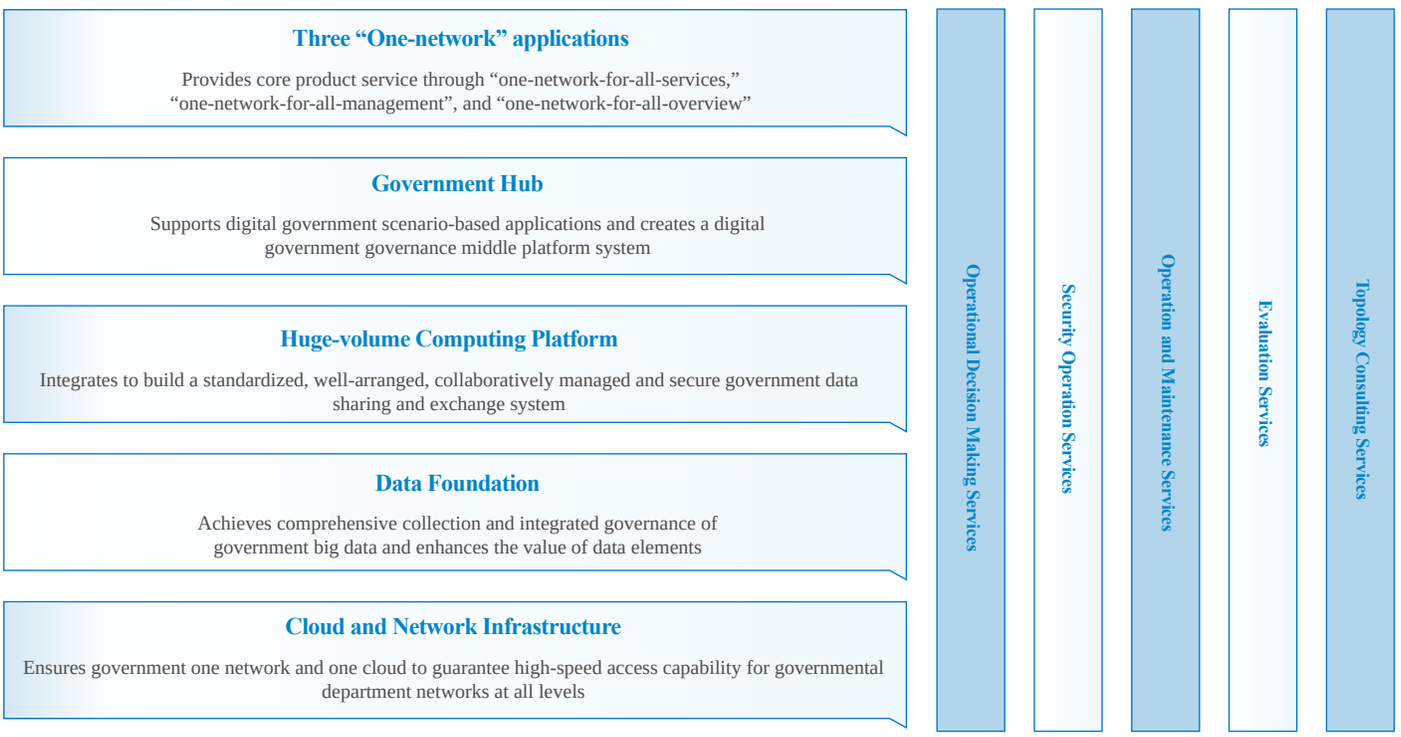
Precisely Supporting Digital-intelligent Governance

Achieving modern social governance requires a digital-intelligent transformation of governance methods. China Mobile focuses on digital government and intelligent city initiatives, utilizing a seamlessly connected information infrastructure spanning province, municipality, county, township, and village levels, along with vast, real-time, and multidimensional data resources. By creating new government affairs service scenarios and leveraging AI to empower the digital-intelligent transformation of public services such as education and healthcare, China Mobile supports more intelligent, precise, and efficient social governance.

※ Creating New Government Service Scenarios

The development of a digital government is essential for leading and driving the digital economy, fostering digital society, creating a robust digital ecosystem, and accelerating digital transformation. The Company extensively applies AI and big data to government management and services, constructing a “Five Horizontal and Five Vertical” product capability layout for digital government. This layout facilitates the digital and intelligent operation of governmental functions, providing strong support for advancing the modernization of national governance systems and capabilities.

China Mobile’s Digital Government “Five Horizontal and Five Vertical” Product Capability Layout



By the end of 2024:

The Company has provided government information services to more than **300** cities in **31** provinces, autonomous regions, directly-administered municipalities, injecting strong impetus into the modernization of national governance systems and capabilities through more than **2,000** information technology project construction cases.

Building a “1457” system to support digital government construction in Jiangxi Province

The Company established a specialized “215” task force to lead the development of top-level design documents such as the Overall Plan for Digital Government Construction of Jiangxi Province, creating the province’s “1457” digital government system. A pivotal element of this system is the digital government decision command platform, a pioneering core project. It functions as a central hub for data aggregation, a collaborative platform for government operations, and a dynamic core for decision-making and command. The platform integrates multi-end sensing with coordinated operations across large, medium, and small screens, collecting over 2,800 key indicators from 40 provincial departments, thus providing robust support for governmental decision-making.

Jiangxi Province’s Digital Government “1457” System

- 1 — “1” Decision Command Center
- 4 — “4” Fundamental Support Systems: Data support, video integration, security assurance operations and capability measurement
- 5 — “5” Decision Support Services: Situation awareness, analytical assistance, collaborative consultation, model management and supervision and evaluation
- 7 — “7” Government Functional Systems: Economic regulation, market supervision, social management, public services, ecological conservation, government operations and decision support

※ Supporting the Modernization of Intelligent Urban Governance

Intelligent cities stand as the core carriers and crucial elements of Digital China. Keeping pace with the times, China Mobile has developed a comprehensive “Network + Cloud + OneCity + Industry Applications” capability system. This system focuses on four major areas: urban governance, public services, industrial economy, and ecologically livable environment, supporting the digital transformation of cities across China.

Binzhou City

In Binzhou, the Binzhou City Brain has been established, focusing on integrated intelligent applications for “one-network-for-all-services,” “one-network-for-all-management”, and “one-network-for-all-overview”. Specialized applications including “One Code for the City”, “Special Reports”, and “Intelligent Communities” have also been developed.

Zhongshan City

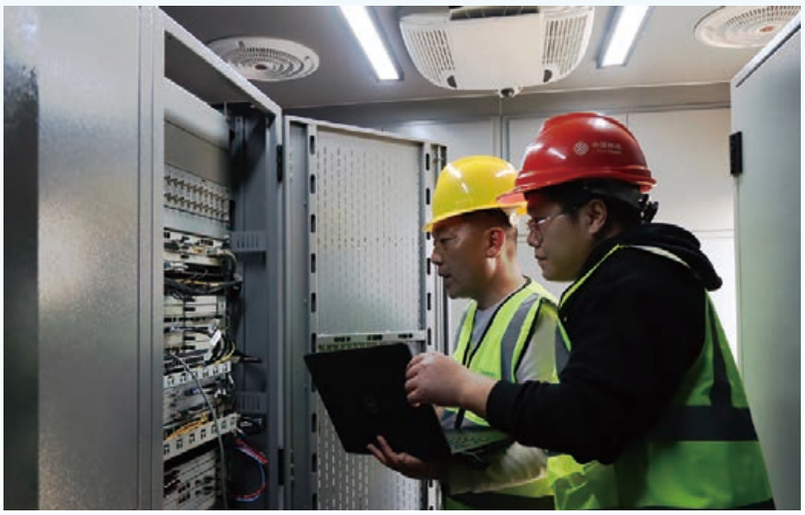
China Mobile has implemented a professional operation and maintenance service plan to ensure the secure and stable operation of the Zhongshan City Brain platform and specialized applications.

Huangshi City

By leveraging the deep integration of 5G and large-scale model technologies, it progresses from “Intelligent Connectivity of Industries” to “Smart Governance of the City”, creating a future model for Huangshi’s urban brain. From urban governance to public services and citizens’ livelihoods, technology injects warmth and strength into the city, enabling its self-operation and allowing citizens to enjoy greater convenience.

Creating a “Digital-intelligent Brain” for enhanced urban governance

In 2024, China Mobile leveraged 5G and integrated cloud-network-terminal solutions to build six supporting platforms, including an AI integration platform, aiding Xiaogan City, Hubei Province in achieving comprehensive urban governance through a single screen for monitoring the entire area and a unified network for managing the whole city. Based on actual urban management needs, public facilities, road traffic, housing, land and other city components were integrated with the city information modeling platform and video resources. Over 400,000 urban management components were assigned unique “IDs”, enabling the digital collection, automated linkage and intelligent resolution of various management issues across the city. Relying on the city’s digital public infrastructure platform, applications such as 5G+ urban lifeline bridge monitoring and 5G+ smart manhole cover supervision have been launched. These applications can intelligently identify issues like illegal street occupancy, road damage and unauthorized operations of construction vehicles, promptly pushing alerts to relevant departments for swift action. This enhances both service delivery and management efficiency within the city.



Staff conducted maintenance on intelligent city equipment

To date, Xiaogan City’s Urban Brain has integrated systems and data from 29 departments, including the Statistics Bureau, Public Security Bureau, Urban Management Committee and Emergency Management Bureau, aggregating 1,218 urban operational data indicators.

※ Empowering Digital-intelligent Public Services

The thriving digital economy is driving unprecedented changes in the public service sector. The Company actively promotes the profound integration of digital technologies with public services, accelerating the digital-intelligent transformation of key areas such as education and healthcare. This enhances the quality and accessibility of public services, effectively meeting the diverse demands of people.

Intelligent Education

In 2024, the Company is leveraging the “4 New” strategies to facilitate the digital- intelligent transformation of the education industry, aiming to optimize the allocation and sharing of educational resources, marking the beginning of a new chapter in intelligent education.

Teaching reform

- Based on Educational Large Models, the Company has developed secure and accessible learning terminals, featuring AI applications such as automated essay grading and AI sports coaching;
- In 2024, the AI coach has been implemented in 26 projects across six provinces, including Sichuan Province and reaching over 500 schools. This initiative ensures that every student has access to a personal AI teacher.

Evaluation innovation

- The Company has developed an AI-powered proctoring application that served more than one million candidates across 18 provinces during the 2024 National College Entrance Examination;
- The Company also supported the first computer-based exams for graduate studies admissions in Hong Kong SAR, Macao SAR and Taiwan region, facilitating smooth exam completion for students at five test centers.

Campus management upgrade

- Anti-bullying safe campus, utilizing AI vision and voice recognition, the Company provides comprehensive protection across six critical campus scenarios, covering over 1,000 schools;
- Data governance for barriers elimination, by fully sensing the four major domains of “people, places, objects, and events”, the Company’s data governance solutions have served more than 100,000 faculty and students in higher education institutions.

Partnership renewal

- In collaboration with the Ministry of Education, the Company launched a national intelligent education platform to broaden access to educational resources. This includes ensuring the stable operation of the national smart cloud platform and driving the development of education cloud platforms in 62 cities across nine provinces.

Creating the *Wutong Honghu* Digital-intelligent Talent Cultivation Platform to cultivate digital talents

With the rapid development of digital industries and the digitalization of traditional sectors, the demand for digital talent has surged across all fields. China Mobile's *Wutong Honghu* Digital-intelligent Talent Cultivation Platform actively explores the application of information technology in digital talent cultivation. The platform strengthens integration of industry, academia, and research driven by enterprises, promoting a cohesive development of "education, technology and talent". Focusing on three core areas of digital-intelligent talent development, digital skills competitions and collaborative innovation between industry and research, the platform provides integrated industry, academia, and research services based on real business operations, scenarios, and data (masking) from enterprises. These services include practical training, research projects, curriculum co-development, skills competitions, certification programs and internship placements. Currently, the platform collaborates with over 360 universities, including more than 80 prestigious institutions such as those under Project 985 and Project 211 universities and has trained over 120,000 students.

Wutong Honghu Digital-Intelligent Talent Cultivation Platform

Intelligent Healthcare

The Company always put the people first, actively promotes the integration of new technologies such as 5G, 6G, IoT and AI into the healthcare industry. Leveraging the Intelligent Healthcare Cloud Platform, the Company has developed a comprehensive 5G intelligent healthcare product system enhancing pre-hospital, in-hospital and post-hospital service scenarios. This system includes innovative services like 5G pre-hospital emergency care, intelligent hospital applications, and remote medical services designed to meet the real healthcare needs of the public effectively.

China Mobile has served over **3,000** hospitals nationwide to enhance access to quality healthcare

China Mobile has established over **50** city-level emergency systems and equipped more than **3,100** ambulances, significantly enhancing the capabilities of disease control and emergency response systems

China Mobile has participated in the construction of health insurance information platforms in **126** cities and fully implemented 5G video customer service and cardless payment services

China Mobile has innovatively developed **anti-fraud** solutions to enhance the quality of health insurance services, safeguarding public healthcare funds

Jiutian·Medical AI large model enhances efficient consultations at Peking Union Medical College Hospital

The *Jiutian*·Medical AI Large Model is enhancing consultations at Peking Union Medical College Hospital by drawing on historical consultation reports and dialogue data from remote consultation scenarios. This data is used to train and refine a medical report generation model, helping doctors conduct conducting efficient and precise consultations. Additionally, the Company has built a physical indexing library based on medical guidelines. By utilizing the large model, we identify and correct erroneous phrases within text paragraphs, significantly improving the recognition rate of medical terminology. For complex cases, the model analyzes patient records, test results, and consultation records to generate consultation opinions for doctors' reference. This process frees doctors from cumbersome paperwork, allowing them to focus more on patient care. This application has improved consultation efficiency by over 35%, earning high praise from Peking Union Medical College Hospital.

Continuously Expanding the Digital Ecosystem

China Mobile is fully leveraging the role as a leader in the modern information industry chain by expanding divers forms and developing comprehensive ecosystem partnerships. The Company deepens collaboration with partners through complementary functions, positive interactions, resource sharing and integrated development, aiming to build a digital economy ecosystem with close partnership and connection to jointly contribute wisdom and strength to the healthy development of China's digital economy.

※ Strengthening Supply Chain System

The Company is fully utilizing the position as both a "chain leader" and "chain master" to spearhead reforms in supply chain security mechanisms. Focusing on enhancing the safety and resilience of the supply chain, the Company steadily stabilizes, reinforces, supplements, and strengthens the industrial chain, aiming to effectively harness the supply chain demand to accelerate the development of a world-class supply chain management system.

Improving the supply chain management system

- China Mobile has developed a Supply Chain System Framework, setting corresponding requirements for system development based on different levels of various units.
- Thirty-two policies have been formulated covering procurement, logistics, compliance, risk management, suppliers, quality assurance, and digital intelligence to standardize operations across all relevant sectors.
- The *Supply Chain Management Measures of China Mobile* reinforce regulations enforcement and establish a closed-loop management mechanism.

Strengthening supply chain risk prevention and control

- The Company has developed the *Centralized Procurement Supply Security Guide of China Mobile*, based on the PDCA methodology. This Guide adapts supply security plans, designed in phases, scenarios and levels, according to different parts of the supply chain process. We also establish a closed-loop risk management process to effectively guide the Company's response and recovery actions during supply disruptions.
- The Supply Assurance Toolbox has been designed to incorporate considerations such as product characteristics, supply risks and capabilities during the procurement planning phase. Appropriate assurance measures are recommended for use, forming comprehensive response plans.
- A mechanism for emergency reserves of key resources has been set up, along with the formation of an emergency coordination team.

Enhancing supply chain resilience

- Diverse supplier system: China Mobile has maintained long-term strategic partnership with leading enterprises, ensuring that major products are sourced from at least three suppliers. Meanwhile, the Company has promoted component diversification by collaborating with suppliers to manage exclusive materials from the design phase.
- Supply chain collaboration and interaction: China Mobile has established a unified supplier portal to facilitate single-point access, full-process online operations, collaborative management, and data sharing, and implemented tiered and categorized collaboration with supply chain partners.
- New supply chain management models: China Mobile has developed a global supply network coordination mechanism to enhance response speed and flexibility. Moreover, the Company has accelerated the construction of digital-intelligent supply chain integration systems and capabilities and established flexible procurement models to ensure rapid response and stable supply of critical products.
- Supply chain operational strategies: China Mobile has utilized multidimensional databases and differentiated product demand forecasting models to improve the accuracy of demand predictions. Furthermore, the Company implemented price linkage mechanisms for certain raw materials and components, conducted monitoring and evaluation of product materials, performed comprehensive assessments of suppliers and established differentiated incentive and penalty mechanisms.

※ Developing Industrial Chain Finance

To effectively support technological innovation and the development of the private economy, and to help SMEs overcome difficulties, the Company coordinates high-quality financial resources, innovates industrial chain finance models and actively develops a range of diversified industrial chain financial products and services. Targeting upstream and downstream partners, the Company leverages a centralized industrial chain finance service platform to improve the accessibility and convenience of financial services, thereby facilitating smooth industrial circulation.

※ Deepening Sci-tech Collaboration

Industry-academia-research-application Collaboration

The Company is implementing the national strategy of enhancing integration of industry, academia, and research driven by enterprise. Through the "Co-Creation+" program, we continuously deepen industry-academia-research collaboration. The Company has established a "3 Categories - 2 Levels - 3 Models" R&D cooperation management matrix to pool resources from industry, academia, and research sectors, accelerating innovation breakthroughs and promoting the conversion of technological achievements.

Deepening collaboration with national platforms

- China Mobile continuously amplifies the innovation effectiveness of joint funds with the National Natural Science Foundation to fill in the gaps in the Company's applied basic research capabilities;
- China Mobile explored new cooperation models with *Pengcheng* Laboratory and focused on key technology foundational research and the development of a high-quality industrial ecosystem.

Strengthening collaboration loops

- China Mobile has established 35 group-level joint R&D centers in collaboration with top universities and enterprises;
- China Mobile has pioneered new models of industry-education integration by establishing four innovative group-level university-enterprise research institutes with top domestic universities;
- The Company has launched the first group-level corporate joint research institute and the first overseas R&D center to jointly develop innovative products.

Creating diverse collaboration models

- China Mobile has established a nationwide university collaboration network covering major economic regions and engaged in key technology research and application innovation with over 70 domestic universities through three models: project-based, fund-based and R&D center-based partnerships;
- To enhance research-investment collaboration, China Mobile has opened the incubation centers to partner universities. Leveraging China Mobile's mature incubation and investment ecosystem, this initiative accelerates the commercialization and industrialization of innovations, providing robust capital support and abundant market resources for outstanding achievements.

Enhancing collaborative innovation among China's Central SOEs

- With China's Central SOEs at the core, and through deep industry-academia-research-application integration, China Mobile continuously upgrades the 5G Innovation Consortium. We have also initiated a new Computility Network Innovation Consortium. To date, the Company has expanded to include 40 China's Central SOEs and over 200 industry-academia-research partners, undertaking nearly 100 joint research tasks aimed at accelerating the aggregation of resources, fostering collaborative innovation, and aligning research with practical applications to support high-quality development in key sectors.

※ Expanding Strategic Cooperation

The Company continuously expand the depth and breadth of the partnerships with enterprises and government entities. It leads and organizes initiatives that promote integrated development across the entire industrial chain, from upstream to downstream, and among large, medium and small enterprises. By fostering these collaborative endeavors, the Company drives collective breakthroughs, facilitating leapfrog development and enhancing resilience across the entire industry.

Strategic partnerships reach new heights

- China Mobile has signed strategic cooperation agreements with local governments in Qinghai Province, Inner Mongolia Autonomous Region, Shandong Province and more than 20 large enterprises, including CNPC, PICC and China Southern Airlines. These partnerships focus on key areas such as AI and 5G+ vertical industries, promoting the complementary advantages of resources and the expansion into strategically emerging sectors.By the end of 2024, the Company boasts over 160 strategic partners.

New chapter of industrial collaboration

- Since 2013, China Mobile has hosted the China Mobile Global Partners Conference for 12 consecutive years, fostering deep collaboration within the global information industry ecosystem. By the end of 2024, we had over 300,000 partners across various segments of the industrial chain.
- Under the "10^1-10^2-10^3-10^4" Partners Initiative, China Mobile consolidates efforts to enhance industrial chain development. This initiative channels advantageous resources into critical sectors and key regions, promoting interaction within the industrial chain and enriching the ecosystem. By the end of 2024, the initiative has brought together 1,400 enterprises within its network.

China Mobile Global Partners Conference 2024

※ Strengthening Equity Investment

The Company adheres to an investment philosophy centered on “value contribution as the baseline, synergy between production and investment as the foundation, and ecosystem building as the direction”. We utilize equity investment as a bond to promote deep integration of industry chains, innovation chains and capital chains. Centering around our own information industry landscape, we widely engages in equity investment layouts in smart hardware, information security, cloud computing, the IoT, as well as vertical application fields like healthcare, fintech, entertainment and media. By continuously strengthening new digital infrastructure and information service capabilities, we lead the steady development of the information and communication industry and promote the deep integration of the digital economy with the real economy.

Recent key investment projects

Investment in the industrial internet sector

In 2024, China Mobile invested in HBIS Digital Technology Co., Ltd. (“HBIS Digital Technology”), a company leveraging decades of industrial expertise and practical application from HBIS Group. HBIS Digital Technology has developed the autonomous and controllable WeShyper Industrial Internet Platform, focusing on four key areas digital steel, industrial internet, green and low-carbon development, and intelligent equipment. This investment supports the digital and intelligent transformation of the steel industry.

Investment in electronic components sector

In 2024, China Mobile invested in Guangzhou Luxvisions Innovation Technology Limited (“Guangzhou Luxvisions”), a precision optical products platform company. Focusing on precision optics, Guangzhou Luxvisions expands its innovative business into areas such as XR and automotive cameras, positioning itself at the forefront of these emerging fields. This investment bolsters the development of the electronic components manufacturing industry.

Investment in intelligent devices sector

In 2024, China Mobile invested in Honor Terminal Co., Ltd. (“Honor Terminal”), a leading company in the intelligent terminal sector. Honor Terminal offers a comprehensive ecosystem of products including smartphones, PCs, tablets, headphones and watches. This investment promotes the development of the intelligent terminal industry and enhances synergy between devices and networks, fostering technological innovation.

Investment in the communications testing sector

In 2023, China Mobile invested in Beijing Xinertel Technology Co., Ltd. (“Xinertel”), a company specializing in communications testing products and solutions. Xinertel’s customers includes major telecommunications equipment manufacturers, operators, research institutes, universities, and the power sector. Meanwhile, it was recognized as a specialized and innovative “little giant” enterprise by the MIIT in 2021. This investment enhances China Mobile’s strategic layout in the communications testing field.

※ Expanding International Collaboration

The Company adheres to an open and inclusive philosophy, continuously expanding international exchange and cooperation channels. By collaborating with overseas partners, we aim to achieve mutual benefits and shared success, injecting new impetus into the high-quality co-construction of the Belt and Road Initiative.

China Mobile integrates into the new “dual circulation” development pattern through the GTI international cooperation platform. We have gathered 146 international operator members and 266 industry partners, expanding our mission from promoting global TD-LTE development to becoming a global organization for next-generation information and communication technology cooperation. Additionally, the Company hosted the inaugural GTI Digital-Intelligent Hong Kong International Forum in Hong Kong SAR, where we launched the 5G-A × AI integrated development project around the globe. This initiative aims to jointly build open laboratories and collaborative innovation communities with international operators and partners, uncovering innovative application cases.

China Mobile International has established a subsidiary in Saudi Arabia to facilitate the “going global” of Chinese enterprises and the “bringing in” of Saudi enterprises. The Company has partnered with multiple Saudi operators to launch inbound and outbound 2G, 3G, 4G and 5G NSA roaming services, thus supporting Chinese enterprises expanding overseas and providing local government and enterprise customers with a suite of cross-border connectivity and IoT services.

The “Hand-in-Hand Plan” is a global partnership platform launched by China Mobile in 2015, with a mission of openness, connectivity, and collaboration. Currently, it comprises 27 leading partners from the telecommunications and internet sectors across the globe, collectively serving over three billion customers.

China Mobile has signed a strategic cooperation agreement with Telecom Egypt to jointly promote the development of global digital infrastructure. The partnership focuses on enhancing cross-border network connectivity services and exploring innovative DICT solutions. By integrating China Mobile’s offshore products and capabilities, the collaboration aims to upgrade intelligent services for enterprises.

China Mobile International continues to expand the global services for new information infrastructure, with a focus on 5G and CN through strategic collaborations