



AN "ENABLER" OF INDUSTRY VALUE CO-CREATION

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AN "ENABLER" OF INDUSTRY VALUE CO-CREATION

In the face of changing environment in the era of Internet of Things (IoT), seeking mutual benefit and win-win results through partnership and cooperation seems natural to the pattern of economic laws and social development. Placing cooperation as the fundamental strategic direction, China Unicom adheres to the cooperation philosophy of "joint discussion and development for win-win", and has integrated core capabilities to empower its partners to achieve complementarity of ecological edges across industries and win-win cooperation, thereby building a smart partnering ecosystem meeting with people's growing demand for a smart life.

Measures adopted in 2019

- Pushed forward 5G network "co-build co-share, saving RMB3.5 billion in investment.
- Launched the smart ecology strategy and introduced the eco-partnering brand of "China Unicom Empowerment", creating the three major ecosystems for smart home, big video and pan-intelligence terminals.
- Promoted the synergic development among value chain enterprises such as equipment suppliers, terminal suppliers and mobile virtual network operators and the fulfilment of social responsibility.
- Strengthened platform-based cross-industry partnership and deepened innovation in cooperation.

Actions to be taken in 2020

- To continue to push forward quality implementation of 5G network "co-build and co-share" and strive to building a premium 5G network.
- To take advantage of 5G marketing opportunities to explore 5G product-based new cooperation models with partners, so as to build the China Unicom 5G Internet products brand.
- To enhance cross-industry and cross-field cooperation and expand cooperation scenarios to drive in-depth cooperation, thereby building a smart ecosystem.
- To further deepen cooperation with strategic investors.

DEEPENING COLLABORATION WITH PEERS

In order to uphold the cyber superpower strategy, as well as promoting the supply-side structural reforms to achieve high-quality development of the industry, China Unicom actively pushed forward the complementarity of edges and in-depth cooperation among industry peers in the fields of resources and innovation with the principle of "win-win cooperation for joint development", so as to create the synergies in development and boosting telecom infrastructure and resources through co-build and co-share, thereby facilitating network construction and promoting cost reduction and efficiency enhancement.

Joining hands with industry peer to co-build 5G network

In thorough implementation of the new development philosophy, China Unicom joined hands with China Telecom to push forward the co-build and co-share of 5G network. Through building a single nationwide 5G network together, it could reduce duplicated construction while accelerating the deployment of the 5G network coverage, fully unleashing the resource advantages of both parties and maximising user perception and network performance.

Strengthening cooperation management

Adhering to the principles of "starting with easier tasks before moving on to harder ones, roughing out before refining, prioritising urgent tasks, advancing swiftly, and improving speedily", the Company spared no effort to promote the all-round coordination and communication of all parties and teams. The "Network Operation Plan and Management Rules concerning Co-building and Co-sharing 5G NSA by China Telecom and China Unicom" jointly issued to specify on work division, data sharing, operational coordination, and other management mechanism, as well as major production workflows, achieving the expected goals of maintaining consistency in user perception, business experience, network quality and service support.

Optimising co-work plans

The 5G network co-build co-share will be based on co-share of access network and 5G spectrum resources but with core network to be constructed independently by each party. Both parties will delineate and designate the regions for construction of 5G network by each party. The party who is responsible for the construction in a designated region will bear the relevant investment, maintenance and operating cost of the network.

Achievements of network co-build co-share

In 2019, remarkable results were achieved in the 5G network co-build co-share, with over 50 cities achieved carrying network sharing and base stations in 31 provinces activated for sharing. The two parties co-built and co-shared approximately 20,000 base stations, and China Unicom saved approximately RMB3.5 billion in investment.

Strengthening network resources cooperation

Besides 5G network and through co-built and co-shared communication infrastructure facilities such as pole lines, pipelines and indoor distribution systems, China Unicom has achieved RMB650 million investment saving in construction in the year.

- Co-built and co-shared 30,400 route-km of local transmission pole lines, 10,700 route-km of pipelines and 7,099 indoor distribution systems.
- Entered into agreement with China Telecom to co-sharing the domestic section of the Pak–China optical cable system in the OFC project and Jinan–Qingdao and Kaifeng–Xuzhou primary trunk cables, enabling China Unicom to co-sharing over 800 km of optical cables built by China Telecom.
- Reached agreement with China Mobile and China Telecom to co-building to the optical cables along the Lhasa–Linzi section of the Sichuan–Tibet railway, in which the three parties would construct a 144-core optical cable system with approximately 443 km by way of cable combination.
- Continued in-depth cooperation with China Telecom on construction of 4G base stations in areas with cooperation intention such as transportation lines, administrative villages, counties and towns and indoor.

Responsibility performance indicator	2017	2018	2019
Co-building rate for indoor distribution systems (%)	71	79	79
Co-sharing rate for indoor distribution systems (%)	93	93	86
Pole line co-building rate (%)	88	91	91
Pole line co-sharing rate (%)	95	95	97
Pipeline co-building rate (%)	92	94	92
Pipeline co-sharing rate (%)	98	96	93

BUILDING INDUSTRY ECOLOGY

Embracing the new era of the Internet of Things and facing the value chain with an open mind, China Unicom has expanded cooperation through forming innovation alliances with different parties, developing business models and sharing high-quality resources, jointly exploring new space for 5G-integrated development and broadened cooperation in areas such as technology, business, resources and capital, thereby building a positive and rewarding industry ecosystem.

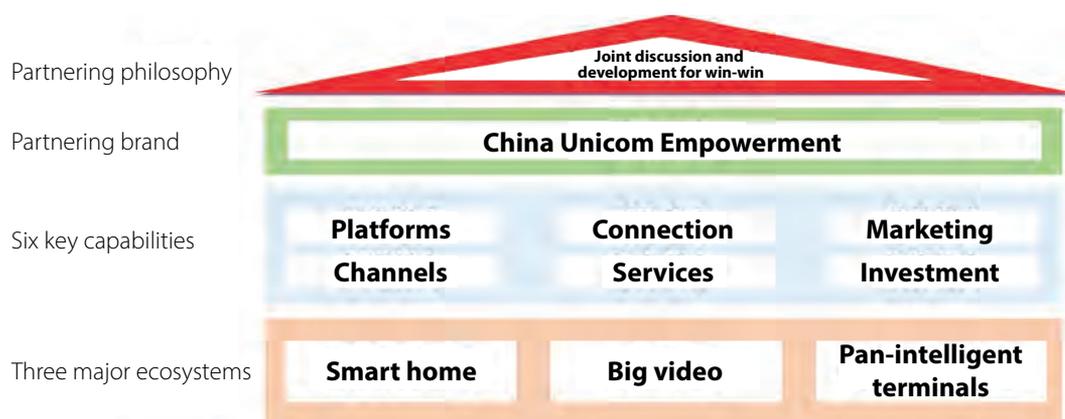
In October 2019, China Unicom held a smart ecology cooperation conference in Beijing, at which it released the new strategy for smart ecology and officially launched the eco-partnering brand of “China Unicom Empowerment”. Meanwhile, the Group has also established a multiple cooperation system by grading, stratification, tiering, which provides convenient and highly efficient communication channels and cooperation portals as it identifies suitable partners for cooperation based on differentiated resources, project support and involvement.



Wang Xiaochu (Chairman) presented at the smart ecology cooperation conference



Launch of the eco-partnering brand of “China Unicom Empowerment”



China Unicom's brand new smart ecology strategy framework

"China Unicom Empowerment" will consolidate the resources and strengths of all parties along the value chain to jointly create the three ecosystems of smart home, big video and pan-intelligent terminals.

◎ Mapping out smart home ecosystem

Launching smart home in 2019, China Unicom unveiled the "1+4+X" smart home product ecosystem, aiming to coordinate the efforts of all parties in the value chain by empowering our partners and created a win-win intelligent eco-cooperation system, leading the trend for future smart home development.



◎ Mapping out big video ecosystem

China Unicom, together with its partners, jointly created a 5G mobile video product – "WO Video". Integrating a variety of new content formats such as 4K ultra-high definition video, VR video, AR application and 5G games, WO Video is a brand new product that provides users with a fully integrated entertainment experience.

◎ Mapping out pan-intelligent terminal ecosystem

China Unicom launched the 5G pan-intelligent incubation program for its partners, which supports the dual modes of "open cooperation and self-customisation" to build multi-form 5G pan-intelligent terminals and consumer data terminals for consumers and businesses respectively, thereby popularising 5G products in an effective and efficient way to million households.



◎ Strengthening cooperation with equipment vendors

◎ Enhancing regulated management

- The Company has established the management systems of "1+2+N", "1+3+N" and "1+4+N" for purchasing control, e-commerce platform management and supplies management.
- Electronic procurement practice continued to pursue, while e-tendering platform further improved by introducing e-negotiation rooms, activating online payment of tender fees and enhancing system usability and risk control capability, as well as achieving standardised, cost-effective and transparent operation.
- The capabilities of e-commerce platform boost up comprehensively by introducing product manager workbench, enriching procurement tools, improving the mechanism for quick product listing and establishing a price monitoring system, satisfying more than 240 user requirements throughout the year.

Registered a total of **41,000** e-commerce platform vendors, added **19,000** new vendors in the year.

◎ Driving equipment suppliers to fulfill responsibilities

- With the continuous update on the operating rules of the e-commerce platform, post-event evaluation mechanism is fully implemented resulting, suppliers with grading and ranking.
- A blacklisting mechanism has been implemented to terminate business with disqualified suppliers. Through the e-tendering platform to verify the IP address and MAC address of each tender submission and to prevent irregularities in the tendering process while ensuring the compliance of participation of suppliers.

◎ In-depth cooperation with terminal suppliers

◎ Building a partnering and sharing mechanism

- To respect the terminals suppliers and adopt relevant reasonable opinions while making improvement accordingly, the Company joins to provide users with rich terminals and pleasant mobile Internet experience, thereby driving rapid development of the 5G value chain.
- The cooperation model for multiple terminal suppliers at the national and provincial levels was launched to establish an open and fair co-sharing mechanism for partnering with suppliers. The Company cooperated with more than 100 upstream and downstream terminal suppliers in a mutually beneficial way to iteratively optimise the entire supply chain, and to ensure that users enjoy better terminal products and services from China Unicom's channels.
- The Group introduced 174 cooperative strategic terminals. In order to meet with the needs of the growing pan-terminal market, the Company continued to increase cooperation with suppliers of new pan-intelligent terminals, introducing 119 new products throughout the year.

In April 2019, China Unicom Global Value Chain Partner Conference was held in Shanghai, at which the Company released the brand-new 5G brand logo, "5Gⁿ", and the tagline slogan – "Let the Future Grow". The establishment of the "5G Application Innovation Alliance" was also announced in the conference, and the "5G International Cooperation Alliance" was jointly launched, with a number of internationally renowned telecom carriers and digital service providers. Additionally, the Company announced the first batch of 5G-enabled products, including 6 mobile terminals, 5 industry terminals and 4 module products. The jointly built "5G terminal innovation R & D center" was also announced, with 9 renowned manufacturers and brand-owners to design and create more innovative 5G terminals such that consumers can personally experience the changes 5G will bring to the daily life.



◎ Facilitating the development of 5G terminal industry

- 2019 witnessed the 5G commercial rollout in China. During the year, the Company formulated and improved relevant industry standards for 5G terminals by issuing a 5G terminal white paper and a series of specifications, and promoted the rapid maturity of 5G commercial terminals by establishing a specifications system and inbound process for the full range of 5G terminals to provide product guidance in advance and assure product quality from the source, in an effort to bring the 5G users leading 5G terminals and superb experiences on networks.
- In order to cater users' personalised needs, the Company actively drove the value chain to enrich product offerings and categories, accelerating the maturity of 5G and eSIM terminals commercialisation.

◎ Driving terminal suppliers to fulfill responsibilities

- The terminal suppliers have been required to earnestly fulfill their social responsibilities, performing rigorous checks on their credentials in accordance with national policies and regulations, quality certification, environmental certification, etc., and to have a comprehensive after-sales service mechanism in place so as to protect the interests of customers.
- In respect of product testing, special attention has been placed on power consumption and other factors that affect users' direct experience and effort is put to work with manufacturers for continuous improvements. In respect of security standards, suppliers are required to have passed national grading tests on terminal safety and to pre-install applications in compliance with relevant national standards so as to ensure the user information security on the terminals.
- The suppliers' responsibility is stressed in the terms of the legal cooperation agreements. Since 1 January 2013, all partner manufacturers have signed the "Test Undertaking", pursuant to which, any partner manufacturer who violates pertinent national regulations leading to a negative impact on the society, shall assume full responsibility in respect thereof.

📍 Innovative platform-based cross-industry cooperation

🕒 Clear cooperation philosophy with channel partners

• Aiming to enhance Internet-oriented operation capability, the Company continued to innovate cooperation and deepen capability to empower transformation. Through resources consolidation, capability transfer and privilege cooperation, the Company created an ecological channel cooperation mechanism featuring win-win results among operators, channel partners and users, with sustainable high-quality development.

🕒 Innovating cross-industry cooperation model

• By introducing platform-based partners, an exemplary model in cooperation with the postal industry was created, enabling replication of promotion of such model by cooperating with key partners focusing in finance, insurance, lottery, petrol station, and express delivery, achieving resource sharing and win-win cooperation were achieved.

• Leveraging finance, supply chain, platform tools and other enabling tools to expedite business processing, speed up commission settlement, enhance operation capability, and drive partners' transformation and development.

In April 2019, China Unicom and China Post entered into a strategic cooperation agreement in Beijing to deepen the partnership on channel touchpoints and business cooperation, pursuant to which both parties shared 54,000 China Post-owned channels, 620,000 Ule stores and 18,000 China Unicom self-run service outlets and 37,000 core social channels. Through leveraging each other's channels and promoting each other's core products, both parties were able to achieve channel extensions. Additionally, by profiling existing users of both parties, generating traffic among typical scenarios and improving service capability of users on different networks, China Unicom has created a new mode of platform-based cross-industry partnership.



🕒 Driving channel partners to fulfill responsibilities

• Cooperation agreements were better amended to further define the duties, rights and obligations to prevent and combat telecom fraud, regulate business development, and cooperate and operate in good faith.

• Lightweight tools, such as portrait comparison technology, identity verification devices, card writers and etc., are provided and applied to implement the "real-name registration system" and help partners to conduct sales in compliance with laws and regulations.

Channel partners reached **200,000**

📍 Expanding cooperation with mobile virtual network operators (MVNO)

🕒 Broadening the width and depth of cooperation

• China Unicom has always actively supported the development of MVNO enterprises in a "proactive, cooperative, open and win-win" manner. In 2019, the Company conducted MVNO business in cooperation with 30 enterprises, expanding the scope of pilot operations to cover nearly 300 prefecture-level cities.

• China Unicom has been actively promoting healthy development of the MVNO business, activating electric leakage warning, voice VPN, message alert billing, colour ring back tone and other functions and services, assisting MVNO partners to make business innovation. As at the end of 2019, the number of MVNO users reached 80.93 million.

🕒 Assisting MVNO operators in blocking nuisance phone calls

In implementing the development concept of putting people first, China Unicom has established a long-acting mechanism covering the whole process (i.e. ex ante, interim, ex post management) to strengthen the management of MVNO partners over nuisance phone calls, thereby safeguarding network information security for its users.

• China Unicom has activated the network "Hawk Eye" system to automatically identify suspected nuisance call numbers and provided the same to MVNO partners for verification and shutting down services nuisance phone numbers. A total of about 1.4 million pieces of "Hawk Eye" warning data were provided to MVNO partners, involving more than 500,000 phone numbers.

• Connecting 12321 complaint platform, China Unicom organised MVNO partners to respond swiftly, and urged MVNO partners to handle more than 90,000 complaints on nuisance calls and spam SMS messages, effectively safeguarding users' rights and interests.

• China Unicom has supervised and urged MVNO partners to make rectification and improvement by enforcing face-to-face enquiries, service suspension and other means. In 2019, five supervising meetings on healthy development were held, meeting among MVNO enterprises for more than 90 times, and monthly phone number allocation were suspended for 98 times.

Approximately **80.93** million MVNO users as at the end of 2019

DEEPENING INNOVATION AND COOPERATION

Strengthening public consumption cooperation

◎ Promoting in-depth integration of business cooperation

- Leveraging its network resources, centralised platforms and other advantages, China Unicom conducted in-depth business cooperation with partners, resolving partners' critical pain points and optimising their products to provide users with secure and convenient services and enhance user experience, achieving all-rounded winning results among users, partners and China Unicom.
- China Unicom continued to deepen the expansion into the market sub-segmenting of cooperative business area, and sought for more access entries through product innovation, resource allocation, privilege cooperation and other means to increase exposure of key touchpoints and enhance traffic generation capabilities.
- China Unicom strictly honoured cooperation agreements, optimised supporting process and perfected product solutions, while offering personalised services externally for specific scenario solutions and diversified settlement rules, so as to ensure high-standard cooperation and high-quality development.

◎ Driving cooperation partners to fulfill responsibilities

- China Unicom has strictly implemented the real-name registration system and other relevant requirements for phone users, earnestly fulfilling its primary responsibility. Any cooperation partner who failed to adopt proper policies to prevent and combat on telecom fraud shall be held accountable according to the applicable laws.
- China Unicom shall strictly review the qualifications of cooperation partners and assess the safety and reliability of the privilege products being provided. China Unicom would also closely examine the advertisements placed by partners for co-branded products in various channels so as to properly manage risks and ensure a healthy and safe cooperation between both parties.
- China Unicom has persisted to the centralised management of its products and customers, in order to maintain healthy and orderly market development.

◎ Promoting innovation and cooperation with government and enterprises

China Unicom has fully played the advantages of the mixed-ownership reform and actively engaged in extensive and in-depth business cooperation with strategic investors in areas such as cloud computing, big data, Internet of Things and industry Internet.

- The cooperation with Alibaba and Tencent on public cloud continued to deepen, recording a total of 92,000 customers; the cooperation with Alibaba and Tencent on secure IoT SIM cards was also launched; the Company deepened cooperation with strategic partners on IoT connections, adding 9.35 million new connections in 2019; the cooperation with Tencent on financial anti-fraud big data products has rolled out as well.
- In cooperation with Baidu, Alibaba, Tencent, Huawei and other cloud service providers on cloud networking, the Company has offered customers with capability in hybrid cloud networking.
- The Company cooperated with JD.com to jointly launch big-data-based credit score products.

◎ Building capital cooperation ecology

China Unicom furthered expanded capital cooperation with strategic investors from the mixed-ownership reform, namely Baidu, Alibaba, Tencent and JD.com (BATJ) as well as industry-leading players, mutually driving business cooperation and meeting with customer demand.



Inaugural ceremony of Yunjing Wenlv



Inaugural ceremony of China Smart Cultural Tourism Industry Association

- In March 2019, Yunjing Wenlv Technology Company Limited was established as a joint venture with Tencent aiming to push forward the integrated development of "technology + culture + tourism", with the focus in areas such as all-region tourism, big data and artificial intelligence, and cultural tourism marketing services, providing customers with intelligent, diversified, decent and high-quality information services for smart cultural tourism. Six products have been launched so far, with supporting work for key projects well underway across the country. Meanwhile, China Smart Cultural Tourism Industry Association was formally established, acting as an important platform for China Unicom and the industry partners to jointly serve the cultural tourism industry.

- In April 2019, Smart Steps, a joint venture formed with Telefónica S.A., successfully introduced JD Digits as its strategic investor, which enabled it to integrate JD Digits' capabilities and resources for business development. The joint venture has rolled out four key products – “Jice”, “Jimu”, “Jizhi” and “Jidun”, and has provided services to various government ministries and commissions under the State Council and provincial and municipal governments and a number of global top 500 companies.



Signing ceremony for JD Digits' strategic investment in Smart Steps



Inaugural ceremony of Yundee

- In August 2019, Yundee was established jointly with Kingdee Group to primarily engage in the R & D and operation of industrial Internet platform. Through in-depth integration of the Internet and traditional industries, it aimed to support China's manufacturing industry to accelerate and evolve towards digitalised, network-oriented and intelligent operations, thus pushing forward the high-quality development. As of now, China Unicom's Yundee's industrial Internet platform has officially launched.

- In December 2019, iCloud Shield (云盾智慧安全科技有限公司) was established jointly with Qi-Anxin to engage in development of network security products and services. iCloud Shield aims to boost the basic security protection and efficiency from the three aspects of “website security, situational awareness and security services” and provides customers with a variety of professional information security services, thereby creating a new ecology for network information security.



China Unicom and Qi-Anxin signed strategic cooperation agreement



Inaugural ceremony of iCloud Shield