



BALANCED AND COORDINATED DEVELOPMENT: DELIVER UNIVERSAL AND TARGETED SERVICES



Universal information access	34
Tariff reduction initiatives	36
Serving "Belt and Road" Initiative	37





BALANCED AND COORDINATED DEVELOPMENT: DELIVER UNIVERSAL AND TARGETED SERVICES

Balanced and robust social development represents the key theme of a new era. China Unicom is committed to meeting the ever-changing users' demand for information life and facilitating the development of the society as a whole. In 2017, the Company continued to improve its 4G network, accelerated all-fibre network construction and actively advanced "Speed Upgrade and Tariff Reduction". It coordinated network construction and deployment in an effort to narrow the digital divide. It actively assumed obligations in universal service by offering concessionary tariffs and promoting universal availability of information. It served the "Belt and Road" initiative and drove balanced and coordinated development in both local and overseas markets.

Measures adopted in 2017

- Actively promoted "Speed Upgrade and Tariff Reduction" through measures such as construction of 4G premium network, acceleration of the deployment of "all-fibre networks", research on innovative applications, upgrade on business products and reduction of tariffs.
- Expanded fibre broadband and 4G network coverage in distant rural areas. In 2017, the Company constructed 16,000 4G base stations in administrative villages. The Company undertook the mission of building broadband networks in 6,662 villages and upgrading broadband networks in 9,472 villages in the past two years.
- Jointly developed "Belt and Road" fiber information highway and engaged in the innovative development of overseas business. As at the end of 2017, the Company had established long-term partnerships with over 300 international operators and provided cross-border data business solutions to over 1,000 corporate clients, having over 400,000 mobile users overseas.

Actions in 2018

- To maintain our commitment to constructing premium network, the Company will further enhance users' experience starting from the supply-side of telecommunications products. The Company will provide innovative products and benefit consumers while actively performing social responsibilities and pushing forward "Speed Upgrade and Tariff Reduction".
- To extend network coverage in distant rural areas and Western regions and use various innovative means such as e-commerce platform to build Beautiful Villages, aiming to ease poverty through information technology.
- To enhance joint development and cooperation along the "Belt and Road" Initiative regions with the aim to provide global corporate clients with global end-to-end integrated information services, promoting coordinated growth of domestic and overseas operations.

UNIVERSAL INFORMATION ACCESS

Upgrading network quality

Enhancing 4G network

China Unicom maintains the vision in establishing premium network. Through dedicated construction and optimisation, we provide users with high-quality network with good coverage and high speed, fully enhancing users' experience. In 2017, China Unicom made its 4G network even faster by multiplying its network speed. We also broadened our network coverage with a total of 852,000 4G base stations covering 83% of the population. According to the statistics issued by Broadband Development Alliance in January 2018, China Unicom was leading in network speed perception with a download speed of 19.11Mbps for the fourth quarter of 2017, followed by China Mobile at 17.29Mbps and China Telecom at 17.79Mbps. The peak rate in key venues and hotspots increased from 300Mbps to 375Mbps.

A total number of
852,000 4G base stations in operation

Covering
83 % of population

China Unicom Shandong Branch introduced the world's most advanced end-to-end network optimisation method, therefore the 4G network coverage for key venues reached 100%. It established a business support system for key venues and key businesses. Network failure can be tackled in a minimum of 5 minutes, providing an excellent business experience for users.

In 2017, China Unicom Xinjiang Branch completed the optimisation and upgrade of 36 hotspot areas, including the central business district, airports, troops and high schools. The wireless carrying capacity of mobile network multiplied after the upgrade and the data traffic for some of the hotspot areas increased by over 4 times.

Construction of Broadband Network

China Unicom fully optimised its foundation network, improved quality of service, created innovative applications and products and enhanced the quality of its broadband network. In 2017, we enhanced our fixed-line broadband by multiplying its bandwidth.

- The mainstream broadband speed increased to above 20M generally and above 50M in major cities. Speed upgrade was offered to all qualified users for free.

- We continued to advance PON+LAN and other local area network upgrades following the completion of optical-fibre upgrade of our broadband network. Fibre-to-the-home port ratio stood at 79% on average and 85% for Northern China where we dominate.
- The speed of our main broadband products was substantially increased to over 50M generally and over 100M in major cities.

Total number of broadband ports reached

202 million



Inaugural ceremony for China Unicom's gigabit wireless network and high-speed railway cinema

In August 2017, China Unicom entered into a cross-industry cooperation with a popular movie and launched the nation's first gigabit wireless network and high-speed railway cinema, in its drive to constantly enhance its network and enrich people's cultural lives. It successfully deployed the world's first LTE multicast platform in a high-speed railway setting, allowing a high-speed, no-lag viewing experience for HD videos and VR services via mobile phones on high-speed railways.

China Unicom Tianjin Branch activated gigabit broadband networks in 18 districts in the city. Network tests showed that downloading a Blu-ray movie of 8GB only took 1 min and 22 seconds, compared to 10 minutes or above via the conventional 100M broadband network. It enriched people's lives and contributed to the construction of a smart city.

Construction of inflight Internet service

China Unicom developed inflight Internet software products for airline companies like China Eastern Airlines and China Southern Airlines with the aid of Unicom AirNet. Currently, it has deployed and implemented on more than 80 planes with Internet connectivity, providing affordable inflight Internet services for travellers. From 18 January to 2 February 2018, China Unicom held the Aviation Mobile Internet Experiential Exhibition to show the latest development in the aviation Internet sector to the general public, allowing them to try surfing the Internet with mobile phones on planes. Visitors could experience the brand new experience of in-cabin entertainment brought by high-speed Internet for the first time.



Narrowing the digital divide

Implementation of "connected" villages projects

China Unicom engaged in optical fibre broadband and 4G network coverage enhancement in remote rural areas and western China, allowing more farmers to use the Internet and helping to alleviate poverty through the use of Internet.

- Since 2016, China Unicom has undertaken universal telecommunication service pilot projects in 78 cities of 18 provinces to provide broadband access to 16,134 administrative villages, of which 6,662 are broadband coverage enhancement projects and 9,472 are broadband upgrade projects.
- We increased efforts in network construction in remote rural areas and impoverished areas of Western China. We kept on improving 4G network coverage according to the priority of administrative villages. In 2017, China Unicom built 16,000 4G base stations in the administrative villages.
- We improved the network coverage in rural and remote impoverished areas. In 2017, 4G network covered 83% of the population, representing an increase of 6% compared to that of 2016. 4G network covered 100% of the population in localities of village/town-level or above. 4G coverage of administrative villages increased by 5% compared to that of 2016 to 55%. Optical fibre coverage in administrative villages in the 10 northern provinces reached 90%.

Undertaken broadband access projects in

6,662 administrative villages and **9,472** villages in the past two years

Since 2016, China Unicom Hainan Branch has invested RMB1 million in the construction of telecommunication base stations and free Wi-Fi network in villages included in poverty alleviation plan and created the Wenxin Unicom Plaza. In 2018, we will further invest RMB900,000 in the construction of poverty-alleviation base stations at Wenchang Village, which is planned to complete in June 2018 and will help promote "poverty alleviation with information technology" and "poverty alleviation with industrial development".

In Ceheng County, Guizhou Province, a place of national priority for poverty alleviation, China Unicom Guizhou Branch is committed to promoting effective poverty alleviation and it has invested RMB13,401,500 for the implementation of 24 poverty alleviation projects and targeted assistance to 1,319 individuals. Further, we actively engaged in poverty alleviation in relation to telecommunications via various means, such as cooperation with rural e-commerce, construction of smart towns, installation of free Wi-Fi and deployment of officials for on-site poverty alleviation.

China Unicom Tibet Branch undertook the construction works of universal broadband services in Karub District, Qamdo, Tibet Autonomous Region in 2016 and was responsible for the broadband network construction of 44 administrative villages in Karub District, Qamdo, with an actual investment of RMB32.58 million for the project. With everybody's concerted efforts, the broadband network of all 44 administrative villages came into operation ahead of schedule on 9 October 2017.

Expansion of service channels

In 2017, China Unicom actively expanded convenient service channels to meet the telecommunication demand of the local citizens. Our staff went to the frontline and worked on-site at the villages and towns in rural areas. We further expanded rural agents to undertake marketing, maintenance and service duties as a means to vigorously promote the construction of self-owned stores and social channels in rural areas and distant impoverished regions.

TARIFF REDUCTION INITIATIVES

General reduction of tariff

China Unicom is dedicated to strict implementation of the State's network speed upgrade and tariff reduction initiatives. It continued to reduce tariff to let users benefit more, help economic development and promote the transformation and upgrade of the national economy.

- **Cancelling domestic long-distance and roaming charges.** From 1 September 2017 onwards, we cancelled the domestic long-distance and roaming charges for mobile users, which benefited 117 million users.
- **Developing innovative products and services which benefit customers.** Targeting specific clienteles, such as teenagers, students, netizens and low-income families, we launched customised products which brought substantial benefits to the customers. For example, the "ice-cream service package" provided unlimited data, unlimited voice minutes and unlimited access to videos. In 2017, 7.43 million users benefited from this service. Another example is the "Tencent King Card", which provides free dedicated data, with more than 50 million users benefited from this service.
- **Considerable reduction in fixed-line broadband tariffs.** The average unit price of fixed-line broadband for 2017 decreased by 64% versus the end of the previous year.
- **Lowering the rates of Internet dedicated leased line and assisting the development of innovation and entrepreneurship.** Prices for Internet dedicated leased lines were further slashed in 2017 following the 35% reduction in 2016 for the benefits of many small and medium-sized enterprises ("SME") and innovative entrepreneurs. An SME broadband speed upgrade initiative was conducted with the launch of "Fast Line for SME Innovation and Entrepreneurship Cloud" with 2.90 million users benefitting from the product. Meanwhile, we intensified our efforts to construct and optimise Internet backbone, further enhancing our ability to provide Internet dedicated leased line for SME and assisting the development of innovative entrepreneurs.
- **Reducing the charges for international long-distance direct calls and roaming services in response to the "Belt and Road" initiative.** Following adjustments to international roaming charges, voice roaming and data roaming fees have been reduced by an average of 65.92% and 84.57%, respectively.



Average unit price of fixed-line broadband decreased by

64 % YoY International data roaming tariff decreased by **84.57** % on average

In order to ensure the implementation of the network speed upgrade and tariff reduction initiatives, China Unicom Guizhou Branch launched the unlimited data package of "Data King 100", the promotional campaign of "Cultivation Plan", RMB1/day unlimited data package in rural areas, free provincial data with signup of broadband service and other concessionary policies in 2017. Overall tariff decreased significantly with the unit price for mobile data decreased by 78% and the tariff for fixed-line broadband decreased by 56.7%. Its fixed-line broadband tariff is generally about 30% lower than other operators in the province.

Roll-out of concessionary services

In order to cater to the telecommunication needs of farmers, workers who leave homes for work and travel back homes for visits at times as well as persons with disabilities, China Unicom formulated differentiated concessionary tariff policies. Our branches across the nation launched Home Return Card, New Year Card and Love Card, allowing different groups of customers to enjoy 4G high-speed network telecommunication services with lower telecommunication expenses, bringing the convenience and benefits of technological advancement to various special groups in the society.

- With regard to farmers and workmen, we launched the Family Card for Farmers and Workmen. With a monthly fee of RMB20, users enjoy 150 minutes of voice calls within the nation, 300 minutes for calls to family members. For corporate customers, they can enjoy 1,000 minutes of voice calls, 100MB of national data, 1.5GB of provincial data and 6GB of dedicated data for the viewing of videos on specific channels such as Tencent and Youku.
- With regard to the children staying in rural areas, children living in cities and children from poor families, we started the "Love and Care Plan", offering the "Love and Care Card" and "Love WO Card". For "Love and Care Card", with a monthly fee of RMB10, users enjoy 150 minutes of voice calls, 100MB of provincial data, free incoming calls and free caller ID service. For "Love WO Card", with a monthly fee of RMB5, users enjoy 50 minutes of voice calls in the nation, 30MB of provincial data, free incoming calls and free caller ID service.
- With regard to persons with disabilities, we launched the "Love Card" package to offer discounts on voice calls and messages and waive the charges for recovering the card costs. We provided door-to-door pooled registration services. We waived one-off fees, provided free gifts, introduced yearly broadband promotional packages and offered broadband specialist service.

China Unicom Hubei Branch launched the “Grace and Care Card” targeting the impoverished people, to strengthen the promotion on poverty alleviation policies and the works and services of the Yulu Programme, assisting in the application of and the effective use of Yulu Baishitong software by poverty alleviation departments and impoverished people respectively. Depending on the availability of poverty alleviation staff, it planned to organise 1,000 publicising events on poverty alleviation, targeting to help 100,000 impoverished people.

China Unicom Shanxi Branch launched 8 mobile service plans specifically targeted on the rural areas across the province with an emphasis on the “Beautiful Villages” APP. The minimum charge was just RMB8. The plans provided abundant voice calls and mobile data, as well as 10GB of dedicated data for the use of “Beautiful Villages” APP. The plans have essentially fulfilled the telecommunications needs of all farmers and ensured that farmers could afford telecommunication services.

SERVING “BELT AND ROAD” INITIATIVE

Offering quality international communication services

China Unicom provides international communication services for users through China Unicom Global Limited. It has established 30 branches across the globe (including Russia Branch, Switzerland Branch and Brazil Branch that were newly-established in 2017) with a total staff headcount of over 700, providing efficient and comprehensive information services for the national “Belt and Road” initiative. The services include global connectivity services, integrated information services, international voice calls and mobile services, etc.

As at the end of 2017, China Unicom Global Limited has established long-term partnerships with over 300 international operators, providing cross-border data business solutions to more than 1,000 corporate clients. It had over 400,000 overseas mobile users. It was awarded the gold prize of “The Best International Network Operators”.

China Unicom focuses on the deployment of international network resources at major economic corridors and information ports. It is committed to developing communication service capabilities for the “Belt and Road” and has garnered extensive international land and submarine cables and site resources across the globe.

- We have over 20 land cable systems. The total capacity of cross-border land cables amounted to over 10.6T, which connect 13 neighbouring countries and regions. Its self-built China-Myanmar international cross-border land cable system provides rich resources on submarine cables returning passage for Eurasian and African countries.
- We have over 26 submarine cable systems, connecting over 50 countries. We had 7 submarine cable landing stations within and outside the country. The international submarine cable capacity amounted to 16.2T. We engaged in the joint construction of Asia-Africa-Europe-1 (AAE-1) submarine cable and Southeast Asia-Middle East-West Europe 5 (SMWS) with countries and regions along the way with reference to the major seaborne development directions, establishing the first dual submarine cable coverage for the Maritime Silk Road.
- We continued to strengthen the Internet content delivery capability for our international business. We had 112 POPs worldwide, connecting 70 countries and regions.
- International Internet outbound bandwidth (interconnected abroad) reached 2460G, the number of overseas nodes for international backbone networks amounted to 15.



Cross-border submarine cable system of China Unicom

Joint development of “Belt and Road” fibre information highway

At the International Partnership Conference held by China Unicom at Shanghai in June 2017, we put forward the proposal of the joint development of the “Belt and Road” fibre information highway, calling for the active participation of our partners in the deployment of international network resources at major economic corridors and information ports along the “Belt and Road” in order to build a high-speed and safe transmission network across the globe and provide first-class international telecommunication services with high quality and efficiency.

- Strengthening the interconnection between Asia-Europe-Africa continents and neighbouring oceans, building international submarine and land cables jointly with countries along the way.
- Constructing an international dedicated finance network, providing financial clients with private international network of low latency and high reliability.
- Actively exploring the future intelligent network, promoting the digital economy under the “Belt and Road” initiative.
- Actively promoting the cooperation among industries and value chains, with the aim of developing a cooperative ecology under the “Belt and Road” initiative.
- Launching the six “Silk Road” industry applications, providing integrated solutions for six key industries, namely finance, transportation/logistic, Internet, energy/resources, media and manufacturing/retail.