



中华人民共和国工业和信息化部

Ministry of Industry and Information Technology of the People's Republic of China

5G Gives Impetus to Asia-Pacific Prosperity and Development

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01

5G will exert far-reaching impact on economic development by driving industrial change

02

China continues to improve network capabilities and leads the world in 4G development

03

China actively pushes for 5G commercialization for rapid application

04

China contributes to 5G commercialization in the Asia-Pacific region and the formation of an open and win-win 5G ecosystem



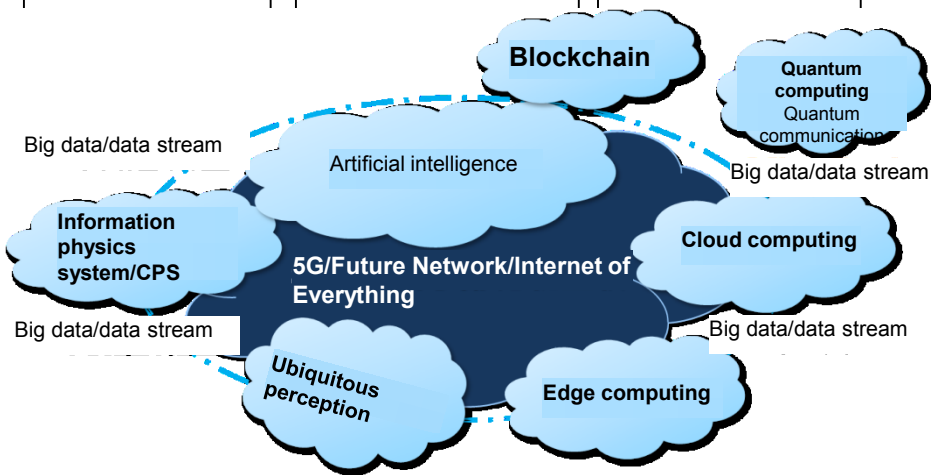
Stronger performance

4G mainly pursues for speed, while 5G focuses on three key performance indicators.

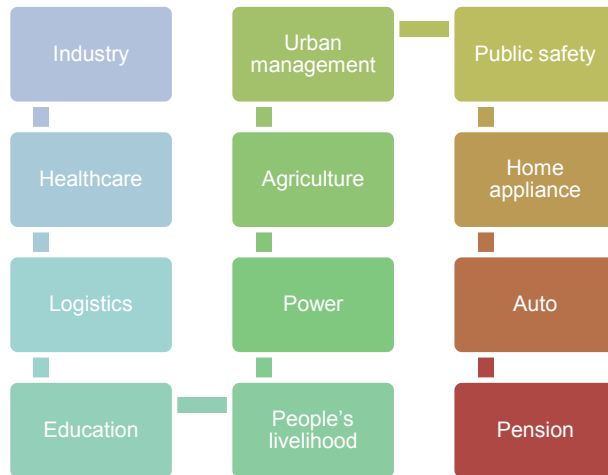
Faster speed
4G x **10**

Larger connection density
4G x **50**

Lower air interface latency
4G x **1/10**



5G+industries



5G can be combined with next-generation information technologies, such as cloud computing, big data, and artificial intelligence, to form the critical infrastructure for economic and social digital transformation in all respects.

By way of deep integration, 5G will raise the content of information technology in various fields of economy and society, catalyze new products, new models and new formats, and facilitate profound changes in production methods and industrial patterns, thus injecting a strong impetus to the development of digital economy.

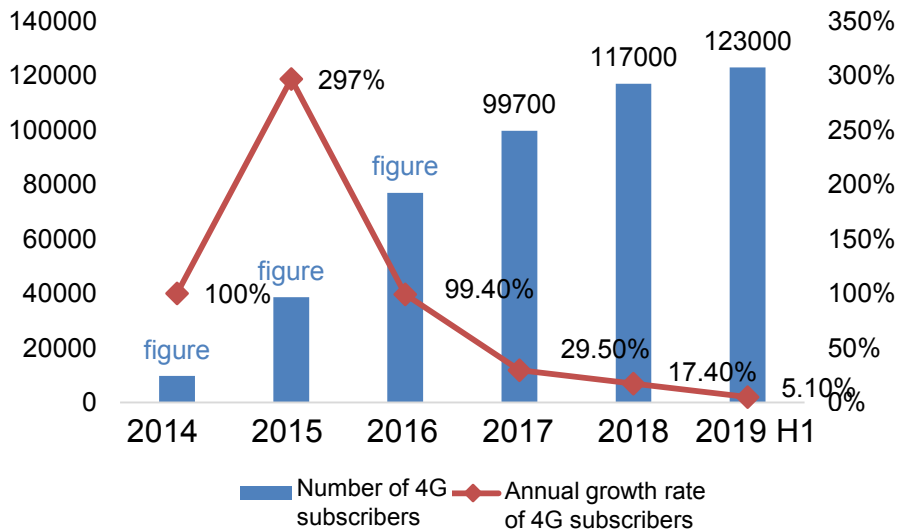


- Since official 4G commercialization in 2014, the number of 4G subscribers continues to grow
- As of 2019 H1, there are 4.45 million 4G base stations and more than 1.23 billion 4G subscribers, with a penetration rate of more than 77.6%

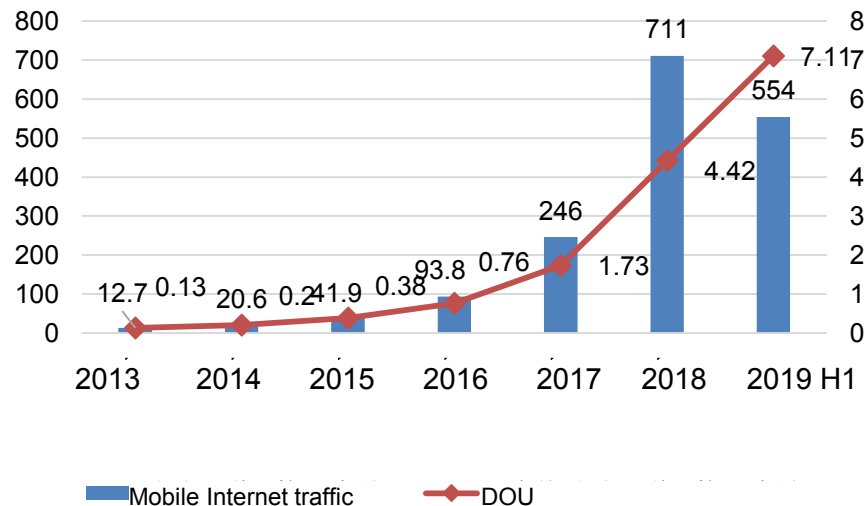
- In 2019 H1, mobile Internet traffic soared to 55.4 billion GB, and the DOU reached 7.11 GB
- Online and offline services have accelerated integration, stimulating the rapid growth of mobile Internet traffic

Number of 4G Subscribers in China, 2013-2019

Unit: 10,000



Mobile Internet Traffic and DOU Growth, 2013-2019 H1

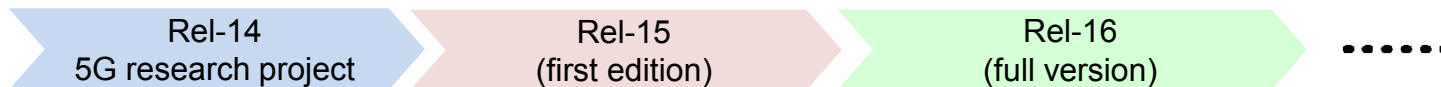




China actively pushes for 5G commercialization

1

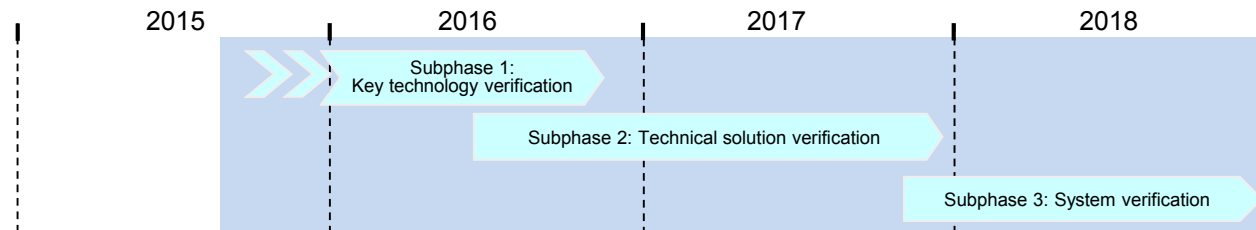
Fully engaged in the development of international standards



- Under the framework of ITU and 3GPP, jointly proposed new technologies and new solutions and actively contributed China's wisdom to the formation of globally unified standards.

2

Accelerated technological research & development and test



- Organized Chinese and international mainstream companies to carry out technical research & development and test, in order to facilitate 5G technological and industrial maturity and 5G commercialization
- At present, the world's largest 5G test field has been established in Huairou District, Beijing, which focuses on typical scenarios of 5G application, such as connected vehicles



3

Implemented the 5G spectrum planning and allocation plan

2.6GHz



3.5GHz



4.9GHz

- The mid-band 5G spectrum planning was officially released in November 2017, and the 5G spectrum allocation plan in December 2018

4

Issued 5G commercial licenses

- Issued 5G commercial licenses to four major telecom operators on June 6, 2019



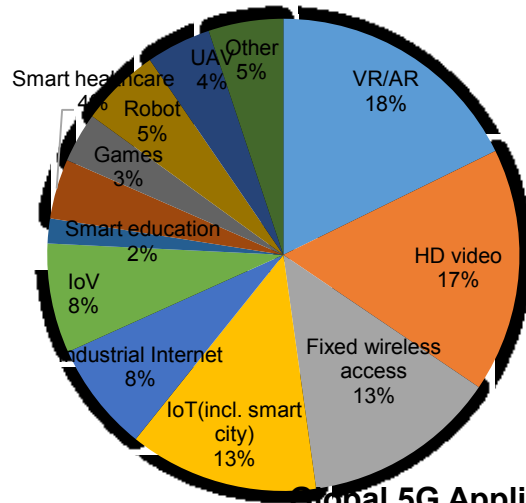
5

Strengthened open cooperation

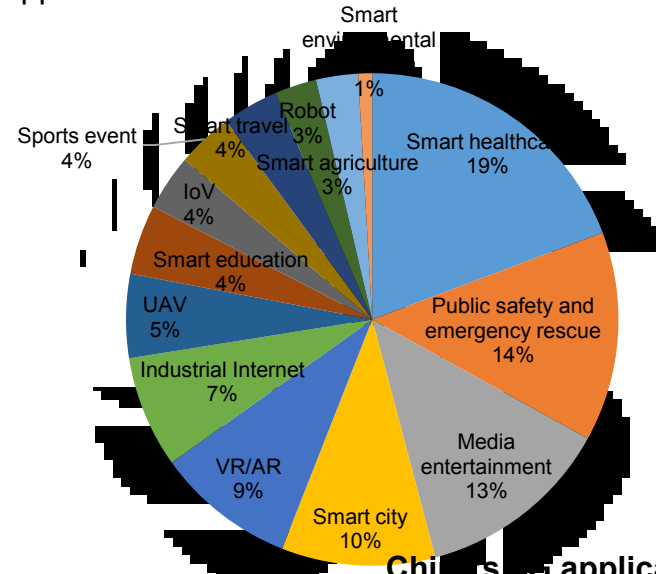
- China has signed multi-party memorandums of understanding with 5G industrial organizations of various countries to promote exchanges and cooperation in technological research & development, test, integration, and innovative application
- China among many countries has also collaborated with ITU and other international organizations to foster new and inclusive partnerships



- According to the monitoring by CAICT, as of July 10, 126 operators around the world had conducted or would conduct 293 application trials, among which **VR/AR, 4K/8K HD video, fixed wireless access, industrial Internet, loV and IoT** received widespread attention.
- In April-July 2019, China launched 109 5G applications, mainly including **smart healthcare, public safety, media entertainment, smart city, VR/AR, and industrial Internet** applications.



Global 5G Application Statistics



China's 5G application statistics

- Similarities: VR/AR, smart city, industrial Internet were the focus of applications at home and abroad
- Differences: fixed wireless access was taken as one of the services abroad, while China focused more on 5G applications in healthcare and public safety areas



Chinese operators actively promote the maturity and application of 5G industry



- **"Five smart" strategy (to C):** Smart broadband, smart home platform, smart applications, smart security, smart services
- **5G+ industry (to B):** Public buildings, transportation, energy, police, education, medical care, etc.

China Telecom has demonstrated 5G application in cloud innovation, industrial application and industrial Internet



"5G+" plan



China Mobile has established the 5G joint innovation center, which brings together more than 500 member companies and explores hundreds of 5G innovative application scenarios



China Unicom Network Research Institute has set up the 5G innovation center and made deployment in ten areas, including new media, smart manufacturing, smart city, and smart energy

5G application practices cover multiple areas

• Zhejiang Xinan Chemical Industrial Group Co., Ltd. has successfully launched the 5G industrial data acquisition and control system, and started the pilot of 5G 3D scanning, modeling and detection system



• Chengdu Paotongshu Elementary School and Liangshan Zhaojue Jiefang Township Primary School realized taking the same class using 5G Plus VR

• The MR telemedicine system connects Tsinghua University with Shenzhen People's Hospital for remote diagnosis, and marks the focus





Strengthen cooperation in 5G standards and technologies

- Global cooperation should be constantly enhanced to facilitate the improvement and maturity of 5G standards. The research and coordination of mid-band and high-band 5G spectrum should be strengthened to foster global consensus and coordination on 5G spectrum

Expand the 5G vertical market through cooperation

- For the purpose of 5G application in vertical industries, concerted efforts should be made to advance 5G innovative integration with cloud computing, big data and artificial intelligence, and cooperation should be conducted to explore business requirements, technical solutions, and business models, in a bid to accelerate the formation of complete industrial ecosystem

Bolster 5G international mutual trust

- Mechanisms for global 5G security authentication, safety standards, and network security mutual trust should be established through bilateral and multilateral cooperation mechanisms to eliminate security concerns about the use of 5G equipment from foreign vendors

Intensify 5G international cooperation

- Foreign companies are encouraged to participate in China's 5G network construction and application services, so that they can share the results of 5G development. Joint efforts are expected to promote all-round cooperation in 5G network, technology and application and accelerate the pace of 5G commercialization in the Asia-Pacific region, and to reinforce the construction of new infrastructure, such as artificial intelligence, industrial Internet, and Internet of Things

Thank you!