

## FOCUS



By Pauline Weil, Junior Economist, and Carlos Casanova, Asia-Pacific Economist, based in Hong Kong

## From copycat to early bird: Taking stock of China's 5G ambitions

**C**hina has rapidly become a big player in 5G technology<sup>1</sup>, thanks to the government's strategy and its support of high investment in Research and Development (R&D). This new technology is part of the Made in China 2025 initiative, through which the Chinese government targets self-sufficiency in high-end industries. China coordinated its approach to 5G and some successes are already visible. For example, 40% of global patents for current 5G network standards are from Chinese firms. Moreover, Chinese companies are set to benefit from 5G. Huawei is the global leader in network infrastructures; it currently holds 29% of the market. Furthermore, 5G is expected to trigger a cycle of mobile phone replacement, and three out of the five global mobile phone leaders are Chinese: Huawei, Xiaomi and Oppo. After having had to play catch-up in the 3G and 4G era, China has secured a strong position in the 5G race, but its ambitions face challenges. The country's successes were greatly supported by integrating global value chains. However, China still relies on imports, especially for high-end products, leaving the sector exposed to protectionist threats. This is visible in the trade war with the United States (US), which targets many electronic products. Moreover, the deployment of 5G networks by Chinese companies is perceived as a cybersecurity risk by many recipient countries. The US is banning Huawei equipment and pressing its allies to do the same, which could limit the growth of Chinese 5G in the future.

### China holds a strong position in the global race to dominate 5G

After having had to play catch-up in the era of 3G and 4G, the authorities have put special emphasis on the development of 5G technology. China has rapidly become a big player in 5G, triggering much attention from both incumbents and policymakers. This rise has been facilitated by top-down support from the government, an issue that continues to cause friction among some of China's largest trade partners. The 13<sup>th</sup> Five Year Plan (2016-2020) states the ambition for China to launch 5G before 2020. This also fits into the Made in China 2025 initiative, through which the Chinese government aims to achieve self-sufficiency

in high-end industries by 2025. It also targets global leadership in innovation by 2050<sup>2</sup>. The IMT-2020 5G promotion group was launched in 2014 by the Ministry of Industry and Information Technology (MIIT), the National Development and Reform Commission (NDRC), and the Ministry of Science and Technology (MOST). The group aims to bring together all players in the ecosystem to create synergies and improve cooperation. This has facilitated a unified strategy, enabling Chinese companies to build a strong position in the global 5G market. To this end, the government has also supported investment in the sector, notably by creating the National Integrated Circuit Industry Investment Fund in 2014. The goal is to have its home-grown chip industry expand from USD 65 billion in 2016 to USD 305 billion in 2030<sup>3</sup>.

1 - 5G stands for fifth generation of wireless network. Compared to 4G, it will increase sharply the speed and weight of wireless data communications (increased bandwidth) and allow the connection of new devices (lower latency).

2 - Ernest and Young (2018). *China is poised to win the 5G race*.

3 - The Economist (2018). *Chips wars: China, America and silicon supremacy*.