Chinese firms compete for 5G firsts

Companies are eager to market next-gen handsets that will alter how the world uses smartphones

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It's a high-stakes, high-tech race.

Billions, maybe trillions, of dollars are up for grabs globally — and Chinese technology companies are vying to scoop up as much of the fifth-generation, or 5G, mobile telecommunication technology pie as possible, as the D-Day for commercial launch around 2020 nears.

In doing so, they are also seeking the honor of being remembered as the first off the block, in the process generating mirth at times.

On Nov 30, about 10 engineers employed with smartphone maker Oppo and based in China, Japan and the United States made what they claimed to be the world's first 5G-enabled cross-continent video call.

Their call was through WeChat, the most popular messaging and social-media app in China. They used Oppo's 5G prototype smartphones to make the 17-minute call under the trial 5G network bandwidth of 100 megabits per second.

A day earlier, Chinese smartphone vendor Vivo demonstrated its 5G prototype handset to the public for trial use in Beijing. Arguably, Vivo's is the first such move in the industry. Using a Vivo device on a trial 5G network, consumers were able to surf the internet.

In the first week of December, Lin Bin, president of Xiaomi, posted a message on Weibo, China's Twitter-like platform, and claimed it could well be "the first Weibo post enabled by 5G network". Lin, of course, used Xiaomi's 5G-ready smartphone.

Chinese smartphone makers' research and development (R&D) of 5G smartphones is happening at a time when large-scale commercial deployment of 5G networks is one or two years away. Companies are working hard to bring 5G smartphones to the market as soon as possible, with some eyeing the first half of 2019 for the earliest launch.

"They are betting on the new-generation of mobile communication technology to cope with a yearlong downward spiral in global smartphone shipments, and more importantly, to prepare for a promising future where 5G devices will enable a slate of new applications," said James Yan, research director at Counterpoint Technology Market Research. "5G is a once-in-a-decade opportunity for smartphone makers."

The next-gen data tech will be at least 10 times faster than 4G and will support superfast movie downloads. Downloading 8 gigabytes of content might take no more than a few seconds, said experts.

5G also has the potential to radically alter how the world's best smartphones are used every day.

"Think augmented reality (computer graphics merging with the real world, such as fighting against a 3D dinosaur in the users' living room), virtual reality, improved streaming resolutions, holographic displays, enhanced power and next-gen cloud computing," said Nicole Peng, senior director of market research company Canalys.

Though some of these initial applications are possible in 4G, "it is 5G that is going to be a significant jump forward for phones, because it is only with the latter's higher bandwidth that these applications can be more sophisticated and adopted by most consumers, delivering real amazing impact", Peng said.

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The enthusiasm for 5G handsets is building even as the global smartphone industry has been on the decline for six straight quarters due to market saturation.

In the third quarter of 2018, worldwide smartphone shipments fell by 3 percent year-on-year to 386.9 million units, data from Counterpoint Technology Market Research showed.

But the advent of 5G smartphones is expected to inject new vitality into the sector. According to a report by Counterpoint, global 5G smartphone shipments are expected to reach 108.2 million units in 2021, up an estimated 255 percent year-on-year, partially offsetting the continued shrinking of 4G handset volumes.

To pounce on the promising opportunities, Chinese smartphone makers including Huawei, Xiaomi, Vivo, Oppo, Lenovo, OnePlus and ZTE are all aiming to launch 5G smartphones in 2019. They are accelerating relevant R&D efforts.

Walter Ji, president of Huawei's Western European Consumer Business Group, said in an interview with the telecom website T3 in July that the company will bring 5G smartphones into the market either in its P series models in March 2019 or in its Mate series in September 2019.

"Now, the size of the (5G) chipset is not small enough to be used, to be integrated in a smartphone," Ji said, adding that 5G would feature "if not in the P30, then for sure in the Mate series next September".

The world's second-largest smartphone vendor — only Samsung is ahead of Huawei — invested $15 billion to $20 billion in R&D in 2018. It first beat Apple in terms of smartphone shipments in the second quarter of 2018 and maintained its lead in the third quarter.

"Huawei's edge lies in its full 5G product lineup, including chips, telecom equipment and smartphones. Unlike its rivals which rely on Qualcomm for 5G chipsets, Huawei's ability to develop in-house 5G chipsets gives it an obvious upper hand," said Xiang Ligang, CEO of telecoms industry website Cctime.

Chen Mingyong, CEO of Oppo, said in November that "5G is a trend that we must catch. In addition to being among the first batch of players to unveil 5G smartphones, Oppo will step up the exploration of application scenarios of next-gen devices, which will ultimately play a role in deciding the true value of the superfast technology."

According to him, the company will up its R&D investment to 10 billion yuan ($1.45 billion) in 2019, from 4 billion yuan in 2018. As of September, Oppo had filed about 22,712 patent applications, with artificial intelligence patents exceeding 300.

Despite heavy investments by smartphone vendors, 5G growth in the early commercial phase is expected to be low due to several factors, said some analysts.

"There are still forward-looking 5G standards that are unconfirmed, creating uncertainty around product and service opportunities. We also expect 5G chips to have a higher price point which will initially drive the cost of devices up. 5G capable devices will be premium only in the beginning," said Tom Kang, research director of Counterpoint, in an industry report.

But once better 5G business cases and infrastructure are established, the smartphone market will begin seeing higher sales overall with more contribution from 5G smartphones, Kang said.