



Making 5G a commercial success

Carriers need to develop cloud VR, cloud gaming, and FWA into basic 5G services and create new business models. For the B2B market, carriers need to redefine their network and operational capabilities to tap into the huge opportunities brought by 5G.

By Ryan Ding, Executive Director of the Board & President of Carrier Business Group, Huawei

How can we accelerate the commercial success of 5G? Underpinned by technologies and devices at which Huawei is at the forefront, the maturity of standards and continued spectrum allocation are setting the stage for 5G to flourish. The evolving 5G ecosystem and current use cases are laying the groundwork for carriers to innovate B2B and B2C services and packages that create strong business cases for

ongoing 5G investment. At the heart of success, though, is collaboration.

3 ways the industry is gearing up for 5G

It's not just devices. I'm happy to say that in just one year, standards, spectrum, and networks have all become 5G-ready. This marks a first – it has never



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happened in our industry.

- More than 130 5G devices and modules have been launched, and they're becoming more affordable, with 5G smartphones costing around US\$500 already available. We estimate that 5G smartphones at less than US\$350 dollars will hit the market in the second half of 2020.
- Release 16 will be completed in Q2 2020. This standard will deliver better performance and better support for the use of 5G in vertical industries.
- More than 70 countries will allocate spectrum for 5G by the end of 2021, laying a foundation for 5G rollout worldwide.

5G is gathering in momentum around the world, with South Korea emerging as an early leader. By the end of 2019, about 90 percent of the nation's population will be covered by 5G networks. There will be more than 5 million 5G users, marking a penetration rate of 10 percent. Large-scale 5G rollout has also begun in China, with plans in motion for deploying 800,000 5G base stations by the end of 2020. In Shenzhen, 45,000 5G base stations will be built in just 10 months, compared with 46 months in the 4G era. Equally, European carriers are also racing to deploy 5G networks, with 11 carriers already having launched 5G services.

3 major areas of value

As of August 2019, 56 carriers around the world had built 5G networks, and 40 carriers have launched 5G services. Huawei is playing a leading role in this process. We have won more than 60 5G contracts and shipped over 400,000 5G AAUs. I'd like to thank our customers for their trust in Huawei.

5G promises to bring more value to carriers in three areas. First, in the B2C market, 5G will offer a transformative mobile broadband experience, prompting more users to subscribe to 5G. According to a GSMA report, there will be 1.6 billion 5G users by 2025. Second, 5G will provide an easier option for home broadband access. According to Huawei's Global Industry Vision forecast, 480 million households will use FWA services by 2025. Third, ultra-reliable 5G networks will enable many industries to go digital. According to a report by STL Partners, industrial applications of 5G will add US\$289 billion to global GDP by 2025.

B2C & B2B market potential

In the B2C market, 5G will offer an experience that users could hardly imagine before, for example, in services like video and gaming.

- With the large bandwidth of 5G, a user watching

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4K video online can skip through the timeline and never have to wait for buffering.

- 5G's low latency makes mobile gaming smoother. With 5G, an online game can recognize 200 to 300 clicks per minute. The extra clicks could mean the difference between victory and defeat.

One exciting example of this is LG UPlus in South Korea. They provide a superior experience in VR, AR, and live streaming, and users are willing to pay a premium for this. For a 36-percent higher price, users get 16 times more data. In the first quarter after deploying their 5G network, LG UPlus saw a 2 percent increase in revenue, and a 4 percent increase in market share – a win-win result for the carrier and users.

To better monetize 5G, carriers need to redefine their B2C business models. To start with, they can optimize the way they monetize traffic and connections. For example, consumers often have multiple devices, so carriers can offer multi-connection packages and introduce new metrics to monetize, like charging different prices for different data rates. They can also explore how to monetize 5G's low latency in services like online gaming and cloud AR. Leading carriers are designing attractive 5G offerings that flexibly combine different metrics and offer value-added local content. For example, LG UPlus upgraded its unlimited data plan by offering new services,

encouraging many users to upgrade to 5G.

In the home market, 5G will play an important role in bridging the digital divide and increasing broadband speeds. The EU, for example, has set its broadband targets for 2020. Right now, about 70 million households are still unconnected or underserved. To bridge this huge gap, carriers can deploy fixed fiber, or FWA, also known as Wireless Fiber, depending on the specific scenario and expected ROI. Wireless Fiber can offer a combination of 4G and 5G data rates, helping to quickly increase home broadband penetration.

Leading carriers are already addressing home broadband demand with 5G and we've seen many success stories. For example, 65 percent of Globe's home broadband users are already using 4G WTTx. Now, Globe has launched a new 5G FWA service, offering data speeds of up to 100 Mbps. BT has just launched its Superfast Broadband strategy, which offers 4G and 5G broadband as an option. In Switzerland, Sunrise is delivering broadband for households and SMEs in 150 towns using 5G FWA as part of its "5G for people" strategy.

In addition to serving consumers and households, 5G promises to bring many benefits to industries in the B2B market.

Many industries are embracing 5G, because it will bring

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them productivity gains. Industrial applications of 5G will add US\$289 billion to global GDP by 2025. However, different industry applications have different requirements for network bandwidth, latency, and reliability. B2B services are very different from B2C services. For B2C, carriers provide services on a best-effort basis, but for B2B, carriers need to provide guaranteed service performance as defined in SLAs. How can they do this? They can add additional network resources in particular areas to provide modular 5G capabilities such as uplink and downlink bandwidth, reliability, and end-to-end latency, to serve different industry needs.

To enable industry digital transformation, carriers should start to develop their capabilities to serve industries now. There's a big difference between services for people and services for things, including network planning, service management, device management, service provisioning, and billing. So carriers first need to change their mindset. Their 2B operations must be SLA-oriented. For that, they need to build new capabilities for the B2B market, to understand the needs of different industries, and how to assign the right resources to meet these needs. Then they can deliver on the SLAs, with predictable performance, guaranteed QoS, and measurable billing.

Carriers can adopt flexible business models. They can combine modular 5G capabilities to meet different

industry needs. They can provide private lines with guaranteed service levels, including guaranteed uplink and downlink bandwidth and service availability. Business private lines with an SLA guarantee creates much higher value than consumer broadband connections. In Germany, for example, a 100-Mbps private line costs about €3,500 per month, but a home broadband connection is around €35 per month. Businesses can also benefit from 5G. The Worcester Bosch factory uses low-latency sensors for preventive maintenance, helping the company boost productivity by 1 percent and saving tens of millions of pounds.

5G requires close collaboration

Of course, carriers cannot enable industry digital transformation alone. They need to work together with regulators, verticals, equipment vendors, and systems integrators to develop policies, industry alliances, standards, and business models. We're happy to see that cross-sector collaboration is happening. Carriers like Vodafone, China Mobile, and China Telecom are working with ports, energy, and healthcare organizations to produce white papers on 5G applications and industry standards.

We believe the best way to predict the future is to create it. We believe that together, we can build a thriving 5G industry. [www](#)