The impact of COVID-19 on 5G

ABI Research analysts have put together their thoughts on the likely short- and long-term impacts that the global COVID-19 pandemic could have on technology and end markets.

"There is no doubt that there will be a significant cost to human life due to the pandemic, but it could be argued that the pandemic's effect will also have significant and long-term ramifications for technology companies, those companies investing in technology to enhance operations and the customers of those companies," they said.

"Before we feel this potential long-term impact, there will be some serious short-term implications. Contractions in consumer spending, disruptions to supply chains and reduced availability of components will create a rough sea for all boats. There will be wrecks and we should be prepared for that. Before any change occurs, there will be a retrenchment in outlooks and a reduced investment in modernisation as survival instincts trump the drive to prosperity."

A selection of its analysis is highlighted below for 5G markets.

5G Core and Edge Networks (short-term impact): The 5G market is growing faster than anticipated, with 2020 expected be the starting point for 5G Standalone (SA) core commercial deployments in Communications Service Providers' (CSPs) networks. But that expectation may take a little longer to materialise. That is due, in part, to the fact that COVID-19 will almost certainly derail further trials and testing to verify the processing performance and stability of 5G SA networks. In the short term, the industry may have no choice but to protect existing consumer revenue. CSPs will accompany that defensive approach with small-scale projects that aim to seek operational efficiencies, without necessarily committing to new investments for 5G SA networks and intelligent software.

5G Core and Edge Networks (long-term impact): There is, by now, widespread agreement that the enterprise market will drive investment in 5G and fuel further growth. In the long-term, the turmoil emanating from COVID-19 will serve as a springboard for the industry to mull over alternative growth options at its disposal. The industry's positioning in the global production frontier remains anchored to hard-to-duplicate network assets and infrastructure that continue to yield results on the consumer front.

The brief "pause" in production processes of some major economies should give the industry an opportunity to ponder avenues so that it can reinvigorate itself. With 5G SA core, fibre-optic network and dynamic new software, it is now possible for the industry to usher in a new era of prosperity, innovation and collaboration for enterprises, communities and individuals. But that will not come without challenges, particularly an across-the-board internal organisational retooling.

5G Markets (short-term impact): ABI Research expects mobile data traffic to surge significantly as a result of COVID-19, but current telco networks are unlikely to be challenged by the situation, except in a few areas that are poorly serviced by these networks. However, the further spread of the virus may limit the upgrade of these networks either because of equipment shortages or restrictions taken by mobile operators to limit the mobility of staff to prevent further spread of the virus.

These network upgrades will not affect the networks' resilience to the surge of data traffic induced by the crisis, at least in the short term. However, this will probably delay operators' ability to execute on their plans to modernise their networks, using more advanced technologies such as 5G, network virtualisation or AI, which will have a knock-on effect on their financial performance in the short term.

5G Markets (long-term impact): Despite all the negativity surrounding the spread of COVID-19, the current crisis is becoming an enlightening experience and a great accelerator of digitalisation for both consumers and businesses. For example, consumers (even the most sceptical ones) are now prepared to integrate a digital lifestyle in their everyday lives. As a result, online services (including online shopping, e-banking, remote education, remote healthcare, mobile entertainment and video-based social networking) will proliferate at an unprecedented rate and will no longer be limited to a particular demographic, geography or social class.

Enterprises will also rely more on video conferencing, online marketing techniques and online training for empowering their

businesses. They will also be more favourable to automating the operation of their businesses so they are ready to handle situations similar to COVID-19. This development will greatly benefit several transformative technologies including 5G; AI; Machine Learning (ML); AR; VR; location technologies; cloud and entertainment localisation; robotics and many others.

5G and Mobile Network Infrastructure (short-term impact): In the short term, COVID-19 will slow down the deployment of 5G considerably, especially for vendors who rely heavily on Chinese manufacturing for their 5G equipment. Meetings that take place physically will also probably be postponed, meaning that The 3rd Generation Partnership Project (3GPP) may delay its forthcoming Release 16 standard until the end of the year, adding further confusion for enterprise implementers anticipating this new version of the standard that introduces enterprise features. The overall development of 5G for both consumer and enterprise applications will probably be delayed as mobile operators look for ways to shield their businesses against both geopolitical constraints and the effects of the virus.

5G and Mobile Network Infrastructure (long-term impact): In the long term, the effects of the virus will probably accelerate the current trend to make 5G supply chains more robust and less reliant on a very small set of very large infrastructure vendors. This will be particularly evident in the U.S. market which is currently planning to create a more open ecosystem relying on smaller and more agile vendors. Potential supply chain shortages for 5G equipment will reaffirm the strategy of the U.S. Government to create a more open market, which will go well beyond the U.S. market in the long term. The telco community will probably establish better ways to meet virtually and foster a more distributed development environment, especially for the 3GPP.

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Networks handle surging demand

The coronavirus lockdown means the way that we use the internet is changing, but how are networks managing extra traffic from the surge in demand across the globe?

Kester Mann, Director of Consumer and Connectivity, CCS Insight, took a deep dive into internet usage trends and how networks are coping. His key takeaways are listed below.

- **New behavioural patterns emerge.** Voice calls are becoming popular again. In the UK, O2 reported that average call duration jumped 40% in a week whereas, in the U.S., AT&T experienced a 44% increase in phone calls.
- **Networks are coping well.** Networks remain robust because the explosion in fixed-line broadband traffic is happening during the day. BT has reported that its daytime traffic increased by 50% from a week earlier – its highest-ever data volumes. Typically, network volumes peak in the evening between 8:00 PM and 10:00 PM.
- **Quality of mobile voice calls drops.** While some consumers are reporting dropped calls, customers can switch to internet-based services or use landlines, as they have capacity. In the U.S., AT&T reported a near 90% increase in Wi-Fi calls.
- **Network operators are going the extra mile to keep people connected (and entertained at home).** U.S. carriers have waived late payment fees, and promised not to terminate services if customers are unable to pay their bills while Telefonica, Telstra and Verizon are offering free mobile data boosters. AT&T, UPC Switzerland and Canal+ made some TV channels free and Sky offered to pause sports subscriptions.
- **Mobile networks are playing a wider role in supporting governments.** Mobile networks are sending UK users SMS messages to keep the public updated on developments around coronavirus. However, some operators have not invested in SMS in recent years. This means that they are leaning on infrastructure which is not provisioned to support high-traffic volumes.
- **Online gaming may look to adjust streaming quality.** Telecom Italia reported that the increased usage of Fortnite resulted in a 70% swell in internet traffic, since the country went into lockdown. Online gaming may not need to reduce streaming quality just yet, as operators remain confident that they can add capacity to support networks if necessary.

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