5G - a balm for the COVID-stricken world?

The transition to 5G has created headlines – less for the potential it offers, more for the 'who builds the network' question. The two are intrinsically linked though. To understand why the Australian government, along with others, refused to allow Chinese company Huawei the ability to build the 5G network, one needs to understand why 5G is important and therefore, why it appeals from an investment perspective.

What is 5G?

Fifth generation wireless (5G) is a technology infrastructure system allowing communications and data access on-the-go, much in the same way that previous generations including the currently used 4G offered. Each generation of wireless has offered distinct improvements on the old, opening new possibilities. In the case of 5G, the rate speeds are significantly faster (up to 10x), with latency (the time it takes for a device to communicate across the network) set to drop by a similar amount[1]. 5G can also support 10x the number of devices (up to 1 million devices per square kilometre) and offer a 10x boost to network energy efficiency[2].

What 5G will mean for the world is largely speculative at this stage, but it is anticipated to transform the 'internet of things' – how devices can be interconnected to make our lives easier from a personal to industrial level. From a personal level, the benefits of 5G may seem relatively obvious, such as ease of downloads or having home automation like Google or Alexa connected to everything from the garage door to your fridge, but the broader uses of 5G may be even more transformative for how we live. 5G is described as the force for the fourth industrial revolution.

The fourth industrial revolution

The fourth industrial revolution refers to how cyber physical systems are expected to drive the next era of industrial reform and change, bringing new efficiencies and opportunities to how we live and work[3].

Superfast wireless connectivity could allow for smart city applications like cloud-based traffic control, completely automated warehouse systems, autonomous vehicles with the ability to make split-second data-based decisions, or even provide surgeons the potential to operate on patients in another country[4]. In fact, the last example was recently trialled in Italy with a surgeon testing 5G and robotic surgery on a cadaver patient 15km away[5].

Enhanced remote control via 5G has become even more of a priority in the COVID-era. From a healthcare perspective, it's the ability to successfully provide care for patients while maintaining quarantine and isolation procedures. From a supply chain perspective, it's the ability to continue to offer online and delivered grocery and shopping services to customers, with more employees operating remotely rather than within the warehouses.

Post COVID, many businesses will be keen to retain their contingencies to avoid any future disruption –this is where better automation and artificial intelligence fuelled by 5G will have a key role.

Given the potential of 5G and the role it may play across critical infrastructure, such as hospitals, or business operations from banking to industrial activity, any company who builds the 5G network may effectively have the power to disrupt such infrastructure or access data. This is where the media controversy over Huawei comes in. To what extent does a nation want a foreign state to have potential control and access to their data via a 5G network and which foreign states are they comfortable with allowing this access to? In the case of Australia, the US and UK, there was concern over the level of access the Chinese government might have to Huawei and the decision was made to not allow Huawei's 5G infrastructure[6]. In turn, local telecommunications providers were required to find alternative sources for infrastructure and equipment. For example, Telstra and Optus have both partnered with Ericcson[7].

Why invest in 5G?

Verizon estimates that "by 2035, 5G will enable $12.3 trillion of global economic output and support 22 million jobs worldwide"[8].

While this is one way of looking at 5G – a growth theme for the future – it is also worth seeing it for what it will become. Wireless networks are integrated into our lives and 5G sees that dependency increase further in the immediate future. It is already here in its early stages.

Although 5G was coming anyway, the COVID pandemic may see some companies accelerate their plans to access 5G-enabled technology, particularly automation, both as a safeguard against future lockdowns or simply to allow them to continue basic operations in the current environment[9].

How to get exposure to 5G

Investing in telecommunications companies may be first to mind for access to 5G for many investors but looking deeper into the supply chain for 5G may be valuable. Given the nature of 5G, it is unsurprising that the 5G supply chain is heavily dominated by tech, robotics, automation and AI companies.

It extends from underlying technology suppliers and producers, such as companies like Qualcomm or National Instruments creating specialised chips and semi-conductors used in devices to create access to 5G, to companies creating technology and software for industrial automation, robotics and artificial intelligence which will advance substantially from the use of 5G, like Ocado or Daifuku.

Given the vast array of companies set to create for and benefit from 5G, investing using an ETF like ETFS ROBO Global Robotics and Automation ETF (ASX code: **ROBO**) can provide exposure to these companies and the transformative growth of 5G (and who knows, one day, 6G?).

For more information on investing in 5G and ETFS ROBO Global Robotics and Automation ETF (ASX code: **ROBO**), please contact us.

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