

Ten Investment Implications of 5G

The fundamental demand for advanced telecommunications is embedded in our DNA. People want and need to communicate. Over millennia, our methods of sharing ideas have evolved from painting on cave walls to embedding radio waves with decipherable patterns of pulses. The latest iteration of our communications advance – the Fifth Generation of mobile telephony or 5G – holds potential for transformative changes in the way we live, often driven by business initiative, and much of it investable.

In “[Opportunities in the 5G Buildout](#),” Portfolio Manager Miral Kim-E reviews emerging 5G services and technologies, the companies behind them and their investment implications. Here are ten takeaways from his research:

1. A Massive Network Buildout

While 5G will initially piggyback the existing 4G network, installations of some 800,000 small cell sites with an entirely new kind of antenna (built by the leading mobile network equipment providers) will be needed in urban areas. In rural areas, systems of low-orbit satellites will be required to deliver connectivity, although at this point, given the enormous costs, it is hard to see a path to profitability in these non-urban installations.

2. More of Our Things Connect

In addition to connecting us, wherever we roam, with our refrigerators, HVAC systems, doorbells and lawn sprinklers, expect 5G to enable us to harness things we never imagined having – self-driving cars and robots, for instance. The Internet of Things already relies heavily on sensors, computation, the network, the cloud and silicon chips to interact and function. Our appetite for these will just get bigger, as will the best of the companies that make them.

3. Bigger Clouds on the Horizon

5G technology will make possible a raft of artificial intelligence-driven devices and applications from self-driving vehicles to surgical systems. These will run on data stored primarily in the cloud. But not all cloud computing companies are equally suited to the task.

4. Above the Clouds

Due to privacy, safety and security reasons, storage cloud systems won't solve all the big data issues introduced under 5G. For these, massive stand-alone storage systems will be built and deployed. An industry of familiar names stands by to fight for share in an expanding market for storage devices.

5. Security Gets More Complicated

5G promises to increase interactions between our devices and to release swarms of bots into our lives. Keeping the drones in line and the lines of communication open and uncorrupted will require new levels of cunning and sophistication.

6. The Medium is the Smartphone

Smartphone primacy will only be strengthened under 5G. Customers will interact with the 5G wireless network primarily through smartphones and smart-phones will be the primary way customers control the "Internet of Things" devices that connect to the 5G network. Smartphone makers and smartphone component makers will continue to compete for consumer loyalty through a new initial purchasing cycle for phones that require an entirely new type of antenna. The launch will likely also spur demand for better displays, cameras and batteries.

7. The Doctor Is In

Healthcare monitoring equipment is already widely in use by a legion of Fitbit and Apple Watch devotees. But what about a bra that offers early breast cancer detection? Or better blood pressure or blood sugar monitoring? Add to those ideas, traditional medical services – checkups, consultations and even surgeries provided remotely. They are already happening today and the move to 5G will likely only make them better.





8. Move Over Old McDonald

The farm of the future will bring precision practices to cultivation, irrigation, weeding, pest control and harvesting. The potential is for agriculture that is more efficient and humane and for an overall approach to food production that improves the sustainability of the planet. Change is already underway but will be largely incremental and will likely stall a bit until a practical rural 5G network is in place.

9. What Trade War?

Tensions between the U.S. and China, including product bans of telecom equipment from Chinese maker Huawei in some Western countries, will have little-to-no effect on the speed or efficacy of the 5G rollout, although some rival equipment makers may grab a little extra market share.

10. Codifying Change

The common element to these advances is the need for software – the comprehensive systems of instructions, algorithms, authentications, monitoring, confirmation and analysis that will enable our devices and ourselves to interact and function in the 5G environment. Whether used for a game of solitaire or a remotely controlled robotic assisted surgery, 5G technology will require complex sets of instructions, much of which will be produced by engineers and coders at publicly traded companies.

To learn more, read the full report here:
Opportunities in the 5G Buildout.

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