



5G: INVESTING IN A DISRUPTIVE TECHNOLOGY

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5G is the fifth generation of cellular networks, bringing new capabilities that will create massive opportunities for people, businesses and society.

At its most basic level, 5G will reduce “latency”, which is the amount of time it takes for a device to connect to a server and initiate a data transfer, therefore increasing the speed at which data can be shared. Its impact on our lives could be comparable to the technology shift brought by internet, leading finally to a fully connected world. The greater capacity of 5G will allow more devices to be connected and provide the means for more data-intensive tasks. 5G will, thus, underpin the expansion of daily-connected activity¹.

5G truly is a game changer: it is a powerful catalyst for digital transformation by creating new business processes and customer experiences.

It is at the basis of advanced societies, by allowing the improvement of safety and sustainability, and it will deeply transform industries by generating more efficient and responsible businesses, as well as elevate experiences by setting the stage for more immersive entertainment and learning.



¹Source: Neuberger Berman

²Source: Qualcomm, IHS Markit

The advent of 5G

Early in 2019, global operators started launching new 5G networks. A year and a half later, data as of June 2020, 5G has been deployed in 35+ countries and counting². Beyond mobile operator networks, 5G is also expected to be used for private networks with applications in industrial IoT (Internet of Things), enterprise networking, and critical communications.

While it is hard to predict precisely when everyone will have access to 5G, its adoption is gaining momentum.

The U.S. and China are leading the way in terms of 5G investment. Many analysts see China winning the “5G race”; however, underestimating America’s capabilities would be a mistake: the U.S. still leads the rest of the world in terms of patent activity and high-tech company density. It is important to remember that the vast majority of 5G benefits are still years away and besides infrastructure, application and services will determine the winner.

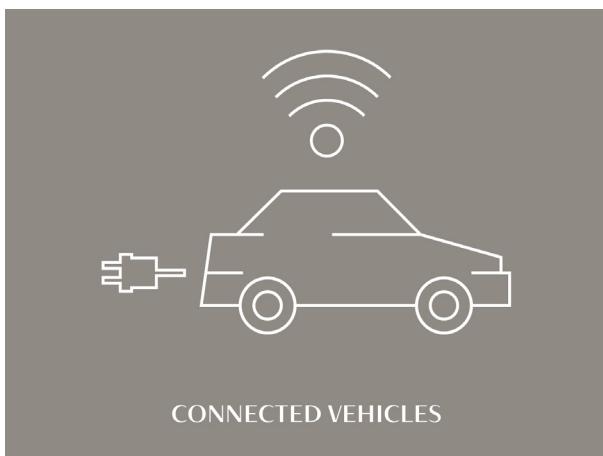
Monaco has been one of the first countries to embrace the theme with the Monegasque government being a driving force behind this technological breakthrough. The Principality has successfully become the first country in the world to offer nationwide 5G coverage.

Which industries would benefit the most from the rise of 5G?

By 2035, IHS Markit estimates that 5G will enable \$13.2 trillion of global economic output and will support 22.3 million jobs.

Some of the sectors/industries which could benefit the most from the advent of 5G are:

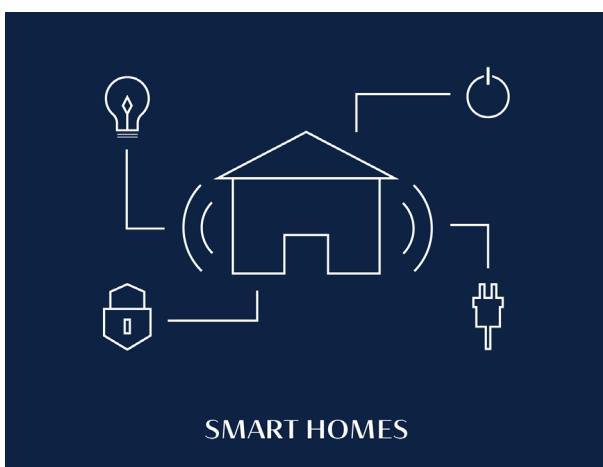
- *Semiconductors and Component Manufacturers*: in particular companies involved in the development of the key components underlying the infrastructure;
- *Manufacturing*: 5G will enable large scale “machine to machine” communications, thus reducing human error and increasing automated processes;
- *Transport*: IoT innovations will change the way we navigate road, rail and sea (real-time vehicle-to-vehicle and vehicle-to-infrastructure connections).



- *Healthcare*: robotic aids during surgery will increase accuracy; the Pharmaceutical sector would benefit from reduced research and development cost combined with Machine Learning and Artificial Intelligence;
- *Education & Gaming*: virtual reality headsets could improve learning processes and gaming experiences;

Beyond changing a unique industry, 5G will revolutionize the way many of them interact with each other. Smart Cities, for example, gather innovations from different areas/industries (public safety improvement, traffic jams reduction, more efficient management of resources...).

Last but not least, 5G could lead to increased productivity, not only by improving production processes but also by allowing people to work in a friendlier environment. It could also help the development of work-from-home policies, as faster and reliable connections will increase the likelihood that staff can effectively work remotely, hence allowing to reduce stressful commuting time.



High risks, high rewards

Investing in disruptive technologies always carries some amount of risk, and even if the potentialities are massive, the promises are not always fulfilled. As risks and rewards often go hand in hand, it is nevertheless worth considering investing in innovation - which is accelerating on a global basis and is now a key component of our societies. We believe this will be a lasting trend and therefore a long-term investment horizon should be adopted.

More than ever, investors need to look ahead and consider all the possibilities offered by these new technologies.