

5G is Coming

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5G is the designation for the upcoming fifth-generation cellular network technology. This technology, which had the standards set at the end of 2017, promises to bring faster speeds than the current 4G technology in use by most cell phones today. This technology will not only affect your cell phones, tablets, and laptops, but also the myriad of other connected devices such as door locks, autonomous vehicles, security cameras, home appliances, and many more devices included in the IoT space - Internet of Things!

It's estimated that over 20 billion devices will be connected to the internet by the end of 2020 up from the 6 Billion plus currently connected. The promised latency (the delay in sending data from one point to the next) reduction of 5G is critical to the growth of driverless vehicles and many other applications.

Shipments of 5G smartphones will surge to more than 100 million units by the end of 2020 as the coverage of 5G networks grows and the premium prices of today's handsets come down, according to a report by International Data Corporation. IDC said that next year 5G handsets could account for close to 10% of global volumes, which have been hammered in recent years by consumers taking longer and longer to upgrade to new models.

Driverless Cars and 5G Technology

For autonomous car technology to be unlocked, many experts agree that large-scale adoption of 5G is required.

If you've been following the news about 5G, you know that it has the potential to significantly boost bandwidth up to 10 Gbits/sec. It also has sub-1-millisecond system latency paired with a considerable reduction in power consumption over existing networks. 5G will enable a host of new applications in the Industrial Internet of Things (IIoT), vehicle-to-vehicle communication, virtual reality, and artificial intelligence applications.

Said Nokia's Jane Rygaard in a recent interview with the BBC: *"We need to look at how long it takes for the message to be transmitted between sensors and then get to the computer in each car, and then how long it takes for the computer to make a decision, and all of this has to be in less time than a human would take to make a decision—2 milliseconds. We need a network supporting this, and 5G is that network."*

Still, with self-driving features already in widespread use, it does appear that fully autonomous cars will appear on our roads, and perhaps sooner than people realize. Even more surprising, they will also be considered much safer than human-controlled vehicles. The current 4G network is fast enough to online stream full HD content and play online games, but it can't support safer and smarter autonomous cars. Autonomous cars, systems require incredible data processing capabilities and speeds to mimic the timing of human reflexes.

The rollout of 5G technology is likely to begin in high usage areas and will certainly experience some growing pains but it is coming.

Republished from The Gigabyte Gazette, the journal of The Sun City Computer Club