

## Dreams of the Future - 5G

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*HP is looking ahead a bit in this article about 5G wireless networking and what it will be able to do. But as always, the future is right around the corner.*

### 5G means much more than pure speed

The fifth generation of wireless technology is about to enter the mainstream, as all the major wireless carriers prepare to launch their own 5G wireless networks in the not-too-distant future. But 5G is much more than just a 4G upgrade - and it's going to affect a lot more than your phone.



### So really, how fast is 5G?

Just like the switch from 3G to 4G moved us from a few megabits per second into the hundreds, 5G will blaze past 4G - in fact, a recent simulation by Qualcomm at the Mobile World Congress showed 5G performing at 10 times the speed of our current standard. This extra capacity will make for a more reliable connection, too.

### How soon will it be here?

Right now each of the four big cellular carriers - Sprint, T-Mobile, AT&T and Verizon - are all working on their own 5G networks and rolling them out over the next year. Chipmakers like Intel are developing processors that enable 5G and working with HP® and other hardware companies to make 5G laptops by the end of 2019.

### What else can it do?

A lot, actually. As awe-inspiring as its speed is, 5G's real magic is its low latency - the lag time between a device pinging the network and hearing back.

5G networks use OFDM, which is a type of coding that's not too different from the 4G LTE encoding that we're familiar with - but LTE does have a slight pingback time that OFDM virtually erases. This mix of speed and responsiveness will be a huge factor in making the next wave of tech trends a reality.

- **Remote surgery:** With the advances in haptic feedback 5G that allows, surgeons may not have to be in the same room as patients in the near future.
- **Virtual tactile experiences:** Get in the driver's seat of a car that's miles away - and feel every bump in the road.
- **Smart drones:** We've already seen drones assist lifeguards in water rescue situations. Look out for AI-equipped drones that can be more safely controlled in a low-altitude airspace and transmit back more reliable video.
- **Virtual reality:** 5G is the tech designed to carry the data that VR creates. When VR goes mainstream, it'll go hand-in-hand with 5G.
- **Smart cars:** Not only will these vehicles be self-driving, but they'll also be constantly pinging each other with updated traffic information designed for safety. (Put another way, it's the robot equivalent of shouting "Watch out, a kid just ran into the street!")

### How can 5G help my business?

It'll improve communication both in and outside your business. Here are a few things 5G will change for the better:

- **Improved face-to-face communication:** With zero lag time and glitches, remote meetings and customer service interactions will feel more human.
- **Happier remote employees:** 5G's reliability and speed means remote workers can access the full connectivity they need to be productive anywhere in the world.
- **Increased productivity:** It's the natural byproduct of faster connectivity and lower latency, especially as small businesses become more reliant on cloud-based services.

- **A boost to IoT and AI:** Whether your business builds IoT and AI products or is simply looking for creative ways to integrate them into your business model, 5G is the network made to implement them.

5G's fast-response networks and next-level IoT tech will be here before you know it - and when it arrives, HP will be ready