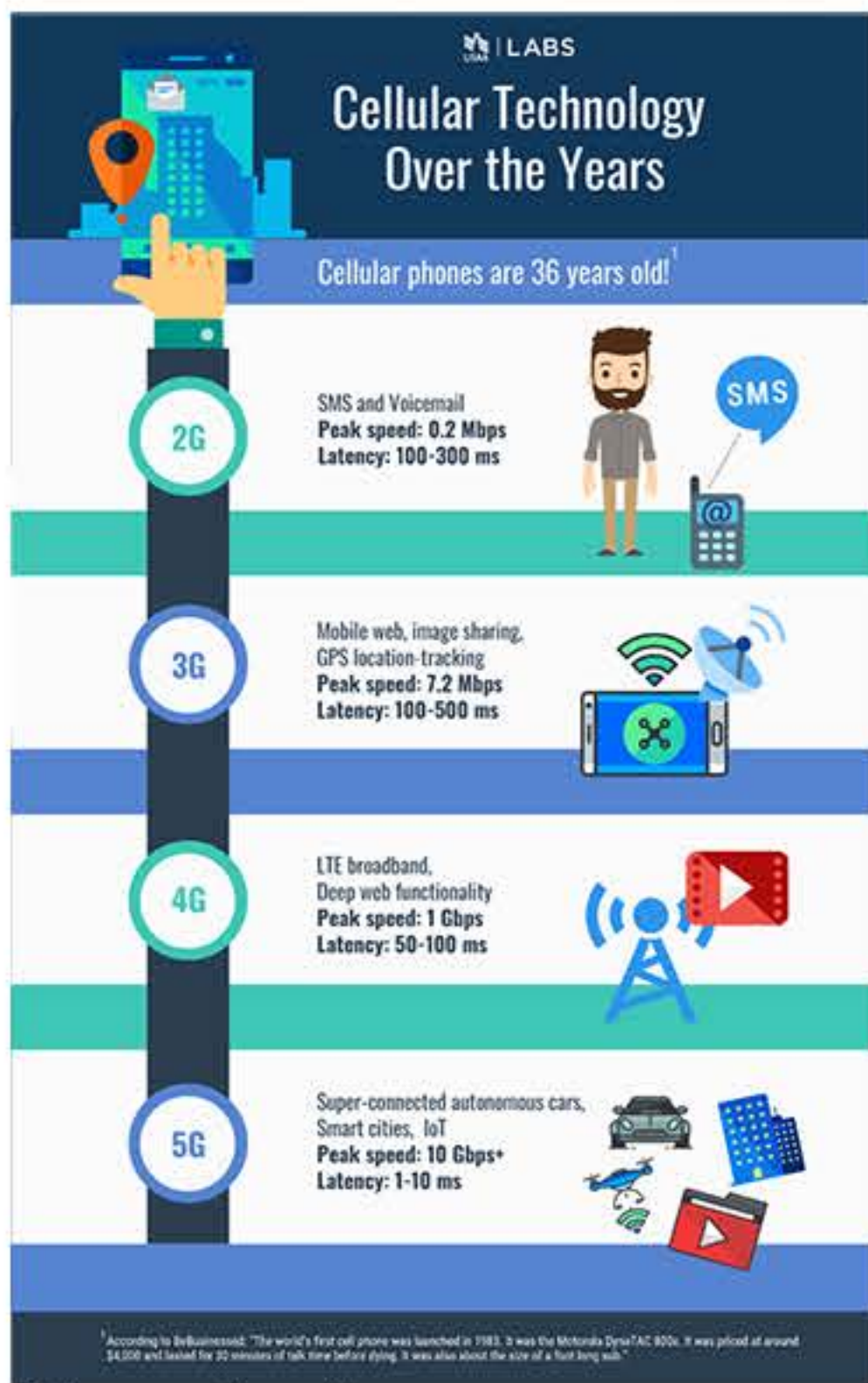


# What You Need to Know About 5G



click to zoom infographic

Imagine being able to download an entire season of your favorite post-apocalyptic flying dragon drama series to your phone in less than a minute. Or having search engines return results within milliseconds of touching the search button.

## What is 5G Anyway?

5G is the fifth generation of cellular technology, which uses new swaths of the digital spectrum. The result: faster speeds, better coverage, and shorter lag times. "As of late 2019, all of the major cellular carriers are racing to build out their 5G networks, but most have been limited to deployment in just a handful of major cities," said Oscar Tijerina, USAA Strategic Innovation Director. "So you might want to hold off on using 5G as a reason to upgrade your smartphone. Chances are, service won't be widely available until 2020 and beyond."

## How Fast Is It?

Some carriers are claiming theoretical peak speeds of up to 10 Gbps or more, which can be anywhere from 5 to 100 times faster than your average 4G or LTE connection, surpassing even that of physical fiber-optic cable-to-home speeds. To date, early testing has not yielded speeds anywhere close to that target, even in the most optimal of conditions.

But even if those rates are realized, speed is only the beginning. 5G also provides lower latency – the response time between when you click on a link and when the network responds. The typical lag time for 4G is 20 to 50 milliseconds, which drops to as little as 1 millisecond with 5G. The virtual lag-free connection of 5G could produce a cloud of connectivity that would allow self-driving cars and other Internet of Things devices to communicate with each other in near-real time. "It's what some have started to call the 'tactile internet,' because latency is so low it feels like you can touch the internet," said Mark Hung, a vice president at the technology research firm Gartner.

Some have also suggested that 5G could reduce the clutter of wired connections, too. Instead of getting internet service from a cable coming out of the living room wall, you could get it from a router with an antenna equipped to receive a wireless signal from your service provider. And despite the lack of a wired connection, the internet speeds would be a lot faster.

## Is 4G Going Away?

4G will be around for another decade or more. In fact, by the time 5G is widely available, most devices will still need to be able to work with existing 4G networks. That's because many rural areas may not have 5G for years. And it isn't critical for many low-consumption devices to use up bandwidth for super fast data transfers. For those devices, 4G is still plenty fast. Since 4G and 5G use different parts of the wireless spectrum, they can co-exist without interference.

## So, Do You Need to Upgrade to a 5G Device?

Although there's a lot of hype about 5G now, most carriers will only have portions of the U.S. covered by mid-2020. Currently only a few pockets of 5G coverage are available in certain large cities. In addition, only a few phone makers are even selling 5G phones today. So, chances are you don't need 5G yet. That doesn't mean you should ignore it either. "By the time you're due for your regular device upgrade, you might want to look at phones that are 5G compatible," said Tijerina. "But I probably wouldn't run out right now and buy one just for that feature alone."



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