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5G Coming Soon To Build Site Near You

Faster connections. Less lag time. Ability to connect more devices simultaneously. These three benefits of a 5G wireless network have the potential to significantly affect productivity, safety and quality on a construction site, but how soon will contractors actually be able to access a 5G network?

Two major carriers — Verizon and AT&T — advertised the launch of their 5G networks beginning in 2019, but initial access to enhanced networks were located in few major cities. The continued rollout of the networks was slowed in 2020 due to the COVID-19 pandemic. Carriers continue to expand their networks and Verizon has gone live in parts of Tucson as of October 14, 2020. Current coverage areas include downtown, Historic Fourth Avenue and the University area.

Although there are few devices designed to work with 5G technology, there will be dense adoption of the technology over the next few years. In the meantime, members of the construction industry should understand the benefits of 5G, and the steps they need to take to prepare to implement it within their company and their jobsites.

"5G promises to be a new way of communicating, with many benefits for contractors," says Burcin Kaplanoglu, executive director, innovation officer, Oracle. Some of these benefits include:

Greater Speed
"We all have 4G phones but 5G phones and devices will provide speeds of 1 gigabyte per second, which is 10 to 100 times faster than we currently have," says Kaplanoglu. "This will allow contractors to send large documents, such as 3D or 2D drawings with hundreds of pages, almost instantaneously and enable multiple users to interact with each other in real-time."

Decreased Latency
Latency is the time required to get a reaction from another device. Lower latency will minimize the delays in videoconference calls that everyone has experienced in 2020, but it will also support higher level device operations in construction. If I'm not on site, I can safely control a machine on a jobsite remotely because there is no lag time. Rather than have operators travel to jobsites to physically sit on the machine, contractors can eliminate travel time and more effectively use the operators' time.

More Connected Devices
A large construction site might need thousands of sensors but 4G limits the number of devices — phones, tablets, sensors — that can be connected to the network at one location. 5G technology can handle one million sensors per square kilometer. This will ensure connectivity on every size project as well as every type of location, urban or rural. As telematics on construction equipment becomes more important to monitor maintenance needs and to identify causes of equipment failure, the ability to connect more devices increases in importance.

Greater coverage and the ability to connect more devices will increase the ability to use other technology. These technologies include drones for inspections, closed circuit television via the wireless network to enhance safety, virtual or augmented reality that allows contractors and owners to "walk through the building" and see plumbing, electrical and other systems located behind walls.

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There are no disadvantages to adoption of 5G in the construction industry. There is, however, a potential disadvantage of not adopting 5G when it is readily available. The lack of 5G capability in a company may make it more difficult to adopt new technology, leading to gaps in future tech adoption.

While cost of new technology such as access to 5G and investment in devices that operate on the new network may make some contractors reluctant to adopt it, there can be some cost savings that will reduce the return on investment. "We currently use our mobile devices as computers that store information, but the improved speed, capacity and latency of 5G may mean that more can be done on the cloud, which reduces the need for mobile devices to store information. Because the mobile device will only be needed to collect and transmit data rather than collect, store, compute and transmit, the cost of devices should go down and battery life of the devices will be extended, he says.

Although 5G may not be available nationwide yet, there are four steps contractors should be taking to prepare their companies to adopt it.

1. Prepare Your Business To Handle More Data
Increased speed and capacity will mean more data collected from a myriad of sources, so contractors need to plan how they will manage the data. Put a plan and processes in place now to better manage data you are collecting today to build a strong foundation for the exponentially greater volume of data 5G will provide.

2. Assess The Need For New Devices
Take the time to inventory the devices that will need to be upgraded to 5G compatibility in offices and in the field. The actual upgrade will be in the future, but it is a good idea to know the scope of replacement that will be necessary.

3. Beware The 5G Hype
Use caution about devices now advertised as 5G. This technology is much more about speed and capacity of a network, and less about specific products. For example, many new drones highlight their specifications that include 5G capability. Adding the term "5G" in a product description is a marketing tactic, because before the drone can operate better than other drones, there first has to be a 5G network in the location of the drone.

4. Research Network Availability & Business Applications
There are degrees of 5G in operation in different places, but a contractor who wants to know exactly what is available in the area of a jobsite or company, should reach out to the major network operators in the area. Each of them has specific divisions that focus on 5G and can discuss what is available. Contractors can also research applications that truly add value to the company's operations. Consulting with companies that offer solutions is also an option, but be sure to utilize an expert consultant to make the smartest choice for your business.