



# Leveraging 5G to Improve Safety, Quality, and Efficiency at Construction Sites

Connecting and Enabling Digital Technology for Construction Project Excellence

According to a recent IDC survey of construction company executives and IT leaders:

**41%**

see the lack of coordination and collaboration as a barrier to improved quality, safety and productivity, **where 5G can play an important role** in enabling expedited data sharing, improved collaboration and ensuring quality and safety.



**73%**

**currently/plan to deploy 5G** in the next 1-2 years.

Nearly  
**50%**

view improved productivity and faster responses to customer needs as critical success measures of their digital transformation (DX) agenda. **The rapid connectivity through 5G is fundamental** to quickly innovating and meeting customer demand.

**20%**

**have started using 5G devices** and another two-thirds plan to do so within the next 12 months.

**46%**

**expect 5G to serve as a foundation for connected devices** and 40% want more real-time monitoring and autonomous operations that will drive improved ability to meet customer needs.

Source: IDC Future of Industry Ecosystems Survey, May 2021

The construction team is by nature a collaborative and interdisciplinary ecosystem of people working together to ensure safety, quality, and productivity on a job site. The reality is that data exists in multiple silos and connectivity is unreliable and slow, creating inefficiencies leading to missed deadlines, over-shot financial forecasts, as well as quality and safety issues. Faster connectivity, development of a more collaborative environment, and adoption of the right digital technology are essential to ensure high levels of productivity, increased safety, and constant innovation on the job site.

A 5G network can help. The larger coverage and faster, more reliable network connectivity can enable improved productivity and increased safety, as well as support innovative ways to respond to customer demands viewed as critical benchmarks of success. There are a number of 5G use cases that are applicable across various phases of the construction process. As a result, it is often helpful to think about how these use cases map to four broad themes applicable to construction: overall connectivity, safety and security, autonomous and remote operations, and quality. Construction firms can deploy ‘smart’ hard hats and sensor-vests to detect falls or changes in vital signs that might indicate on-site accidents. Constant, reliable connectivity ensures that on-site devices are always updated with the latest project plan changes. And 5G’s low latency will allow the deployment of autonomous or remote-controlled vehicles on construction sites, reducing the number of personnel required on-site and allowing specialized drivers to work multiple sites from a remote station, reducing travel costs and commute times. For more on 5G use cases in construction, see the IDC Spotlight paper [5G Connectivity Drives Innovation, Safety and Productivity in Construction](#).

The foundation of security and speed that 5G provides enables construction organizations with the ability to leverage new technology strategies such as AI, predictive analytics, IoT, digital twins, drones, and robotics. These tools help the team make more accurate, real-time decisions that keep the project moving forward more quickly. They also enable greater automation, the creation and management of high dimensional data sets, and rapid collaboration across a disparate, expanded team within a single site, or across multiple sites.

According to IDC, many construction organizations currently use or plan to use 5G to enable a cohesive network that facilitates IoT connected devices and improved real-time monitoring and site automation. As the industry adopts digital tech there will be increasing pressure to do more jobs at a faster pace from owners who are an essential part of the design and construction team. Reliable network connectivity and digital tools for data visibility, analytics, and decision support are essential for construction organizations to increase their win rates and deliver high quality buildings, infrastructure, and facilities.

## Conclusion

The construction industry needs a fast, scalable, mobile communications network that can be quickly deployed. This foundation of secure, reliable speed and productivity in the construction industry enables high levels of innovation, productivity, and quality leading to on time, on budget projects that meet owners’ needs. IDC’s data shows a rapid shift to digital in the construction industry that is enabled by 5G in part, combined with other digital tech such as AI, big data analytics, IoT, digital twins, drones and robotics. This digital transformation, rapid and reliable connectivity, and automation are critical for the construction industry to support the growth and modernization needs of the world’s cities and towns.



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### Message from the Sponsor

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