

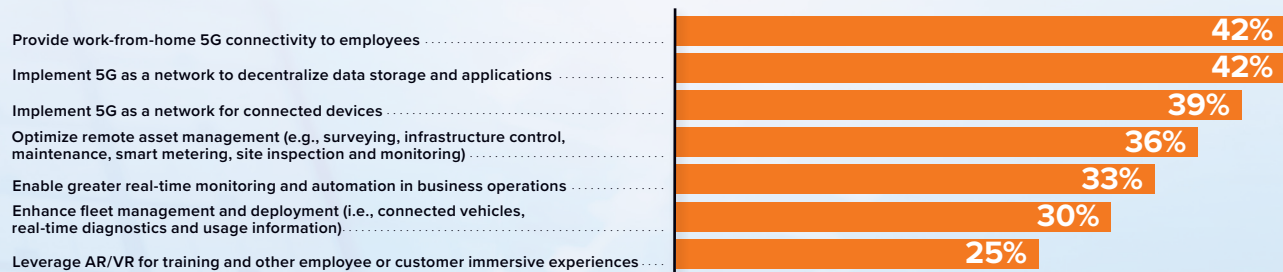


# 5G's Growing Role in Manufacturing Transformation

Providing Robust and Reliable Connectivity as the Foundation for Digital Transformation Initiatives

## Key 5G Use Cases for Manufacturing

According to an IDC survey of enterprise mobility decision makers



n = 93, Source: IDC Enterprise Mobility Decision Maker Survey, 2021

**80%** of manufacturers view **investments for connectivity programs**, such as:



as a priority or a top priority technology investment over the next two years to ensure the long-term resilience and success of the business.

Source: IDC Future Enterprise Resiliency & Spending Survey, Wave 7, August 2021

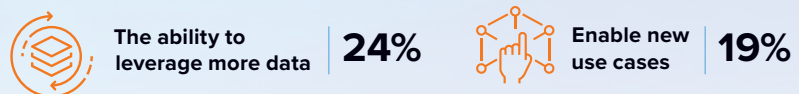
**33%** of manufacturers have already purchased and deployed **5G devices** within their organization and another **65%** plan to do so within the next 18 months.

n = 93, Source: IDC Enterprise Mobility Decision Maker Survey, 2021

**52%** of manufacturers are looking towards 5G to help improve their **IoT projects' performance/scalability**.

Source: IDC IoT Decision Maker Survey, July 2021

The most **significant benefits of 5G** viewed by manufacturers are:



Source: IDC IoT Decision Maker Survey, July 2021

Digital transformation (DX) is a critical evolution of manufacturing, allowing organizations to become data-driven in their decision making. DX can drive efficient, safe, and resilient operations through predictive asset management while simultaneously delivering an engine for innovation and growth through smart connected products and value-added services.

Whether a manufacturer is pursuing one DX project or juggling multiple initiatives, underpinning each and every one is the need for robust, ubiquitous, reliable connectivity. The fact that nearly 80% of manufacturers view investments in connectivity as a priority for long-term resiliency is a compelling endorsement of how essential connectivity is to manufacturing organizations. And while legacy manufacturing assets have long relied on fixed wires to deliver that connectivity, some have already begun to deploy wireless connectivity in their operations in the form of Wi-Fi and cellular.

However, the variability in Wi-Fi performance constrains the ability to support mission-critical manufacturing operations. The emergence of 5G provides wireless networking that can deliver consistently high throughput and ultra-reliable low latency that may eventually be on par with fixed wired connectivity that will fuel manufacturing DX projects for years.

Another appeal of 5G for the manufacturer is the diversity and flexibility of use cases that can be applied to operations. Instead of a one-size-fits-all assortment of technology solutions, different 5G use cases can be paired, integrated, and easily configured to the specific requirements of each manufacturer. While deployments will see 5G enhancing base connectivity throughout the manufacturing process, as 5G networks mature and the ecosystem coalesces, more advanced 5G use cases will amplify the DX benefits for manufacturers. 5G connectivity, especially in a private network, along with multi-access edge compute (MEC) and cloud resources will enable improved management of remote assets through greater sensor usage and remote monitoring of connected assets in the field. High bandwidth, low-latency communication will provide the ability for autonomous operations to scale faster, while at the same time, decentralizing data storage and compute for near real-time decision making. Ubiquitous 5G connectivity will stimulate always-connected, high-definition augmented reality (AR) headsets to enhance training experiences for employees and improve equipment maintenance outcomes.

## Closing

Customer and market expectations for more personalized products, deliveries, and services—as well as unanticipated events and supply chain disruptions such as COVID-19—are driving change and creating opportunities for a company to transform how its operations stay aligned with its markets. To achieve the balance between efficiency and resiliency while remaining competitive, leading manufacturers are now focused on data and connectivity.

While 5G adoption in manufacturing is not yet pervasive, there has been a clear increase in interest across the industry. However, it is also important to keep in mind that investments in 5G must be focused on enabling manufacturing outcomes, be it improved margins, increased efficiency, higher production quality, and safer workplace environments. Delivering a tangible business outcome is the criteria by which 5G-related spending will ultimately be judged.

With increased bandwidth, lower latency, and greater reliability, 5G, particularly when combined with other innovation accelerators, is a critical element for enabling a successful manufacturing DX program that delivers new efficiency gains, safer and more resilient operations, and bottom-line benefits.



**To achieve the balance between efficiency and resiliency while remaining competitive, leading manufacturers are now focused on data and connectivity.**

### Message from the Sponsor

T-Mobile is once again upending the status quo with America's largest 5G network, imagined for tomorrow but ready to give you an edge today. At T-Mobile for Business, we broke from industry norms to organize our support around your success—from discovery through deployment. And we bring together an elite ecosystem of partners to deliver solutions for manufacturing companies to improve your business outcomes. T-Mobile has a ready-now 5G network, the continuity and depth of support to accelerate your business goals, and unconventional thinking woven into our DNA to help you deliver on your "now" and your "next."

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