KPMG

The 5G edge computing value opportunity

Industrial manufacturing

With COVID-19 the need for organizations to be digital has never been greater, and 5G along with edge computing will likely play a key role in the global economic recovery.

Analysis from KPMG and global market intelligence firm IDC took a look across five sectors – industrial manufacturing, connected healthcare, intelligent transportation, environmental monitoring, and gaming. The research estimates that by 2023, with an uptick in the adoption of 5G and edge computing, the five target industries are forecast to drive US$517 billion in annual revenue into the entire ecosystem that includes connectivity, hardware, software and services.

> *5G opens many possibilities in Industrial Manufacturing. The speed and agility to harvest data in real time and use it to improve productivity is the real value of 5G.*

Here we delve deeper into the industrial manufacturing ecosystem and market opportunity.

With 5G and edge computing we're moving towards highly autonomous factories, where sensors analyze data from every corner and AI continuously adjusts production to meet demand. Through predictive maintenance, all assets are monitored 24/7, to improve performance, minimize downtime and improve safety. Products are also assessed throughout the process, to identify and address any dip in quality.

The result? Higher quality products produced faster and at lower cost, with less waste, lower maintenance, material and energy costs, and a more sustainable, low-emission environment.

The 5G+Edge technology opportunity

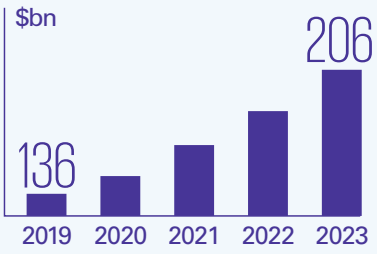
Autonomous vehicles and robots
Robots are becoming an intrinsic part of any manufacturing operation. Armed with ultra-low latency connectivity, signals will transmit instantly from multiple points, enabling humans or AI to reliably control these machines.

AR/VR
AR/VR devices can support plant installation and maintenance, by carrying multimedia information to workers wearing AR/VR headsets.

IoT devices
Sensors are everywhere, telling us about performance, conditions and incidents.
The improved data capacity and connectivity of 5G+Edge give manufacturers greater control over critical processes.

ERP and manufacturing execution systems (MES)
With increased data capacity and analysis for connected devices, in both local and wide area networks, production and asset quality can be monitored and adjusted.

System integration
The combination of 5G and edge computing can help system integrators drive IT and OT (operational technology) convergence, with real-time analytics accurately predicting business outcomes.

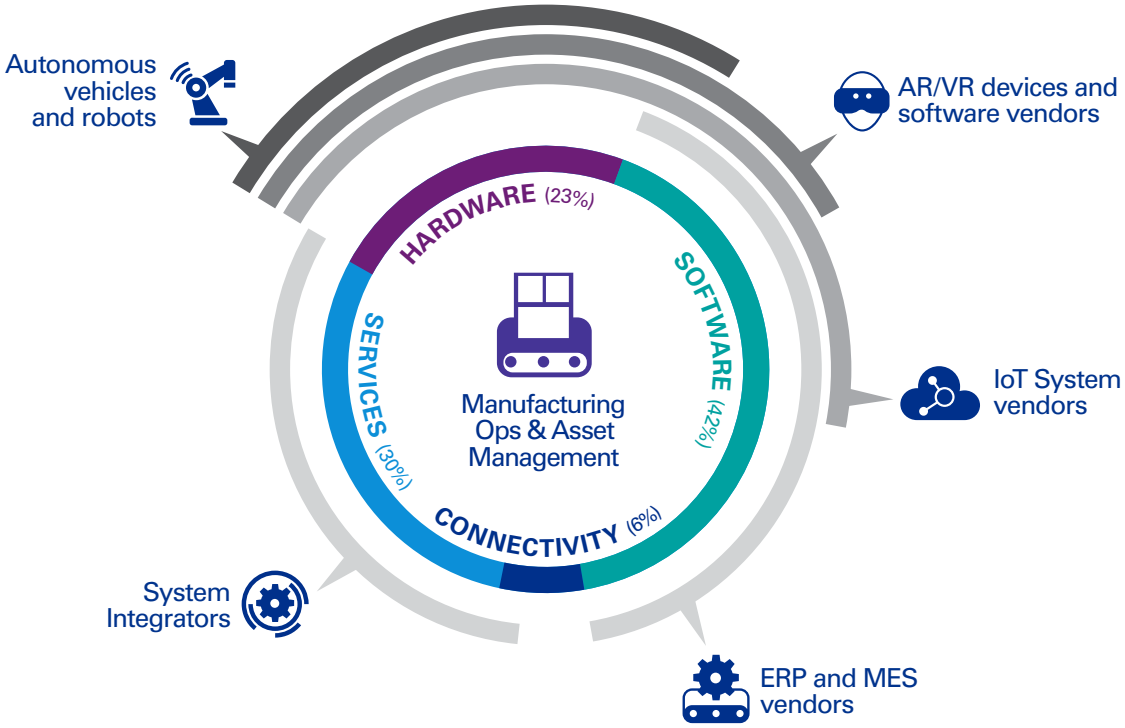


Thanks to 5G+Edge, the industrial manufacturing market is set to grow **51%** between 2019-2023.

This presents an ecosystem opportunity of **US$206bn**

5G+Edge technologies across the ecosystem

Each of these technologies is enabled by one or more ecosystem players, as shown here:



Next Steps

Telcos have an opportunity with 5G and edge computing to look beyond connectivity and consider moving into services, selling cloud infrastructure, installation, integration, app development, device management and data management. Specifically, some of the relevant opportunities are:

- Offer managed, private 5G networks
- Install 5G networks to replace wired cabling
- Support edge compute capabilities on-site or at the tower, while integrating with the telcos' own cloud infrastructure (or that of other cloud partners)
- Support asset management or root cause analysis, securely monitoring and maintaining sensors belonging to both clients and third-party vendors

Contact us

Alex Holt
Global Head for Technology, Media, and Telecoms
KPMG International
M: +1 408-275-5784
E: alexanderholt@kpmg.com

Stéphane Souchet
Global Head for Industrial Manufacturing
KPMG International
M: +33 6 75 68 20 06
E: ssouchet@kpmg.fr