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5G and Private Wireless adoption in the Industrial Market

What is driving the adoption of 5G and Private Wireless technology in the Industrial Market? As companies grapple with digital transformation to increase operational efficiency and stay ahead of their competition, they are encountering obstacles due to the limitations of their existing infrastructure. How do you increase your overall equipment effectiveness, increase employee safety, and provide greater visibility and decision-making anywhere indoor or outdoor?

The Global Industry 4.0 Market size was USD 84.59B in 2020 with a CAGR of 19.4% from 2021 to 2028. It is projected to reach USD 334.18B in 2028.[1] The combination of the following simple yet powerful drivers have enabled Industrial companies to tie immediate business value to private wireless deployments with an eye towards future automation that can be enabled by a 5G and edge infrastructure.

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1. Connectivity

The need for ubiquitous connectivity with stable low-latency (>15ms) to support real-time communications across large indoor manufacturing, distribution, and warehouse facilities, combined with the explosive growth of IoT devices have pressed the limits of Wi-Fi. Similarly, vast outdoor environments at refineries, mines, mills, and farms also need coverage for remote operations and management. Dependable, secure connectivity for end users, IoT devices, and autonomous machines to enable critical business functions is the foundation upon which additional use-cases can be layered. Staying connected with workers through voice and video communications can improve safety and reduce mean-time-to-repair for maintenance issues or reduce the duration of large-scale events such as shutdown, turnaround & outages.

2. Security, Privacy & Compliance

Private wireless gives you the control to keep your data on-premises. The private wireless core is local and provides a secure handoff to your LAN. Only devices with a SIM card you assign are associated with your private wireless network. This gives you complete control, visibility, and allows for adherence to stringent regulatory requirements. High-definition video intrusion monitoring, leak detection, and emissions measuring can be automated to simplify compliance.

3. Safety

The industrial market has its fair share of work-place hazards. The ability to continuously monitor employees in dangerous areas, and the conditions in those environments using cameras, sensors, robots, and drones can dramatically reduce the risk of accidents. Actionable insights from predictive analytics can also reduce the risk of catastrophic machine failures and prevent dangerous situations for workers. By integrating IoT data with worker telemetry, actionable alerts can be sent to employees (and stakeholders) to keep workers out of harm's way.

4. Standardization

Built on 3rd Generation Partnership Project (3GPP) standards. The 3GPP is a group of standards organizations which develop protocols for mobile telecommunications. These private wireless solutions can be deployed in a consistent fashion globally allowing integration with your existing systems, security, and procedures.

5G and Private Wireless lead to Business Enablement. With broad connectivity, and the addition of edge computing the employee experience can be digitized and workloads requiring real-time communications or local processing can be achieved. Our clients have increased employee productivity through remote maintenance via voice and video connectivity across plants, speeding diagnosis and repairs. They have increased safety in large refineries through live tracking of vehicles and real-time reporting of speeding and stop sign violations. Other use-cases include, but are not limited to, Computer Vision to improve quality assurance and monitoring, IIoT integration with data & analytics for predictive maintenance, AR/VR, and digital twin technology...all these start with a stable, predictable, low-latency infrastructure built on 5G and edge computing.

Kyndryl understands that each company may be at a different inflection point in their digital transformation journey. Whether you are just beginning to evaluate 5G as medium to facilitate automation, or are further along on your journey, Kyndryl will meet you where you are. From advisory, design, build, manage and automate, Kyndryl will provide you with the project-based or turn-key solutions to accelerate your transformation.

Chat with a Kyndryl expert for a 30-minute strategy session at no cost.

Discover the full value of your business and technology potential with a Kyndryl expert consultation at no cost.

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1 *https://www.globenewswire.com/news-release/2022/01/13/2366554/0/en/Global-Industry-4-0-Market-Size-To-Hit-USD-84-59-Billion-by-2026-at-a-19-4-CAGR-with-COVID-19-Analysis-Facts-Factors.html#:~:text=Based%20on%20primary%20research%2C%20the,market%20share%20during%20 2021%E2%80%932028*