

Manufacturing made even smarter

The smart factory of the future:
Make Industry 4.0 a reality with
Enterprise Intelligence



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business

The manufacturing industry is hyper-focused on optimizing automated processes, training and reskilling human workers, and embedding disruptive technologies within current infrastructure for a smarter, connected future, but as the industry continues to evolve, manufacturers are looking for smarter ways to streamline their processes and stay competitive.

How exactly do they do this? A prime solution is investing in smart factory technology and the critical infrastructure needed to support it. By integrating advanced technologies such as IoT, AI, and machine learning, and developing agile, connected ecosystems, smart factories can improve processes, reduce waste and increase efficiency on their journey to achieving Enterprise Intelligence.

What does the factory of the future look like?

It's well-known that [Industry 4.0 is the next step of the industrial revolution](#) and will connect machines, products, and people into a digital ecosystem that can correct issues before they affect production. In some cases, human involvement may not even be necessary and robots, sensors, and automated processes can make better use of everyone's time.

This is a game changer allowing manufacturers to boost efficiency, identify problems, and reduce downtime simply and efficiently by integrating technologies like:

- A Private 5G network and edge computing
- The Industrial Internet of Things (IIoT) and AI
- Cyber-physical systems
- Advanced analytics and reporting
- Predictive maintenance, simulations and digital twins

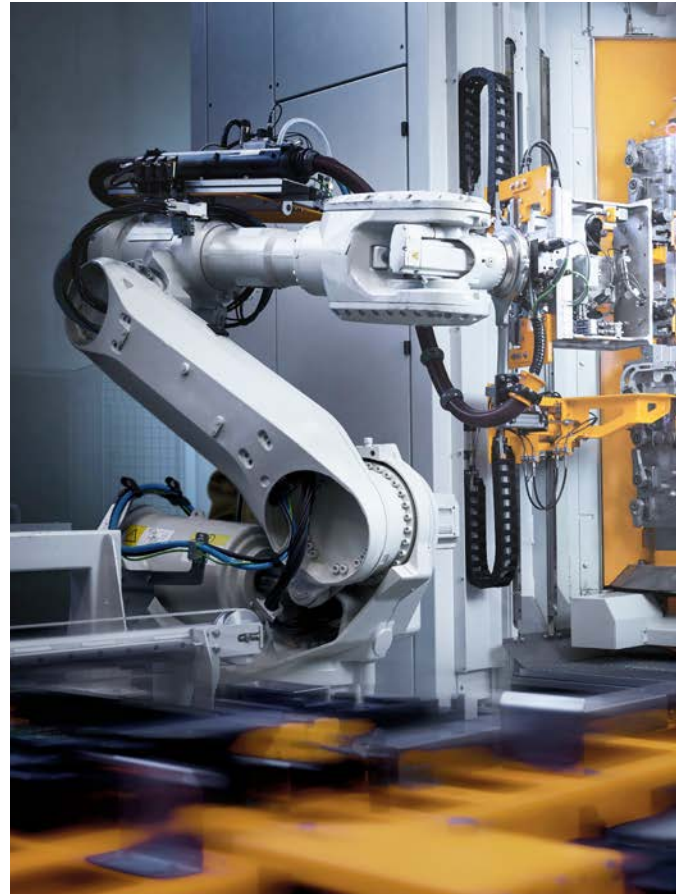
These advancements will address many of the challenges currently affecting manufacturers' productivity and bottom line, such as downtime, supply chain visibility, and sustainability goal attachment.



How Industry 4.0 turns manufacturing challenges into opportunities.

When companies embrace Industry 4.0, they're not just becoming more agile, resilient, and innovative; they're also setting themselves up for success when demand rises and the economic landscape stabilizes.

With more connected manufacturing, there is an opportunity for improved monitoring streamlined consumption, faster problem-solving, and smoother communication with regulators. These radical improvements can make a huge impact: such as [a 15 percent to 30 percent boost in labor productivity](#) cutting machine downtime by 10 percent to 50 percent, and achieving a substantial 85 percent increase in forecasting accuracy. Plus, let's not forget the efficiency-boosting power of 3D printing technology - it's all about working smarter, faster and better.



Why the shift to Industry 4.0 has been a marathon, not a sprint.

Manufacturers have been dragging their feet when it comes to embracing the next industrial revolution, even though there's a clear urgency given the high inflation rates and ongoing recovery from the COVID-19 pandemic.

According to [a survey by Deloitte and the Manufacturing Institute](#), 64 percent of manufacturers say that a lack of skilled workers is a major challenge to their digitalization efforts.

Warehouse operations, like picking and packing, are still pretty labor-intensive. It's becoming increasingly apparent that most industries are on a mission to boost productivity and cut costs, but they're facing a roadblock when it comes to embracing Industry 4.0 innovations. This is due to a mix of challenges holding them back, namely a shortage of tech-savvy employees, systems that don't talk to each other and a reluctance to invest in IIoT technologies.

But there has been some positive change – [75 percent of manufacturers are investing in smart manufacturing technologies](#) which are expected to yield significant benefits, such as increased productivity, improved quality and reduced costs.

How Industry 4.0 is paving the road to innovation.

Future-forward companies are already seeing benefits across the manufacturing environment:

- Big data and analytics reduce material waste/overuse and help provide oversight of the entire factory's metrics.
- Predictive maintenance, simulations and digital twins result in a reduction in downtime and operational risks.
- IOT and AI allow dynamic scheduling, increased capacity and lower costs.

When it comes to Industry 4.0 technologies, factory machines can flag issues in real time, saving everyone from potential disasters. Autonomous robots can save the day by reducing the need for human labor, as well as human errors. Dynamic scheduling and predictive quality also lend themselves to serious improvements. When implemented successfully, these technologies can deliver long-lasting value across every area of the factory.

How Industry 4.0 helps employees work smarter, not harder.

New technologies can help employees be more efficient and increase their job safety:

- Sensors, edge devices, and connected systems ensure machine safety and reliability.
- Drones and intelligent video analytics can reduce safety incidents.
- AR and robots can minimize the need for human workers in hazardous areas.
- Real-time prevention of quality issues reduces the need for human inspections.

Unexpected crises like supply chain shortages can create significant impacts on manufacturing production causing delays and missed shipments. But with the help of cutting-edge technologies in intelligent factories, manufacturers can recover quickly by getting advanced shortage alerts or bad weather alerts along with alerts for many other issues. They can even automate orders from alternate suppliers.



Verizon: The secret to future-proofing your factory.

Investment in efficiency-boosting technologies like private 5G, mobile edge computing, AR, IoT and robotics is the first step in the journey to future-proofing factories and making them smart.

Verizon can help you make this a reality by providing access to the necessary network, technologies and infrastructure needed to utilize predictive analytics, AI, 3D printing, digital twins and drones.

Case study: Deloitte's Smart Factory.

A great example of how Verizon is helping bring manufacturers into the future is [Deloitte's Smart Factory @ Wichita](#). Sponsored by Verizon, it's a fully operational factory that partners with clients to tackle real business problems and transform manufacturing operations into future-forward processes.

The factory showcases quality sensing and detection, energy management and a fully connected and cyberprotected tech stack, while also demonstrating sustainability through [a net-zero factory powered by renewable energy sources](#).

[The factory also offers applied-learning opportunities](#) with a team of solution providers, tech innovators and researchers to help organizations solve problems using smart factory use cases.

With Verizon, achieving a smarter manufacturing environment is within reach.

Verizon's Private 5G and mobile edge computing offer low-latency data connectivity to power AI and AR. Cloud-based solutions can connect facilities, manufacturers and suppliers, quickly and cost-effectively. With the right technology and digital foundation, manufacturers can enhance efficiency, reduce costs and prepare for unexpected events.

When it comes to unlocking the potential of a connected and intelligent manufacturing ecosystem, there's only one name you need to know: Verizon. As your trusted network and technology partner, Verizon can help you supercharge your manufacturing operations on your transformation journey. Imagine a world where machines seamlessly communicate, data flows effortlessly and innovation becomes second nature. This is Enterprise Intelligence. With Verizon by your side, get ready to witness the true power of connectivity and make your manufacturing ambitions a reality.



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