

Deloitte.



The Smart Factory
by Deloitte
Believers made here

Industry 4.0 and the future of smart operations

Today's manufacturing industry faces complex market demands and shifting supply chain conditions. To stay competitive, manufacturers must improve both agility and speed. Industry 4.0 marries advanced manufacturing techniques with the Internet of Things (IoT), cloud, machine learning (ML), and artificial intelligence (AI) to create interconnected manufacturing systems that exchange and analyze information, then use the results to drive smart factory operations. The stakes are high—by implementing smart factory solutions, a \$4 billion manufacturing business could increase annual revenue by \$1.7 billion.¹

Manufacturers realize the potential of Industry 4.0. In a recent survey¹:



see smart factory initiatives as the primary driver of manufacturing competitiveness over the next five years.



believe smart factory initiatives will transform how products are made.

¹ Deloitte analysis of the 2019 Deloitte and MAPI Smart Factory Study data.

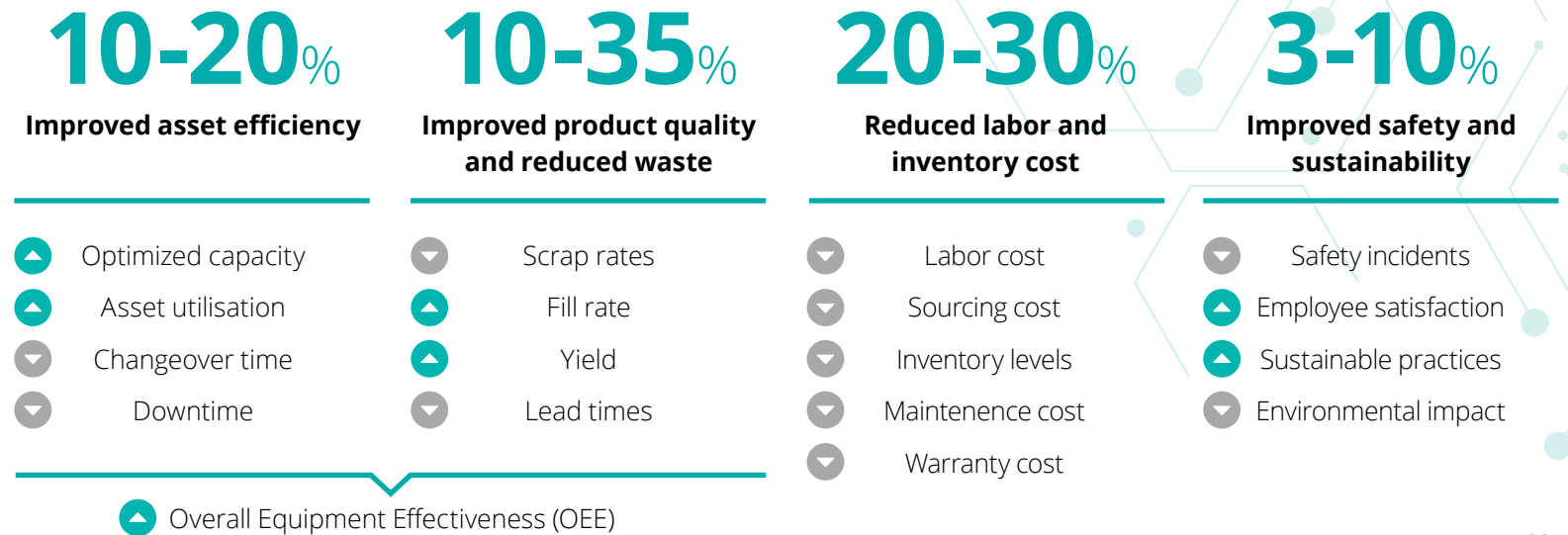
What is a smart factory?

A smart factory is a responsive, adaptive, and connected system. It can optimize its own performance, learn and adapt in near-real time, and autonomously run entire production processes—maximizing efficiency while reducing costs. Smart factory technology enables not only new levels of lean optimization and performance improvement, but entirely new operating models and sources of value.

² Deloitte analysis of the 2019 Deloitte and MAPI Smart Factory Study data



Manufacturing businesses that undertake smart factory initiatives see significant benefits²



What is a smart factory?

The Deloitte Smart Factory

To demonstrate the potential of Industry 4.0, Deloitte has built a network of Global Smart Factories—each offering a one-of-a-kind, immersive experience designed to inspire new possibilities for innovation and growth.

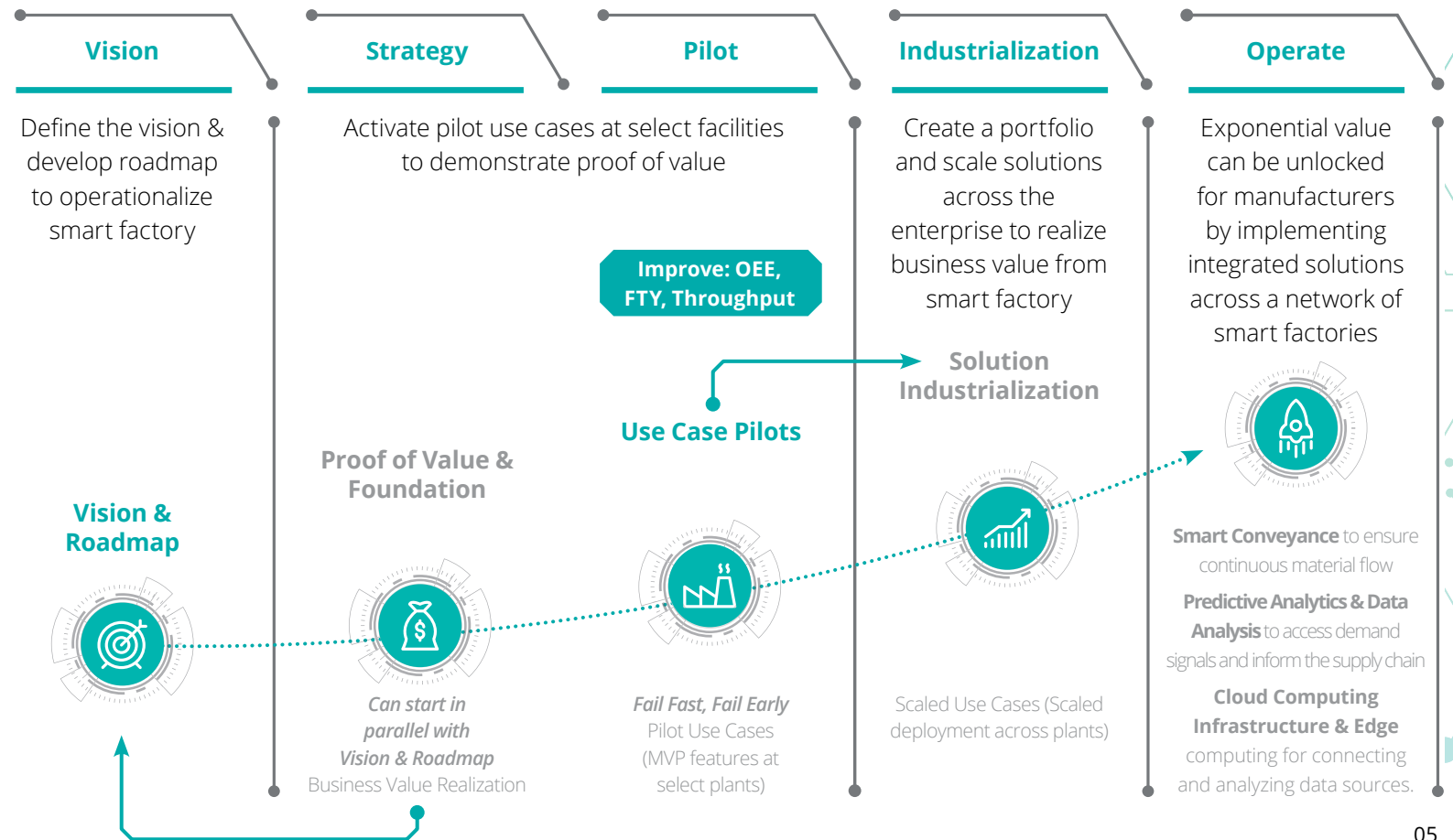
Our Smart Factories' physical experiences offer real-world examples of how leading companies can use smart, sustainable innovation to re-imagine manufacturing, not just in one factory, but across their operations. Either standalone, or when connected, our network of Smart Factories can show the potential of transforming entire enterprises to deliver tangible benefits.

Deloitte can help you design, deliver and operate a strategic program to profitably digitize your operations



Deloitte knows what it takes to succeed, and more importantly, we know where companies fail and can help you avoid those missteps.

Operationalizing the Smart Factory



The Deloitte Smart Factory experience

Visit any of our Smart Factories for an experience tailored to your company's digital transformation goals.



Learn

- Use maturity models and assessments to understand where your company's position on your digital journey
- Learn about the latest technologies, use cases, and industry trends
- Explore the use cases most applicable to your business
- Hone your understanding with best-practice approaches, frameworks, and thought leadership



Experience

- Experience leading digital solutions in a working factory hands-on environment
- Immerse yourself in possibilities and embrace existing challenges
- Consult with experts from Deloitte and our broader ecosystem



Strategize

- Commit to the approaching transformation of factory processes and systems
- Strategize by connecting existing challenges to future goals
- Develop an action list and roadmap to accelerate your transformation

The Smart Factory use cases

To bring the experience to reality, we have selected eight priority use case categories which are common across all factories. Each factory will have a range of additional use cases to showcase their unique capabilities.



01 **Factory asset intelligence and performance management.**

Apply data science tools and insights to optimize factory floor operations.



02 **Quality sensing and detection.**

Prevent quality issues in real time while reducing the need for manual inspections.



03 **Factory synchronization and dynamic scheduling.**

Coordinate scarce resources for optimized manufacturing and operations.



04 **Augmented workforce efficiency.**

Improve workforce efficiency through enhanced technologies and equipment.



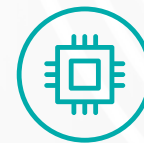
05 **Plant consumption and energy management.**

Leverage contextual data to optimize energy usage and reduce overhead costs.



06 **Smart warehousing solutions.**

Automate warehouse operations by analyzing inventory use and distribution rates.



07 **Smart conveyance.**

Enhance warehouse material transfers using digital orders and autonomous vehicles.



08 **Engineering collaboration and digital twin.**

Utilize product performance data to improve design, engineering, and production.

The Smart Factory by Deloitte network

Deloitte Smart Factories are much more than showrooms. Our state-of-the-art facilities in global manufacturing hubs serve as working models for transformation. Visitors get hands-on experience with innovative digital applications that address real-life operational challenges.

THE
SMART
FACTORY
by Deloitte



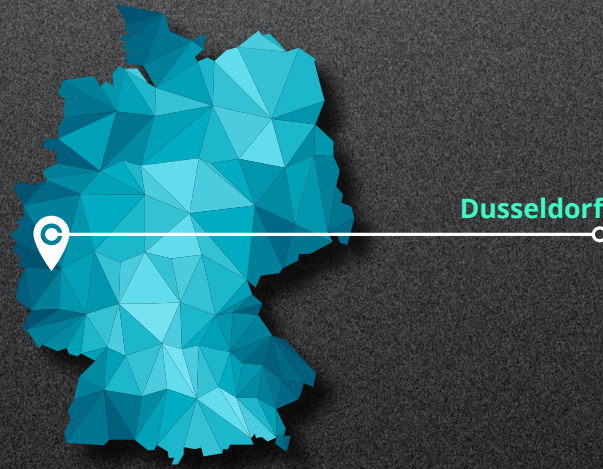
The Smart Factory @ Wichita



Get up close and personal with smart and sustainable manufacturing innovation. Your customised journey at The Smart Factory @ Wichita, will address your challenges on an industrial-grade production line. In the command center, you see the brains of the factory at work, using a live dashboard to provide a holistic view of the operations and intelligence, including the line's overall health, metrics, and overall equipment effectiveness (OEE) measured in real time. Experience the fully connected tech stack and see how it supports injection molding, computer numerical control (CNC) machining, pressing, general assembly, soldering, software flashing and testing, etching, and packing and kitting. Finally, see autonomous mobile robots replenish consumable materials and retrieve defective parts for troubleshooting and quality inspection.



The Smart Factory @ Dusseldorf



At The Smart Factory @ Dusseldorf, you experience a digital lean production simulation featuring manufacturing 4.0 technologies that automate planning and increase precision. The manufacturing line covers four stations—from incoming orders to production to the final assembly and quality check. See firsthand how digitally integrated predictive maintenance, cybersecurity, supply chain control tower, blockchain, and smart warehouse can increase flexibility, transparency, traceability, and control on the shop floor and beyond.



The Smart Factory @ Kyoto



Looking for hands-on experience with next-generation factory solutions? At The Smart Factory @ Kyoto, you get real-life experience with the manufacturing 4.0 technologies needed to jump-start or accelerate your smart factory journey. In the showcase area, you see, touch, and test solutions such as artificial intelligence—optical character recognition (AI-OCR), environmental monitoring, equipment monitoring, workforce digitization, motion detection and a production line model for one-by-one production, called Manufacturing 4.0, to enable connectivity between OT/IT system. In the innovations area, our experts can help you build a transformation strategy based on what you learn and experience.



The Smart Factory @ Tokyo



The Smart Factory @ Tokyo, is the second facility of its kind in Japan with the flagship in Kyoto. It is a collaborative space where our clients and Deloitte professionals work together to envision the ideal future for factories and companies. This includes developing strategies to transform systems, refine operations, streamline organizational structures, enhance workforce capabilities, and develop new business models. Many companies, both with local and international operations, have to make business decisions without having a clear picture of what is happening on the ground due to the fragmentation of systems and data. The Smart Factory @Tokyo provides a test case environment to explore various use cases that enable the interconnectivity between facilities and leverage data to make more insightful and forward-looking decisions.



The Smart Factory @ Montreal



This facility features a state-of-the-art immersive learning centre featuring cutting edge manufacturing and warehousing technologies. Visitors will be met with an immersive fully functional experience consisting of simulations, demos, and art-of-the-possible workshops to help them chart their own digital industrial transformation journey to increase the profitability, safety and competitiveness of their organization.



The value of an ecosystem approach to innovation and collaboration

The Deloitte Smart Factory network has an ecosystem of innovative collaborators with a shared goal: to demonstrate how an authentic smart factory can move beyond the shop floor to improve efficiency, productivity, and sustainability across the enterprise. Deloitte has thoughtfully convened a world-renowned team of solution providers, technology innovators, academic researchers, and futurists to showcase the power of smart factory technologies. To offer turnkey solutions that accelerate digital transformations, Deloitte Smart Factories rely on select collaborators to help demonstrate and implement end-to-end capabilities.

The Smart Factory ecosystem

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No matter where you are on your smart factory journey, the Deloitte Smart Factory experience helps you connect, test, and scale your manufacturing processes and transform your digital production and supply network.

Ready to dive in?
Contact us
today to schedule your
Smart Factory experience.

The Smart Factory @ Wichita



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