



Making the factory of the future a reality, today

How to achieve digital excellence
in manufacturing

The transformation of manufacturing beyond Industry 4.0

Let's take a look at the pioneers who are making the factory of the future a reality, today.

No longer just a concept, the factory of the future brings to life the longstanding aspirations of Industry 4.0. It has gone beyond the walls of production to optimise digital operations and transform the entire connected manufacturing ecosystem.

Once, we imagined tomorrow's factories would be focused on the digital, robot-driven production floor. But reality has transcended the factory floor to include the entire manufacturing ecosystem – connecting employees, processes, machines, data and customers – far beyond what was once envisioned.

Among enterprise manufacturers, 87% say they have at least one IoT project in the learning, proof of concept, purchase or use phase¹. And manufacturers who have implemented smart factories are seeing 17–20% productivity gains.

Yes, the “factory of the future” does involve machines, products and factories. But contrary to past and popularly held fears of automation and robots replacing people, the factory of the future actually empowers people by:

- Developing customised, meaningful products and services through the ability of manufacturing business leaders to use data from hyperconnected networks
- Predicting and preventing machine failures, and improving operational effectiveness by providing continuous insights to factory workers
- Innovating to support valuable customer experiences by leveraging real-time usage data and experiential sentiment

The empowerment of digital leaders in manufacturing

Connected intelligent machines and IT systems provide continuous insights. And these insights enable manufacturing leaders to make better informed decisions with objective, up-to-date market data; manage inventory in near-real time; and revise processes and drive new innovations to meet demand.

Such hyperconnected networks of free-flowing data will enable manufacturers to work with shorter lead times, forge a tighter link between supply and demand, develop new business models as market demand and opportunities arise and accelerate new product introductions to market.

Global management consultants, McKinsey & Company, estimate that 50% of companies that embrace AI over the next 5–7 years may double their cash flow.

Empowering manufacturing leaders hinges on supporting real-time insights. And one way that Microsoft enables this is Remote Monitoring.

Developed for the Microsoft Azure platform, Remote Monitoring enables manufacturers to make targeted improvements to business processes by getting real-time use, performance and asset health updates from nearly anywhere, and use that data to optimise performance securely, anticipate problems and solutions and boost customer satisfaction.

The result? Improved visibility to support proactive responses across the business. The ability to make targeted improvements to business processes to save time, money and resources. And new business insights to spot trends and opportunities to advance the business.

Connecting specialists in new ways across the organisation

Today, immersive human-to-machine collaboration and advanced analytics are enabling specialists – from R&D, to the production floor, to logistics and supply chain management—to prototype new designs faster and more affordably, build more useful products faster, and continually support meaningful customer experiences.

In fact, 85% of manufacturing executives expect human-to-machine-centric environments to be commonplace by next year², with an estimated 40% of operational processes being self-healing by 2022.

One technology at the heart of this vision is the digital twin.

The digital twin enables manufacturers to simulate and iterate through the end-to-end stages of design, production and service with a digital representation of the plant floor, supply chain and product life cycle.

Gartner estimates that, by 2020, there will be more than 20 billion connected sensors and endpoints, and that digital twins will exist for potentially billions of things. And, they say that by 2021, half of the large

industrial companies will use digital twins, resulting in those organisations gaining a 10% improvement in effectiveness.

What used to be considered technologically abstract or out of reach is now tangible and available, supporting advanced problem solving and reasoning with machines, simultaneous work across virtual and physical models and effective cross-team collaboration on a global scale.

Microsoft is redefining the digital twin through HoloLens 2, which allows users to interact with and improve full-scale models in immersive mixed reality. Now, manufacturing teams can create safe & flexible holographic training scenarios in the real world, giving their clients 3D prototypes to visualise, inspect, identify and address problems before work starts.

Processes that once took weeks, can now take days through this reduction in physical prototyping.

Developing a truly customer-centric manufacturing process

While factory workers, machines, processes, data and other elements of production support smart factories, empowering transformative customer experiences is truly at the heart of the factory of the future. And it's estimated that 86% of buyers¹ will pay more for a better customer experience and greater transparency.

The desire to adapt to quickly evolving customer demands is nothing new. Except now, technology trends such as AI and IoT are being adopted and integrated into ways that finally deliver on this real-time, customer-centric vision.

One example of how the customer experience is being completely transformed by these advancements is Predictive Maintenance, in which manufacturers boost

equipment reliability and stay ahead of the unexpected issues that can easily derail production.

By capturing customer sentiment, usage and other data and analysing it with machine learning algorithms, manufacturers can gain the insight to fine-tune processes. And then make modifications that improve product quality and increase customer satisfaction.

Going forward, IoT-driven data and AI will bring new levels of performance insight directly from customers for customer-driven product design and faster innovation cycles.

1. Hypothesis Group: IoT Signals: Summary of Research Learnings. 2019

2. Eric Schaeffer et al., Machine Dreams: Making the most of the connected industrial workforce. Accenture. February.

From our factory, to your factory of the future

Through a robust technology platform, preconfigured solutions and long-standing experience as both a services provider and manufacturer, Microsoft is empowering people to capitalise on the unprecedented opportunities of the factory of the future in three fundamental ways.

First, by empowering organisations to achieve breakthrough productivity with intelligent, mixed reality and cognitive services by bringing together humans, machines and AI.

Second, by building broader ecosystems through partnerships that include telecommunications, network, hardware and software partners.

And third, through delivering a highly-flexible, robust software platform that allows the hyperconnected world to operate in hybrid models, supporting IoT, people and services working together.

To learn more about Microsoft smart factory solutions and the growing number of manufacturers innovating with them, contact Fusion5 today.

Fusion5's team is experienced in helping organisations manage their in-field service needs, from skills, availability and location-based scheduling, to assets and warranties, to achieving a pleasant and viable user experience for in-field team members.

We are experienced implementers of Dynamics 365 Field Service in New Zealand, Australia, and further abroad. This encompasses traditional workloads such as pre-emptive and break-fix servicing of machinery, to inspections, to in-field medical and social services provision. We spend time with your team on the road to understand what will work and what won't, and just how Dynamics 365 can enable your in-house and in-field teams to collaboratively provide superior customer experience.

Dynamics 365 Field Service provides an ideal platform on which Kiwi and Aussie organisations can improve the effectiveness of their service provision. The solution enables efficient scheduling and provision of service on customer sites, as well as AI-driven schedule optimisation, route planning, a configurable mobile experience with full offline functionality, through to invoicing for parts and services – integrated to your finance system.

We are Fusion5

Fusion5 provides business solutions that add real commercial value to your organisation. Our focus is on making potential reality for our customers, and our people.

When we work with you, we don't recommend technology for technology's sake. What drives us is delivering outcomes that genuinely improve your business. Our unique experience and advanced understanding of the solutions we offer, together with innovative technology that can be wrapped around them, means we can offer 'fit for you' solutions that amplify solution benefits for your business.

We realise adopting new technology is not just a one-off activity - it requires change management, support, and continuous improvement to ensure your digital journey evolves with your business. We're here to partner with you through all aspects of the journey.

#makingpotentialreality