

Is your future-ready supply chain still actually a "chain"?

Discover how the EY-Microsoft alliance can help manufacturers and retailers transform operations.



The better the question. The better the answer.
The better the world works.



Building a better
working world



Microsoft



While the pandemic caused widespread disruption for everyone, retailers and manufacturers were especially hard-hit. Many organizations had to transform their supply chains practically overnight, reacting to unplanned and unprecedented changes.

There are also considerable opportunities for these two industries to collaborate: many modern retailers now operate their own manufacturing sites or are heavily involved in private-label production.

Retailers and manufacturers are also exploring similar ways to increase customer spend and loyalty. In addition to direct-to-consumer models, both sectors are driving revenue by offering additional services, such as repairs and maintenance.

Organizations in both industries also share an ambition for greater visibility at each stage of the supply chain. Having this transparency can build predictability and

consumer trust. New technological capabilities make these transformations possible. They also create a way for organizations to form deeper connections and collaboration.

In the following guide, we'll explain how the EY-Microsoft alliance can help organizations optimize vital supply chain operations. We will explore how advanced technologies and processes can transform and modernize business models, and prepare organizations for the future.

Agility and resilience are not inherent in today's supply chain structures.

An intelligent supply chain offers the ability to achieve greater value, predictability and trust.

Traditional supply chain structures are rigid and linear, and fraught with challenges



Only ~25% are digitally networked and autonomous.

Source: "How reinventing the supply chain can lead to an autonomous future," EY, 2019.

Expand your world with an intelligent, digitally networked supply chain.

Future supply chains are smart, agile, networked ecosystems on a path to autonomous operations

Now.
Cost-optimized, manual, rigid and linear



Value creation within entities, on-premises IT, slow to respond

Next.
Agile, intelligent, networked ecosystems



The new world: Industry 4.0 with ecosystems on cloud-enabled platforms

Beyond.
Autonomous

Real-time dashboard



Self-driving supply chains



End-to-end visibility is the
No. 1 factor for creating a
successful supply chain.¹

Move from rigid to agile: enhance business outcomes with an intelligent supply chain

Powered by access to data and a smarter analytical approach, an intelligent supply chain can provide greater value, predictability and trust.

Organizations that transform their supply chains benefit from:

Broader collaboration

Cloud-enabled platforms allow the sharing of real-time supply chain data between manufacturers, retailers and consumers. Access to information enhances decision-making and services. For instance, having live location data about deliveries can help retailers and consumers plan ahead.

Enhanced automation


Applying artificial intelligence (AI) and machine learning to supply chain operations offers a wide range of advantages. From training autonomous robots to conducting inventory management, to predicting customers' orders with deep learning models, AI can reduce costly errors, such as spotting defects in high-precision machine parts that the naked eye would miss.

Deeper insights

Modern dashboards give full, or nearly full, visibility into key data and metrics to understand the state of the business and guide decisions. They draw on tools, such as Microsoft Power BI, to enable users to get a complete, real-time picture of supplies, suppliers, inventory and customer demand.

New revenue streams

In contrast to a traditional closed model, intelligent supply chains can be significantly expanded with internet of things (IoT) technologies. Data-driven insights can be gleaned as customers interact with connected devices. In turn, this data can be used to recommend relevant products or subscription services to increase average customer spend.



Agile factories are helping manufacturers and retailers transform. They are more efficient, more adaptable and more connected, and are ever-ready to meet spikes in demand.



What is an agile factory?

Powered by connected data and automation, an agile factory is a foundation for a digitally connected, intelligent supply chain.

This isn't about building new facilities. It's about making current factories more effective and efficient using a host of new technological capabilities.



Industrial IoT to create a connected factory floor

At the heart of the agile factory is the convergence of information technology (IT) and operational technology (OT). Until recently, factory hardware operated in silos. This made the entire production process hard to manage. Industrial IoT has changed that. Sensors that are attached to machines and tools let them collect and share real-time data in a connected IT network. This data can be visualized via a single dashboard to manage the entire factory floor and make improvements to things like operational efficiency and worker safety.

Predictive maintenance to cut downtime

The integration of IT/OT also supports advance warnings of potential equipment failures. For instance, vibration and temperature sensors can detect the first signs of wear and tear, and automatically flag them for attention.

Equipment can then be proactively serviced before failure occurs, helping reduce unplanned downtime and expensive repair costs.

Augmented Reality (AR)/Virtual Reality (VR) to upskill your workforce

Manufacturing and retail are both facing a significant skills gap. Technological training is now required to fulfill new roles, such as operating robotics and maintaining automated equipment. VR and AR can help with this.

For example, technicians can be trained to repair digital prototypes of new production equipment, with real-time feedback provided by a remote specialist.

Digital twins to accelerate change

A digital twin is a virtual representation of a physical environment or object. It offers a fast, cost-effective way to test and refine everything from consumer goods to entire supply chains without needing to make constant adjustments to their real-world counterparts. For instance, food packagers can make digital twins of food packaging items, which can be used to develop lighter alternatives to reduce shipping costs.

Greater visibility to make better decisions

A powerful dashboard draws on tools, such as Microsoft Power BI, to offer a complete, real-time picture of key data and metrics. This is absolutely crucial when manufacturers need to move quickly, as they have in response to COVID-19.

An alliance built to help you succeed

EY and Microsoft support organizations to create exceptional experiences that help supply chains work better and achieve more.

EY

Advantages of working with EY teams

- ▶ Recognized leader in supply chain and manufacturing consulting services
- ▶ Over 4,000 people across the global to support and help clients modernize and connect their supply chains
- ▶ Deep business capabilities combined with strong industry and technical experience
- ▶ Smart supply chain solutions, including EY Smart Factory which can achieve an average factory production/utilization of 85%-94%; the industry average is 55%

Advantages of working together

- ▶ Jointly developed solutions optimized for manufacturing and retail industries
- ▶ Collaborative, team-based approach for supporting clients
- ▶ Co-development of distinctive intellectual property and processes to harness the value of emerging technologies to address business trends
- ▶ Innovative frameworks to help clients maximize return on investment

 **Microsoft**

Advantages of working with Microsoft

- ▶ Has a reputation as a global technology innovator and leading industry compliant cloud provider
- ▶ Gartner 2020 Magic Quadrant Leader for Industrial IoT Platforms
- ▶ Offers scalable, dedicated, cloud-based platforms for both retail and manufacturing
- ▶ Provides digital tools to build intelligent supply chains and smart factories, including industrial IoT, AI, blockchain and mixed reality

Solutions to address your toughest supply chain issues

EY and Microsoft teams design and help deliver transformative, cloud-based supply chain solutions that help create long-term value. We generate value by unlocking the power of data and combining business ingenuity, industry experience and intelligent technology.

EY Smart Factory

EY Smart Factory is a people-centered digital platform that serves as a connected, centrally controlled production system. By integrating human capabilities and smart technologies, it helps accelerate and sustain business performance improvements.

EY Smart Factory provides:

- ▶ Real-time, on-demand performance progress reports that are visible across the production chain
- ▶ Information and technologies to improve physical process control
- ▶ Advanced analytics to refine processes and master production
- ▶ Broad integration with suppliers and customers

EY Supply Chain Transformation Solution

EY Supply Chain Transformation Solution helps balance business needs with ever-growing customer expectations. EY teams help organizations move from linear to connected ecosystems of partners, suppliers and alliances, toward fully autonomous supply chains that drive innovation and business growth.

EY Supply Chain Transformation Solution provides:

- ▶ Improved service through enhanced response capabilities
- ▶ Lower inventory, working capital and operating costs
- ▶ A smaller carbon footprint through energy-efficient warehouses, transportation networks and manufacturing plants

EY Lighthouse

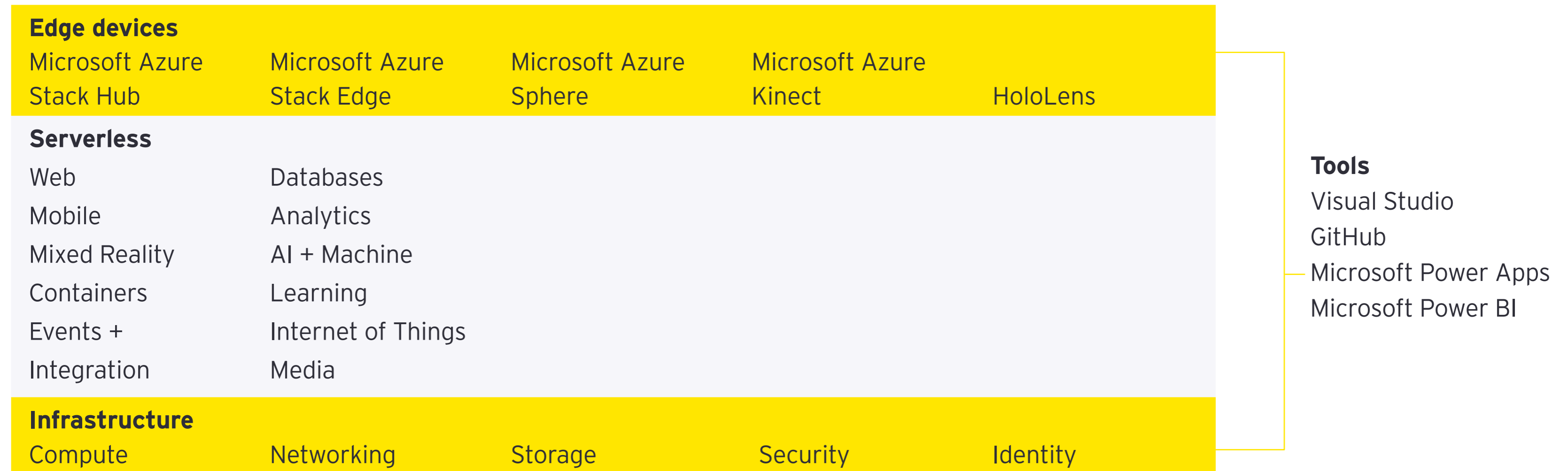
EY Lighthouse provides an analytics-driven predictive approach to forecasting, eliminating the biases that are inherent in manual forecasts while reducing forecast errors and process inefficiencies. Machine learning enables these models to adapt over time, allowing clients to focus on the key factors impacting performance and utilize this information to predict future performance.

EY Lighthouse provides:

- ▶ A sustainable platform for descriptive, diagnostic, predictive and prescriptive analytics
- ▶ Efficient, automated and better decision-making procedures through the use of advanced mathematical algorithms and machine learning
- ▶ Operational efficiencies, forecasting improvements and the ability to balance supply with demand
- ▶ A scenario planning tool and process to evaluate the impact of decisions by other parties

Microsoft cloud platforms and digital tools are a core component of EY supply chain solutions. Joint innovations to seamlessly integrate these technologies help clients build intelligent supply chains that are more resilient and profitable.

Microsoft platforms and digital tools to help companies create intelligent, digitally connected supply chains include:



P&G: Accelerating a human-centric approach to digital manufacturing enablement.

EY has deployed Smart Daily Management (SDM), part of the Smart Factory solution, and built on Microsoft Azure, at Procter & Gamble's (P&G) manufacturing site in Rakona, Czech Republic. This is one of P&G's most advanced sites from a manufacturing performance perspective, as well as being one of the original nine digital lighthouse factories selected by the World Economic Forum, based on their successful implementation of Fourth Industrial Revolution technologies.

P&G provides a unique case study, in that they have deliberately embraced a human-centric approach to digital enablement in their sites. This is driven by P&G's Integrated Work System (IWS) - a proprietary management system, developed by P&G over the course of more than 25 years, with a fundamental principle that operational excellence is rooted in the power of 100% employee engagement.

Hence, with IWS as the foundation, combined with SDM, P&G's Rakona site has seen the opportunity to accelerate P&G's broader digital manufacturing program by empowering their operators on the production line through access to a solution that automates data collection, significantly reduces manual work, and routes tasks to relevant people on the factory floor, all in an integrated manner. In this way, SDM is helping to improve the

efficiency and effectiveness of standard daily work execution, a foundational tenet of P&G's IWS, which forms the heart of P&G's industry-leading manufacturing performance, and provides greater freedom for operators and line teams to focus on problem solving and innovation.

The combination of EY industry and business knowledge, P&G's IWS and manufacturing know-how and powerful Microsoft technologies to digitally enable manufacturing sites, have helped empower P&G's workers during the pandemic, and in turn, helped to provide P&G the operational resilience needed to weather the storm.

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The accelerated pace of innovation and reduced operator touchpoints helps to further improve our manufacturing performance and drive competitive advantage in a way that was not able to be achieved before.

P&G's Global Fabric and Home Care Manufacturing Digital Leader

Take the next step toward an intelligent, connected supply chain at an EY innovation hub

At EY innovation hubs, EY teams will help you reimagine what's possible and find fast answers to your real-world supply chain challenges.

Our immersive approach brings the right people together in a unique innovation environment – where you can explore new ideas for modernizing your operations. And help accelerate the next steps toward an intelligent supply chain.

In one of the most challenging social and economic periods, Ernst & Young LLP and Microsoft are teaming to help your business navigate unsettling times, respond to volatility, and build a more connected and resilient supply chain.

- ▶ Explore real-world case studies to inspire your own vision
- ▶ Clarify the exact problem you're trying to solve
- ▶ Define a clear innovation strategy
- ▶ Explore what technologies you have and what gaps you need to fill
- ▶ Prototype new ideas to show what's possible
- ▶ Design processes, tools and frameworks for execution



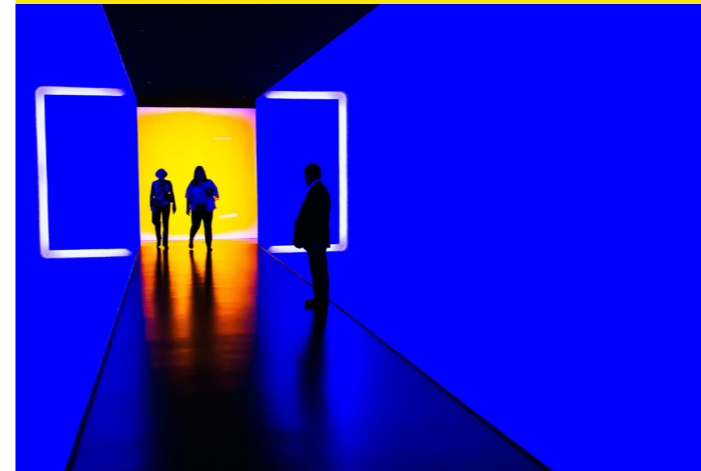
What to expect at an EY innovation hub

Three innovation hubs – EY wavespace™, Nottingham Spirk and MxD – can help you explore ideas and collaborate on innovative solutions to realize the promise of an intelligent, networked supply chain.

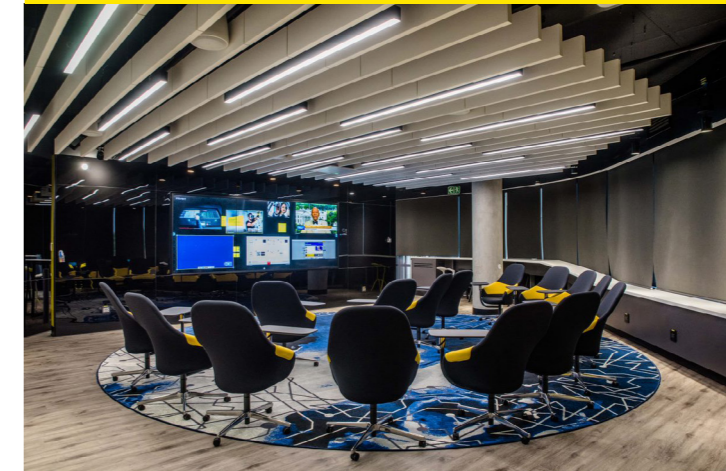
Each space is made up of distinct zones – for ideation, design, tech demos, data labs and workshops.



Experienced teams will be there on-site and virtually to run interactive sessions aligned to your specific challenges.



Microsoft technology underpins everything – so you can collaborate freely, both in person and with remote contributors.



Take a step into the future

Discover the art of the possible for your agile factory and intelligent supply chain.

Get in touch to explore what's possible for your supply chain.



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EY | Building a better working world

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Enabled by data and technology, diverse EY teams in over 150 countries provide trust through assurance and help clients grow, transform and operate.

Working across assurance, consulting, law, strategy, tax and transactions, EY teams ask better questions to find new answers for the complex issues facing our world today.

EY and Microsoft

EY and Microsoft alliance combines deep EY insights and experience in disruptive industry trends, new business models and evolving processes with scalable, enterprise cloud platform and digital technologies from Microsoft. EY and Microsoft teams can help accelerate digital transformation with advanced solutions that support enterprise strategy, transform customer and workforce experiences, create new, data-driven business models, build intelligent, automated operations and bring confidence that these innovative solutions are secure, compliant and trusted.

For more information, visit ey.com/microsoft

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EYG no. 008580-21Gbl
2111-3909520
ED None

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