Driving your digital manufacturing capabilities to new levels of excellence.

In partnership with NTT DATA and Microsoft.

Content.

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In the current climate, manufacturers face constant challenges, and not just from unpredictable economic conditions. There are significant supply-chain disruptions, whether the ongoing conflict in Ukraine or natural disasters such as the California wildfires and severe flooding in the Middle East.

Meanwhile, the industry is facing a fundamental shift in operating models, to leverage user-oriented and autonomous innovations.

Technology and digitization can solve many of these problems through data-led visibility and agility across the supply chain and production lifecycle. This clarity will enable manufacturers to explore new ideas and paths to profit.

None of this is in the far-off future: these technologies are evolving every day toward pragmatic applications for every industry. AI, Industrial Internet of Things (IIoT), robotics, predictive maintenance and digital twins are already making huge impacts on manufacturing operations and strategy.

But the degree and pace of change require huge strategic shifts not just across tech stacks but people and processes throughout the organization. Transforming to meet the opportunities technology delivers — across a complex array of technologies and business use cases — requires end-to-end strategy and technology expertise.

NTT DATA can help. We've partnered with Microsoft for more than 25 years to help organizations get more out of technology and have significant expertise in helping manufacturers achieve their most important priorities.

Through our strategic road mapping and technology implementation expertise, we can help you take advantage of Microsoft's rich AI solutions, Azure Digital Twins and other tools.

This guide shares examples of how the NTT DATA and Microsoft partnership helps you achieve greater operational efficiency and foster deep resilience and agility. All the while you continue to advance innovation in production and business.

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Manufacturing effciency gains.

The challenges manufacturers face with efficiency.

Manufacturers exist in a highly competitive marketplace that rewards continual improvements in production time and costs. The landscape is especially volatile as the proliferation of technologies and use cases makes more options available to manufacturers — and their competitors.

It's a race toward efficiency with many untested paths.

Supply chain disruptions make it harder to keep up with existing market demand. At the same time, consumer preferences are rapidly changing, requiring new capabilities and increased agility.

Manufacturers must adapt quickly to preserve and increase competitive advantage and profit.

But the industry must also evolve responsibly. In an era of increasing climate awareness and regulation, sustainable business growth demands sustainable production techniques. Meanwhile, increasing use and reliance on data for critical product and business functions means security must be airtight. Baking these priorities into everyday operations will help organizations move quickly while consistently meeting compliance standards.

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Manufacturing effciency gains.

How we help you overcome these challenges.

NTT DATA and Microsoft combine extensive expertise and groundbreaking technology to co-create solutions with you that unlock efficiency and sustainable growth. We round this out with experience managing change across the production and business sides of your organization, for a holistic approach that underpins success.

- **Modernizing your IT stack** will provide a foundation for efficient operations, helping cut costs and optimize operations to make your business more profitable. We integrate proven methods tested at other manufacturers with our consultative approach to develop a cost-effective, achievable roadmap that solves your specific challenges.

- **End-to-end technology solutions** provide seamless integration to enable smooth operations that reduce operational waste and save you money.

- Our **Edge as a Service** can help you secure and manage connectivity from edge to cloud. These solutions allow you to make decisions in real time; use private, secure, 5G networks to enable super-fast connectivity; and enable IIoT initiatives — quickly and with complete visibility into all connected devices and sensors.

We can help you **design, build, and run your Microsoft Azure environments** effectively. With our deep manufacturing expertise and rich understanding of Azure's capabilities, we can optimize your cloud to meet specific operational needs. From initial design and architecture planning to deployment and ongoing operations, we can ensure that you maximize efficiency, scalability and innovation. We'll customize solutions that integrate seamlessly with your existing systems, enabling enhanced data analysis, smarter decision-making, and improved operational agility. With a focus on security and compliance, we'll not only ensure your cloud is humming efficiently and but also secure and align it with industry standards, helping you stay competitive.

Manufacturing effciency gains.

The outcomes you can achieve with our partnership.

Maximize operational efficiency: We can help you speed up decision-making capabilities and modernize your operations for maximum efficiency with edge computing and IoT applications.

Develop products faster and improve supply chain efficiency: We help manufacturers use AI to shorten design cycles, personalize products and improve supply chain management.

Reduce energy consumption and carbon emissions: We can help you implement Azure Digital Twins for end-to-end sustainability solutions that optimize energy consumption and reduce carbon emissions.

Enhance security and compliance: Security, privacy and other compliance features are baked into every solution — for a more efficient and consistent way to guarantee compliance without impairing agility.

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Boosting business resilience and agility.

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Boosting business resilience and agility.

Remaining agile and resilient is critical for business success.

The ability to adapt to new trends, technologies and circumstances quickly and safely makes for a more resilient business. Manufacturers who can develop products and get them to market faster are naturally more competitive and resilient.

Transforming digital and tech capacity is critical to bolstering agility, but manufacturers don't have the luxury of stopping operations. They must find ways to minimize the impacts of costly disruption while continuously improving and optimizing operations.

Migrating to the cloud is a key strategy for many manufacturers that want to update processes, applications and experiences while minimizing breaches and downtime. That requires a cloud strategy aligned with business goals, technology requirements and your current situation.

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NTT DATA has built its Manufacturing Industry Cloud (IC) across multiple industry solutions such as Smart factory, Digital Twin and Worker Safety. It is designed to help accelerate the development of cloud modernization projects, provide faster time to market and reduce the associated development costs.

Each blueprint comprises a set of pre-built components — including industry vertical APIs, core services, frameworks and DevSecOps components — that can be used in migration and modernization projects. They implement industry best practices and methodologies out of the gate, leveraging NTT DATA's considerable domain expertise and are specifically built to the IaaS and PaaS capabilities of Microsoft Azure.

We can help you redefine SCM operating models and processes, by assessing how best to use new disruptive technologies. You might want to focus on specific requirements to tackle waste reduction and resource efficiency, or to anticipate broader drivers of change.

Change management remains a critical success factor to drive transformation. Using a consultative approach, we can help you create a roadmap and implement solutions that fit your business goals, technology requirements and organizational strengths. All this so you can make change happen and achieve the right business outcomes.

Our engagements focus on data, AI and cloud strategies. Customer and employee experiences and satisfaction are critical to any successful technology engagement,

and we incorporate these priorities into our roadmaps. We use Agile methods to connect business value to technology outcomes — and move quickly while building in check-ins to make sure we meet your needs.

We integrate 5G as a foundation for innovative AI and IOT use cases and apply site reliability engineering principles to provide end-to-end agility. You can also achieve greater security and compliance using Azure Sentinel to bake security into technology and process design.

Defining a comprehensive and open technology platform that integrates and digitizes your entire supply chain will eliminate silos. We can help you modernize applications, adopt an adaptable microservices architecture and quickly start developing cloud-native applications in Azure.

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The outcomes you can achieve with us in partnership.

Accelerate product development and migration: We can help you migrate to the cloud faster so you can take advantage of Azure and Microsoft AI to innovate and adapt to market changes quickly.

Enhance factory operations through IIoT and Smart Factory: Minimize production downtime with real-time monitoring and predictive maintenance capabilities.

Optimize supply chain management: Respond faster to market shifts and disruptions.

Build a culture of continuous improvement: Empower your business to navigate changing environments with a technology and strategy foundation for continuous improvement.

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Realizing Innovation

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Realizing Innovation.

The need for innovation has never been greater.

The ability to innovate quickly and confidently fuels all kinds of competitive advantages for manufacturers, from developing less expensive production methods to catering to market demand faster.

Manufacturers are using technology in new ways, redefining operating models, processes and procedures. They're also using data in IIoT, Smart Factory and digital twins initiatives to create reliability and profitability in operations.

AI is driving new paths toward innovation, but it's fraught with uncertainties. Aligning AI models and use cases with business priorities is new for most organizations. AI models are more abstract and potentially present more risks of data leaks, so organizations must move with speed and caution.

Successful technology innovation requires people across your organization to adopt new ways of working. This means succeeding with technology implementation isn't enough; you need end-to-end strategies tightly aligned with your business goals.

Change is happening quickly and there are many paths to consider. Getting help building and implementing practical, achievable strategies will help you avoid the perils and embrace opportunities quickly.

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AI's inflection point is here for businesses. Satya Nadella, CEO of Microsoft, said, "We've moved from talking about AI to applying AI at scale." This represents a turning toward practical, innovative applications of AI in business.

It requires deep pragmatism, AI and data expertise, and attunement to every organization's individual situation and priorities.

Microsoft is developing and enhancing a host of AI tools that will help pave the way for sustainable growth. With our close Microsoft partnership, NTT DATA can help you incorporate Microsoft AI into your business operations faster. This includes gaining early access to new Microsoft innovations and our joint development initiatives.

You can also leverage AI and other technology transformation faster by having us collaborate with you on proofs of concept to explore new technology in a risk-managed environment.

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Boosting business resilience and agility.

The outcomes you can achieve with us in partnership.

Drive faster innovation with our help in rapidly developing and deploying new solutions, bringing innovative products to market faster — and enhancing your competitive edge.

Enhance operational efficiency with our help integrating AI tools to improve product quality, boost productivity and cut costs.
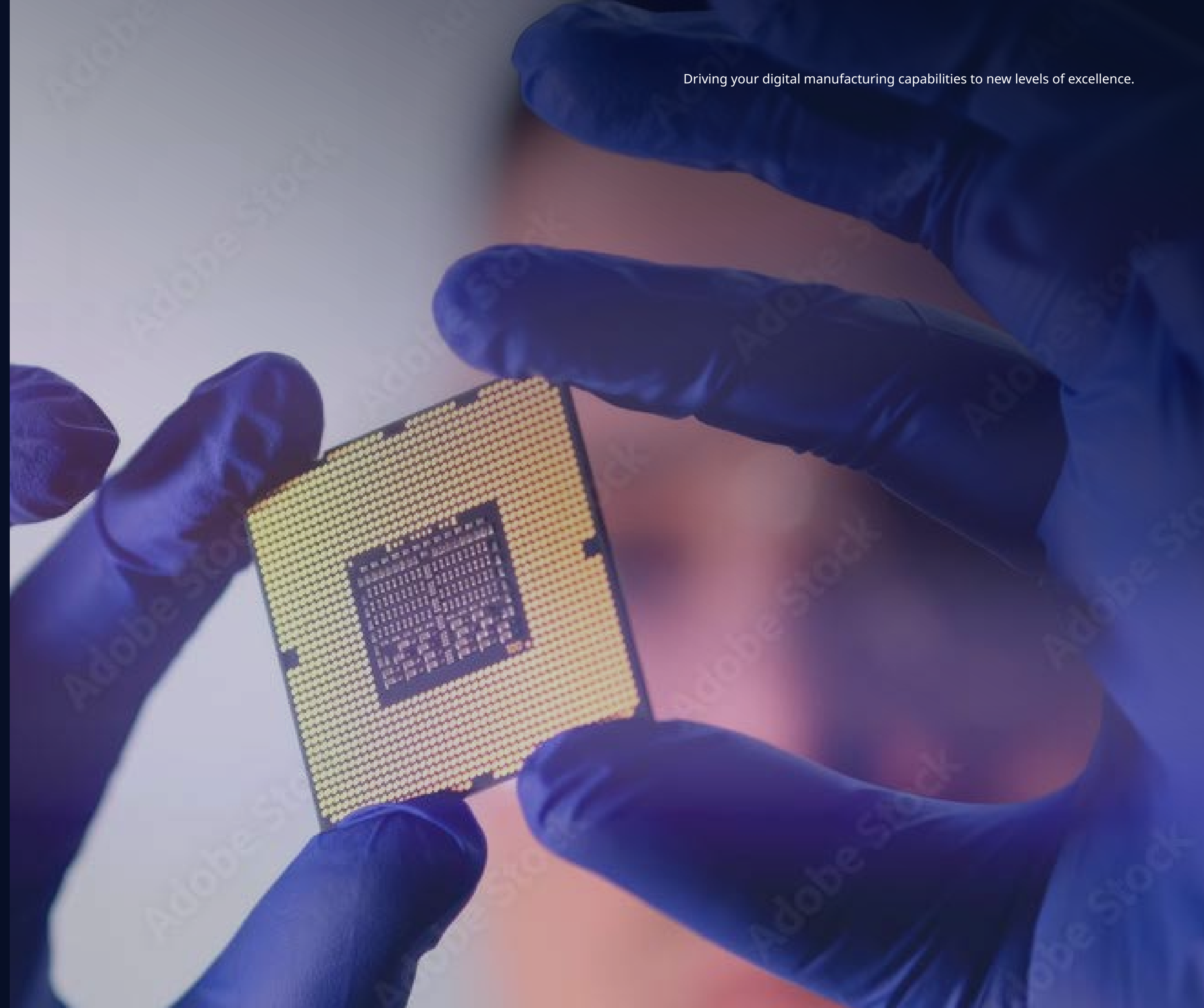
Gain sustainable competitive advantage with early access to Microsoft innovations that keep you ahead of the technology curve while staying compliant with evolving laws and regulations.

Accelerate product development cycles and improve factory efficiency with tools like Azure OpenAI Service and Dynamics 365.

Build smart factories by attracting top talent to work together with cutting-edge technology and continuously improve efficiency and quality.

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What makes NTT DATA a better technology partner for manufacturers?

Manufacturing faces incredibly complex and diverse challenges, and requires a technology and strategy partner who understands your industry. We can help you create efficiencies while you innovate with AI and cloud technologies, transform for agility and retool operations for sustainable growth.

We offer solutions made for manufacturing: From supply chain management to data-driven efficiencies and innovations such as digital twins, IIoT and smart factories, we have the knowledge and capabilities to create and implement strategies for your best technology opportunities.

We offer full-stack solutions: We have deep expertise in Microsoft solutions, and our services range from consulting to application development to cybersecurity and cloud migrations and management.

We have proven expertise: We have partnered with Microsoft for more than 25 years, achieving more than 20 partner accreditations and 17 Advanced specializations in areas such as Azure, security, data and AI, infrastructure and application innovation. Our track record of proven success means you can feel confident in our roadmaps and implementation skills.

We can help you grow ethically and sustainably: We have signed the Microsoft Partner Pledge to advance the ethical adoption of AI and IoT technologies.

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The strategic partnership between NTT DATA and Microsoft empowers manufacturers like you to lean into the future as a hyperconnected, continuously improving Smart Factory.

With our expertise and partnership, you can streamline your production processes, cut waste and optimize resources.

We can also help you integrate technologies to bring agility to your plants, deploy predictive maintenance to reduce production downtime and improve your supply chain visibility and efficiency.

We are committed to helping manufacturers innovate in areas like rapid prototyping, product customization and new business models.

Right-sized, strategic technology transformation is your jumping point to agility, sustainability and competitiveness.

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