NTT DATA | Microsoft

Securing end-to-end automotive excellence

In partnership with NTT DATA and Microsoft

Contents

The automotive industry has become increasingly complex, software-defined and technology-driven. The shift from ICE motoring to EVs has fundamentally altered production models as well as after-sales channels. This has also inspired new trends, such as Connected Autonomous Shared Electric (CASE) mobility, where driver experience goes beyond concrete auto specs, considering aspects that start even before the travel begins.

Meanwhile, the recent slowdown in EV demand, caused by high costs of sale, lack of fast charging infrastructure and government de-incentivization is having a further impact on targets. This is creating ongoing supply-chain confusion as well as disruption, worsened by an increase in geopolitical threats and tensions, that further threaten production timelines and profit.

New and emerging technologies offer huge potential, but taking advantage of them will require a wide range of technical and strategic abilities to work together. AI offers significant opportunities to improve operations and profit — if aligned with pragmatic use cases and business values. It also requires robust infrastructure, access to data, for actionable insights — without introducing security or compliance issues.

All this change is taking place while automakers need to keep improving sustainability and efficiency — meaning organizations have to keep the lights on while driving innovation. The industry must deliver continuous improvement with minimal disruption to day-to-day operations while integrating sustainability and security into operations.

Finally, any effective transformation needs to keep people at the center. Organizations must consider customer and employee experiences in their technology strategies and business values, otherwise they won't succeed.

NTT DATA and Microsoft have partnered to help automotive organizations confidently achieve the opportunities of future technology and innovation initiatives. This guide will show how our joint strength enables automakers to make the most of groundbreaking opportunities, such as digital twins, AI, Industrial Internet of Things (IIoT), robotics and predictive analytics and maintenance to enhance performance and transform operations for the future.

Operational efficiency, resilience, agility and innovation are pillars of every technology engagement. This guide will explore how we can help you advance in these areas.

Automotive efficiency gains | Boosting business resilience and agility | Realizing innovation | How we are different

Automotive efficiency gains

Automotive effciency gains

Supporting increased efficiency to speed delivery, drive performance and accelerate growth

Things are moving fast in the automotive industry, but economic pressures are squeezing margins. To compete, organizations must find ways to cut costs, optimize operations and increase efficiency and profitability.

By streamlining operations, introducing automation, and using data driven insights for predictive analysis, organizations can become more focused and efficient.

New technologies and cloud migrations are helping automotive organizations develop products and go to market faster. Those who fail to embrace transformation will struggle.

Through cloud migration, organizations are able to achieve:

- 10-40% reduction in reactive maintenance
- 2-6% increase in availability
- 5-10% inventory cost reduction
- 3-40% EH&S incident reduction

At the same time, the seismic shift toward electric and autonomous vehicles has forced the industry to change rapidly, demanding greater agility and resilience. Automakers must figure out how to transform intelligently at scale — no easy feat.

Automotive effciency gains

How we help you overcome these challenges

With the joint experience and capabilities of NTT DATA and Microsoft, automotive organizations can achieve effective digitization and modernization for a whole Enterprise Edge approach. Our Edge as a Service helps you overcome many challenges, from harnessing intelligent automation to integrating IIoT, supporting private 5G and reducing network latency.

This starts with a roadmap for IT stack modernization that focuses on cost-cutting, operational optimization and increased profitability. We can also co-create solutions with you for specific automotive manufacturing use cases.

NTT DATA can bring efficiency to your Azure estate, managing it to provide seamless integration for smooth, cost-effective operations. We can help you analyze workloads to optimize and modernize, helping you save time and money.

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Automotive effciency gains

The outcomes you can achieve with our partnership

We enable your automotive business to strengthen and accelerate operational performance everywhere. Providing you with complete visibility and observability of all data to drive innovation through new Edge use cases to help you:

Make smarter decisions with optimized automotive operations to improve business performance and drive growth, with advanced analytics, AI and IoT capabilities to transform data into actionable insights

Future-proof your business when you unlock the value of powerful tools like edge computing, private 5G networks, cloud-based digital twins and AI

Accelerate operations and improve accuracy through advanced automation supported by tooling and platforms that enhance security and compliance

Optimize energy consumption and reduce carbon emissions with Microsoft Azure Digital Twins, our end-to-end sustainability solutions

Uncover operational insights with optimized factory operations by unifying IT and OT data, removing data silos and accelerating data integration

Support business-wide collaboration and communication to break down silos, bring diverse teams together and foster innovation

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Boosting business resilience and agility

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Boosting business resilience and agility

Becoming more resilient, secure and agile to drive a competitive advantage

Consumer preferences are shifting to digitally advanced, environmentally friendly cars, while supply chain disruptions have many organizations rethinking their supply chain management process.

Operational resilience and agility are critical for sustaining long-term growth. This requires companies to accelerate product development, enhance factory operations and optimize supply chain management — all while improving customer and employee experiences.

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Boosting business resilience and agility

How we help you overcome these challenges

We unite expertise with deep technology capabilities to create a holistic approach that provides secure, long-term resilience through:

- Rapid application modernization

- Microservices and cloud-native development with Azure

- Consumable app development to meet industry-specific use cases

- Integrated 5G for enhanced AI and innovation

- Site reliability engineering principles

- Azure Sentinel for security by design

- Azure for sustainability

We can help shorten design cycles, integrate IoT and smart factory solutions for real-time monitoring, predictive maintenance and optimize supply chain management for responsiveness. Leveraging our digital expertise, new technology and advanced tools, we'll enable you to build agility through better employee and customer engagements.

Boosting business resilience and agility

The outcomes you can achieve with us in partnership

Your organization and supply chain can become more secure, resilient and adaptable across your operations. This will help you respond faster to disruption and evolve with market demands, economic changes and consumer expectations.

Get new products to market faster with Microsoft's AI and cloud capabilities to speed up development and innovation

Optimize factory operations and reduce downtime with IIoT and Smart Factory solutions that enable predictive maintenance

Streamline operations and reduce waste

Build a more resilient and responsive supply chain by gaining deeper visibility into the entire supply chain management system

Stay ahead of the competition with technology infrastructure that lets you respond to market shifts and new trends faster

Foster continual innovation and improvement across business-critical apps and operations

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Realizing innovation

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Realizing innovation

Becoming more innovative to drive new business models and products

Automotive innovation depends on several interrelated factors, all of which take thoughtful strategy and require multiple layers of technology.

Many times the biggest factor in innovation will be tapping new technologies like AI — and designing the practical use cases that will unlock the most value from them.

Nearly every tech and digital endeavor, AI included, relies on accurate and accessible data. Your data must be usable, available and secure, complemented by a flexible 5G network infrastructure to support initiatives like IIoT, smart factories and digital twins.

Finally, competing in a fast-moving landscape requires the ability to plan and implement digital strategies faster with zero defects.

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Realizing innovation

How we help you overcome these challenges

When tackling innovation, it helps to work with experienced partners who are on the front lines every day and can provide guidance and insight.

NTT DATA and Microsoft work with clients all over the world on developing proofs-of-concept with cutting edge technologies and can help you build yours. With our collective technological and operations expertise, organizations like yours can leverage a low-risk approach to explore new ideas and technologies while realizing fast business value.

We adapt our approach to your industry specific requirements and use cases, all the while providing practical, cost-effective roadmaps toward your innovation goals. Because of our close partnership with Microsoft, you'll also gain early access to Microsoft innovations.

True innovation touches so many aspects of technology. We integrate our expertise across a breadth of solutions covering everything from Edge as a Service, private 5G, IoT and Managed Azure. It's a faster, more reliable route to end-to-end transformation than tackling these challenges in silos.

NTT DATA has built its Automotive Industry Cloud (IC) across multiple industry solutions such as EV Charging, Worker Safety and Fleet Management. 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 the 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 Infrastructure as a Service) & PaaS (Platform as a Service) capabilities of Microsoft Azure.

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Realizing innovation

The outcomes you can achieve with us in partnership

Quickly and securely deploy new products and solutions with accelerated innovation support

Upgrade efficiency and product quality with advanced AI integration

Reduce project cost-out with AI and automation that makes operations more connected and efficient

Stay a step ahead of competitors with early access to Microsoft innovations

Modernize software development with our SDV toolchain reference architecture that will enhance processes, improve code quality and accelerate development cycles

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How we are different

What makes us different for automotive businesses?

Automakers and OEMs have to work in an extremely price-sensitive and competitive market that's changing quickly to meet consumer preferences — and seize technology opportunities. Our services, approach and deep expertise can help in that journey. Here's how we're uniquely positioned to serve the automotive industry:

A complete suite of services and full-stack solutions: ranging from consulting, application development and cloud platforms to cybersecurity, built upon a depth of experience and over 25 years of partnership with Microsoft

Innovative and trusted solutions: with over 20 partner accreditations and 17 Advanced specializations in areas such as Security, Data & AI, Azure, Infrastructure, Modern Work, Digital & App Innovation and Business Applications

Solutions purpose-fit for automotive organizations: including deep AI and cloud innovation built around key manufacturing technologies such as digital twins and IIoT

Commitment to ethical AI and IoT technology adoption: demonstrated by us taking the Microsoft Partner Pledge

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The automotive industry must move quickly and confidently into a technology-driven future. NTT DATA and Microsoft bring advanced capabilities, tools and unmatched automotive industry expertise to enable rapid, intelligent transformation.

Through our joint capabilities and collaborations, we help businesses unlock opportunities for growth and differentiation. This includes support for three critical areas of business: operational efficiency, business agility and resilience, and innovation and technology development.

We can help you overcome your supply chain, innovation and technical challenges – so you can future-proof your operations and market position.

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