avanade

Do what matters

Simulate driving conditions

Assess vehicle performance

Protecting drivers

Imagine what you can do with AI in automotive

Accelerating towards a new world of sustainable mobility

A journey from experiment through readiness to scale

In this exciting era of AI, we find ourselves at the forefront of a journey that will shape the future of the automotive industry. Embracing AI is not just about adopting new technologies; it's a transformational journey that demands an "AI-first" mindset.

Imagine the possibilities. Manufacturers would design smarter cars—reducing costs and delighting customers. At the same they would would shrink their carbon emissions while delivering new value-added services to consumers to drive sustainable growth.

This requires a clear focus on delivering **value**, leveraging AI to **enhance experiences, improve efficiency, reduce cost** and addressing needs with cutting-edge solutions. Ensuring the ethical use of AI for better operations and new business models is critical for **competitive advantage**.

AI is not a one-time implementation. It's an ongoing **iterative** journey of **experimentation, readiness and scale**. It requires us to embark on a **transformational journey, reimagining processes, platforms, products,** and **services** through the lens of AI. Putting **people** at the heart of it all.

There are countless opportunities to leverage Microsoft Copilot across your business application ecosystem, in addition to developing custom Microsoft Azure OpenAI applications and implementing Manufacturing Copilots across you end-to-end supply chain and production value chain.

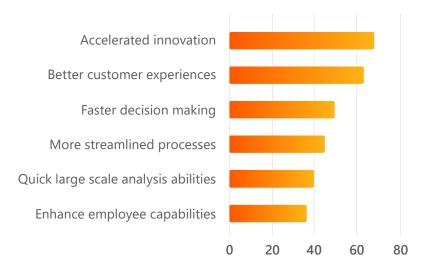Discover the opportunities with Avanade today!

Take flight with a copilot
Understand the **possibilities** and **test ideas** of AI in your business…

Experiment

Imagine what you could do with AI

Readiness

Scale

See the value
Scale AI use cases across your teams…

Prepare the foundation
Anchor an AI-first mindset in every function…

A new driver of value

AI is enabling automotive and transport firms to accelerate product and service innovation and time-to-market to deliver better customer experiences as they transition to become smart mobility providers.

What core benefits do automotive executives believe will Generative AI bring?

% of automotive executives who named these benefits

90%

Of automotive executives say that advancements in generative AI are ushering in a new era of enterprise intelligence

Automotive use cases

Generative AI will help to make transportation more convenient and accessible for all, inspiring a greener, more connected automotive future.

Design optimization and coding algorithms will enable the development of software-defined cars and more efficient batteries, extending their range, appeal and reducing costs.

AI will play a pivotal role in quality control and predictive maintenance. It will help to reduce the risk of wastage and product recalls and minimize downtime throughout the design, production and usage lifecycle of each vehicle.

Smart mobility service providers will leverage AI to optimize route planning, reduce congestion, and enhance user experiences. At the same time, real-time data analysis and decision-making will make self-driving vehicles safer and more reliable.

Smart connected vehicles
Develop and test software-defined vehicles, new battery technologies and automated driving capabilities.

Brand and buying experience
Drive hyper-personalized Direct2Consumer (D2C) sales and create more connected and immersive dealerships.

Cars-a-an-experience platform
Anticipate customer needs (maintenance, parts, warranties). Deliver advanced health and safety features and subscription services over-the-air (OTA).

Supply chain resilience
Be more responsive and robust with real-time monitoringand management.

Ecosystems and partnerships
Drive efficiencies across consortia and enhance the capabilities of industrial data exchanges.

Secure digital operation
Use digital twins for continuous data flows from the top floor to the shop floor, enabling real-time decision-making. Enhance your ability to respond to cybersecurity threats.

Workforce upskilling and transformation
Enable continuous training and development with copilots to overcome global talent shortages and churn.

Optimize efficiencies and costs
Help your people to reduce risk, boost safety and accelerate materials and inventory sourcing, production, and distribution processes.

Boost job satisfaction
Greater transparency through analysis of suppliersustainability performance, lead times and other factors.

Net zero transition
Measure and manage progress towards sustainability and implement circularity.

eMobility
Optimize the charging experience with ecosystem partners. Boost better battery analytics and lifecycle management.

Mobility-as-a-Service
Develop more intelligent platforms and monetize data monetization to drive new revenue streams.

Intelligence-driven

Adaptability and agility

Elevate customer experience

Empower employees

Cost control

Business value

Optimize operations

Security compliance and responsibilities

Automotive firms anticipate that Generative AI will increase revenue by 5 to 10%, reduce costs by 6 to 20% and speed time-to-market by 30 to 50%.

Source: Accenture Tech Vision 2023

Create new value in automotive

Generative AI holds so much potential in the automotive industry across the design-make-and-use value chain:

- **Design: Develop advanced new products and services**
  By analyzing vast amounts of materials science, mechanical engineering, aerodynamic, electrical and software-defined vehicle data, GenAI can quickly propose new design concepts to reduce development costs and time-to-market.

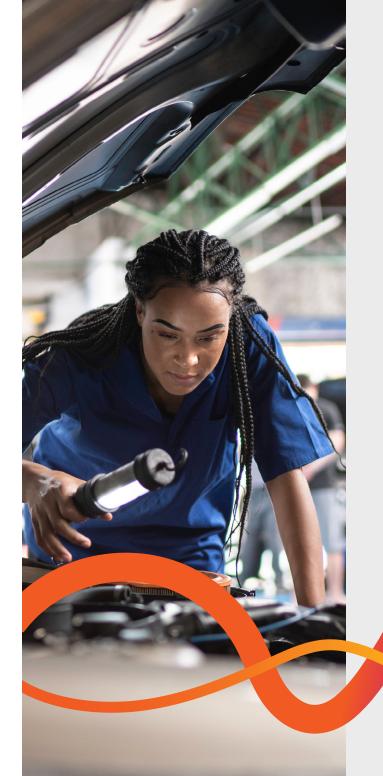- **Make: Enhance product quality, sustainability and availability**
  With its data synthesis and summarization capabilities, GenAI excels at helping people to track the movement of parts, authenticate their origin, and ensure compliance with safety and ESG (Environmental and Social Governance) regulations.

- **Use: Elevate the customer experience with smart connected dealerships and after-sales services**
  GenAI is a valuable tool for hyperpersonalized customer communications with its ability to engage in "natural language" conversations. This will enhance the delivery of value-added services, such as predictive maintenance, and boost cross-selling and up-selling.

67% of automotive firms see Generative AI as an opportunity to drive innovation.

Source: Accenture Tech Vision, 2023

DENSO employees save time using AI

Employees at Japan's largest global manufacturer of automotive components in the Toyota Group, DENSO Corporation, are accelerating their use of data with generative AI, saving them hours of work in identifying onsite problems and transforming their workplace.

With Azure OpenAI's GPT, the company's wealth of knowledge bases can be searched quickly and easily, including handwritten information and unstructured data. Avanade Insight Discovery, a data analysis platform that runs on Azure and uses natural language processing technology, is being used to catalogue the data.

AI structures the disparate data sets and automates previously manual data collection, structuring, and analysis processes. The solution also supports the company's plans for an in-house chatbot.

Manufacturing use cases

Outmaneuver the competition by turning ideas for new vehicles and services into action fast. Generative AI unleashes creativity and efficiency across your design, production and field engineering processes. Through AI-driven simulations, manufacturers can rapidly prototype and iterate design options for new Electriv Vehicles, saving time and resources.

On the manufacturing shop floor, AI can help you to enhance quality control, energy usage and predictive maintenance, foreseeing potential issues, reducing wastage and preventing costly downtime. With AI-driven robotics and automation, you can ensure precision and consistency across every component.

At the same time, the ability to assess diverse data in seconds can help you to refine supply chain management and servitization operations by optimizing production and field engineering schedules and resource allocation.

Intelligent trend sensing
Enhance and accelerate product and service innovation to optimize R&D budget spend.

Hyper-personalized customer interactions
Leverage intelligence on preferences and buying behavior to automate content creation.
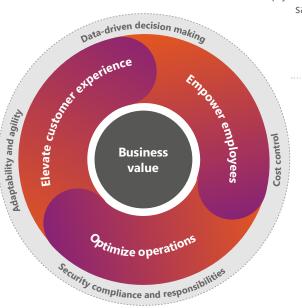
R&D and engineering
Use generative design for rapid ideation. Automate code generation for smart products and factory machinery.

Supply chain and demand forecasting
Balance demand and stock levels. Enable price hedging on commodities. Reduce supply chain risks and improve cash flows and margins.

Transport route planner and optimization
Anticipate and adapt to ad-hoc changes (delays, weather, geopolitics and other market factors).

Corporate knowledge management
Accelerate access to relevant information. Generate summaries, identify experts, and facilitate collaboration.

Drive productivity to alleviate talent shortages
Help your people to reduce risk, boost safety and accelerate materials and inventory sourcing, production, and distribution processes.

Manufacturing process design and performance analysis
Optimize machine utilization, output, quality and lower COGS (cost of goods sold).

Predictive field engineering services
Reduce unscheduled downtime and enhance decision support for speedy maintenance

Finance and security risk reduction
Streamline invoice processing, ensure regulatory compliance and mitigate cybersecurity risks.

Business value

Data-driven decision making
Empower employees
Cost control
Security compliance and responsibilities
Optimize operations
Adaptability and agility
Elevate customer experience

87% of manufacturers said Generative AI will make them more efficient.
61% are already using AI on a daily basis.

Source: Avanade AI research, 2023

Create new value in automotive manufacturing

Enhance your design-make-and-use value chain with generative AI:

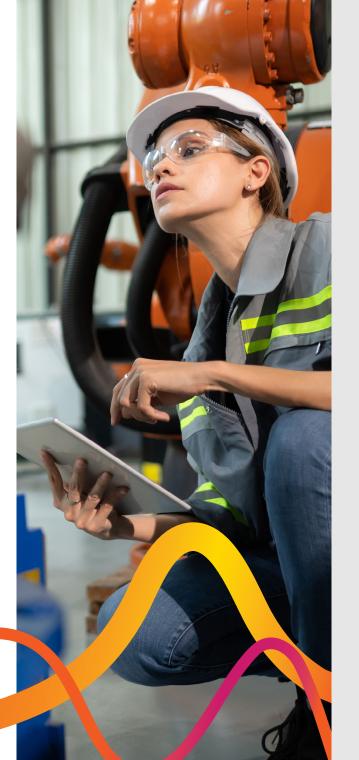- **Design: Develop advanced new products and services**
  Working to the specific parameters and constraints that you specify, generative AI can suggest a range of design alternatives that meet performance criteria while minimizing material usage and production costs.

- **Make: Enhance product quality, sustainability and availability**
  AI can analyze production processes and recommend optimizations to reduce waste, energy consumption, and boost machinery uptime. It aids detection of defects in real-time using computer vision, reducing the likelihood of faulty products reaching consumers and can optimize inventory to avoid overstocking or stockouts.

- **Use: Elevate the customer experience with smart connected dealerships and after- sales services**
  Generative AI-driven chatbots and virtual assistants can provide customers with real-time support and troubleshooting, improving the user experience.

Enhancing customer service delivery with GenAI

A leading provider of sustainable electrification and automation solutions faced challenges in delivering effective customer support at speed and scale.

Most of the questions its contact centre receives from clients are very technical and require a good level of knowledge of the company's products and advanced technical skills.

We created a virtual agent, using Generative AI, trained on external and internal document libraries as well as Salesforce data, to:

- Shorten contact center case handling times
- Minimize human error and effort
- Reduce the cost-to-serve its clients
- Improve customer satisfaction and loyalty

31% of manufacturers believe better process automation will be the top benefit of GenAI, followed by improved demand forecasting and supply chain risk mitigation (30%).

Source: Accenture Tech Vision, 2023

Why Avanade?

Unparalleled Microsoft, data and AI expertise

Avanade has partnered with Microsoft on AI for almost a decade and hundreds of clients rely on us to help them responsibly innovate and work with AI to achieve things never possible before.

Our privileged access to the development of Microsoft's new copilot solutions, combined with our long-standing experience of how to make the most of your existing Microsoft investments, enables us to bring unique capabilities to help you more quickly ready your people, processes and platforms for AI and to responsibly scale AI to unlock more value and growth and transform your business.

End-to-end services

Industry Expertise	Emerging Technology	Experience Services	Advisory Services	Solution Delivery	Managed Services

Industry

Winner, Microsoft Automotive
Partner of the Year (2023)

175+
Automotive clients in all major OEMs

50%
Of the world's largest manufacturers are our clients

3,500
Manufacturing-focused professionals

Data and AI

40K+
Data & AI professionals

20K+
Years of data management experience*

4K
Data scientists

18x
Consecutively names Microsoft Partner of the Year 2022

2.2K
Certified data architects

6
4 Data Innovation Centers + 2 Data Studios*

Get immersed in AI

Learn | Explore | Build

Work together with Avanade SMEs to understand and realize the business value of generative AI from Microsoft for your industry.

Avanade will join your team on-site (or remotely) to go in-depth on the business value of generative AI and Azure OpenAI, the technical architecture and use cases that can be realized today.

We partner with you to assess the readiness of your employees, customers, and ecosystem partners, so you can prioritize actions that enable them to adapt and evolve with AI. We also help you to establish governance and operating models to sustainably scale and realize value from AI.

No other Microsoft partner can match our depth of **Microsoft expertise,** combined with our industry experience.

Choose the path that is right for you

1 **Two hours learn and discuss**

Generative AI introduction and Microsoft products and use case overview based on OpenAI. Identify questions and brainstorm use cases for your industry.

1 **Two days hands-on workshop / design thinking**

Workshop focusing on deeper dive to prioritize use cases, journeys to explore, and building trust considerations.

3 Depending on workshop outcomes

Two weeks proof of concept (PoC) / two months minimum viable product (MVP)

Directly build a PoC or MVP to prove the technology and value for one use case based on readiness and use case.

OR

Six weeks strategy assessment

Strategy assessment to help define data readiness, and multiple complex use cases while also reviewing use cases through responsible AI frameworks, defining a roadmap, and return on investment.

avanade

Do what matters

Imagine what you will do with AI

www.avanade.com/ai