



# Artificial Intelligence in Software Practice



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# Artificial Intelligence (AI) is everywhere



When will AI usher in a new era of manufacturing?



How artificial intelligence will force a rethink of the manufacturing process

**Forbes**

5G, AI and IoT: The Dream Team for Modern Manufacturing

**Automation.com**

Microsoft Cloud for Manufacturing: Tackling Data Accessibility in Manufacturing alongside Partners

**VentureBeat**

AI is making smart manufacturing faster, greener, virtual – and more real

**Fabbaloo**

Smarter Factories: Why Manufacturers are Betting Big on AI

**BENZINGA**

Artificial Intelligence (AI) in Manufacturing Market Size to Hit USD 68,360 Million By 2032

**Forbes**

What do ChatGPT and AI mean for your business?

**TC TechCrunch**

Microsoft's Azure AI Studio lets build their own AI 'copilots'

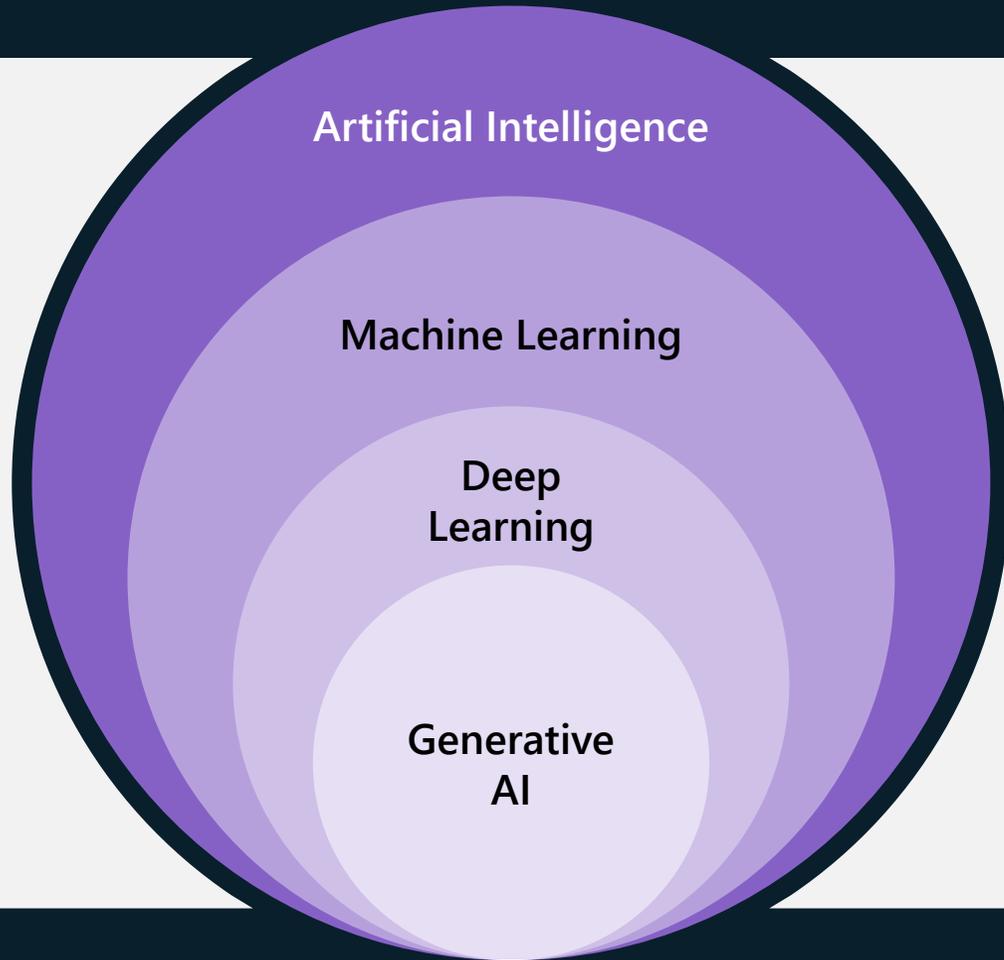
# AI is transforming our business today

Every  
individual

Every  
team

Every  
industry

# The journey continues with generative AI



1956

## Artificial Intelligence

The field of computer science that seeks to create intelligent machines that can replicate or exceed human intelligence.

1997

## Machine Learning

Subset of AI that enables machines to learn from existing data and improve upon that data to make decisions or predictions.

2012

## Deep Learning

A machine learning technique in which layers of neural networks are used to process data and make **decisions**.

2021

## Generative AI

Create new written, visual, and auditory content given prompts or existing data.



What is Artificial Intelligence?

# What is Artificial Intelligence?

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines.

AI systems are designed to perform tasks that usually require human intelligence, such as learning and problem-solving.

AI technologies include machine learning, deep learning and natural language processing.

AI has the potential to transform industries by automating processes and enhancing human decision-making.



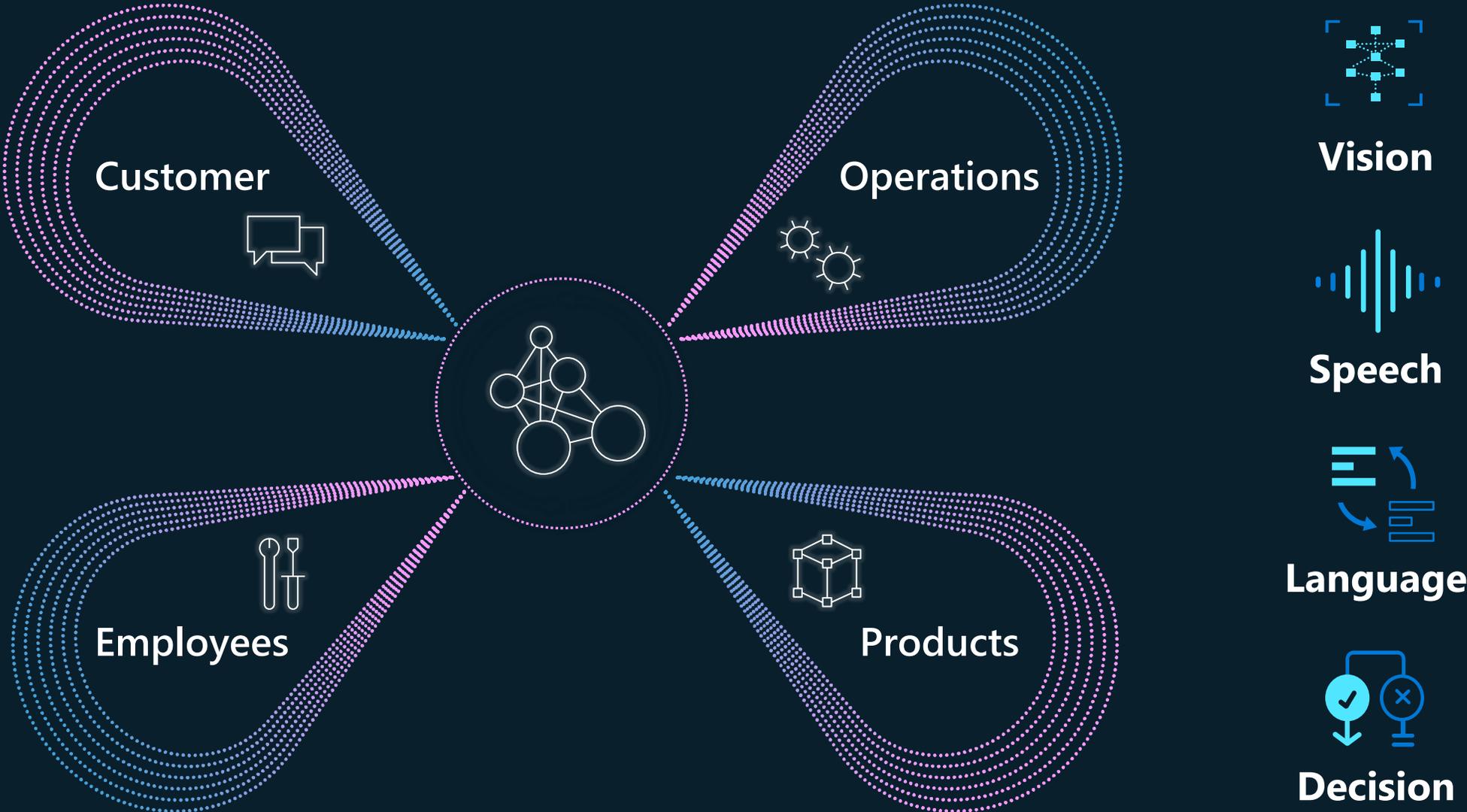
# Artificial Intelligence Use Cases



- Predictive maintenance to reduce downtime and costs in manufacturing.
- Chatbots and virtual assistants for improved customer service.
- Fraud detection and prevention in finance and banking.
- Real-time language translation for improved communication.
- Intelligent automation of business processes.
- Image and speech recognition for enhanced security measures.

AI in your companies

# Digital feedback loop that seamlessly integrates every aspect of your business



# Companies are faced with many challenges



TO COMPLEX,  
TO SCALE

43%



LACK OF  
KNOW-HOW OR  
INFRASTRUCTURE

90%



NO END-TO-END  
ROLLOUT PLAN

100%



SECURITY  
CONCERNS

91%

**It starts with**  
**Data and Scalability**



# Microsoft Fabric

## The Data Platform for the Age of AI



Data  
Factory



Synapse Data  
Engineering



Synapse Data  
Science



Synapse Data  
Warehousing



Synapse Real  
Time Analytics



Power BI



Data  
Activator



OneLake

Intelligent data foundation

VIDEO: Microsoft Fabric: Microsoft Build 2023 - YouTube



### Explore the experience



Data Factory



Synapse Data Engineering



Synapse Data Warehouse



Synapse Data Science



Synapse Real-Time Analytics



Power BI

 Read documentation

 Explore community

**one experience,**

Why invest in AI?

# Opportunities for AI transformation



**Enrich** the employee  
experience



**Reinvent** customer  
engagement



**Reshape** business  
processes



**Bend the curve**  
on innovation

# Opportunities for AI transformation



Enrich the employee  
experience



Reinventing  
customer  
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Reimagining  
Business  
Processes

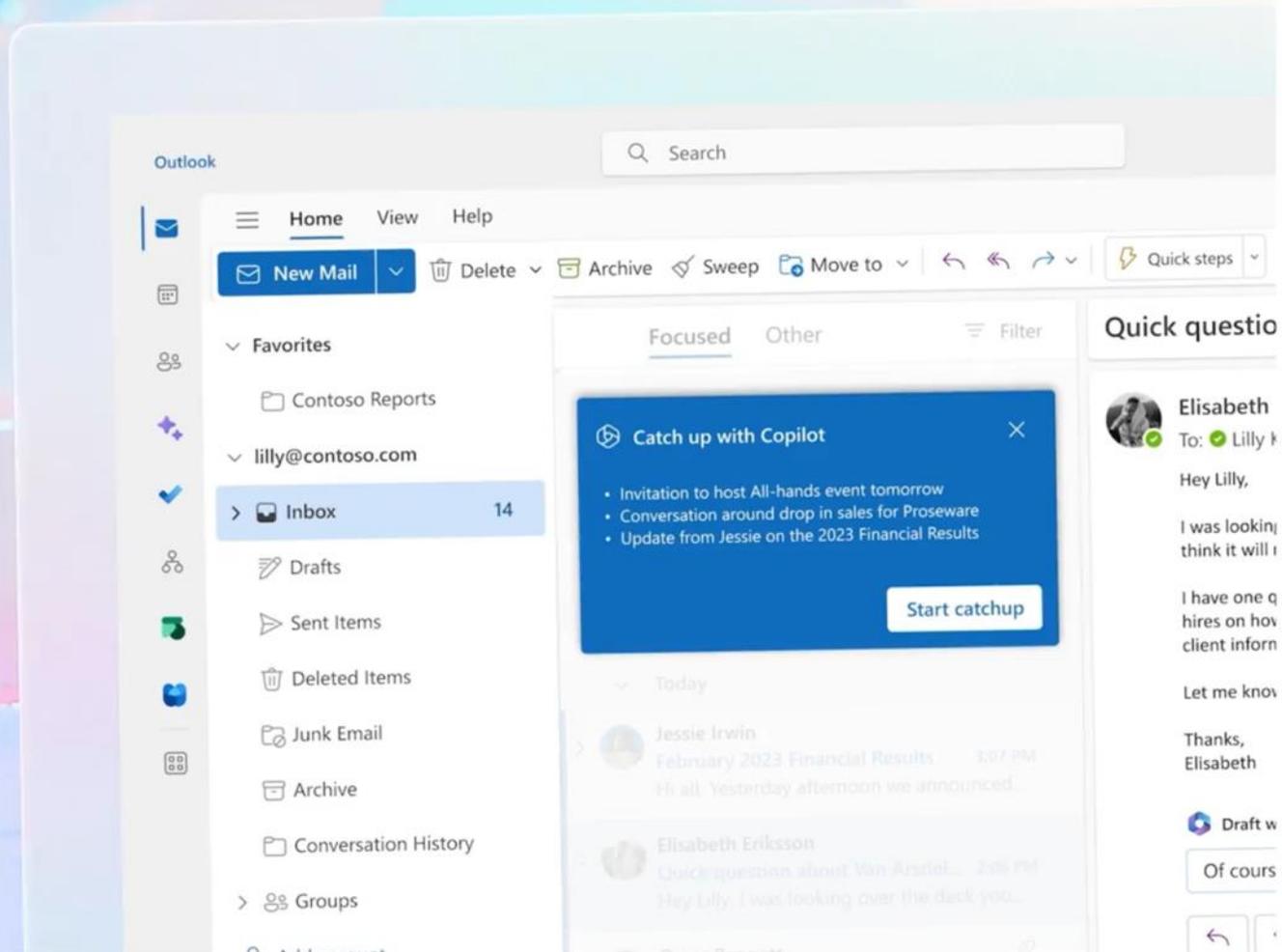


Bend the curve  
of innovation

MICROSOFT 365

# Copilot in Outlook

VIDEO: [Microsoft 365 Copilot in Outlook \(youtube.com\)](https://www.youtube.com/watch?v=...)



# Top use cases for generative AI

Knowledge  
discovery at  
scale

Product  
design cycle  
acceleration

Root cause  
analysis

Smart factory  
operations

Fraud detection  
/ Cybersecurity

Automated EHS  
protocols

Supply chain  
optimization

Streamlined  
legal, HR, and IT  
processes

Targeted  
marketing  
content  
generation

Personalized  
customer  
experiences

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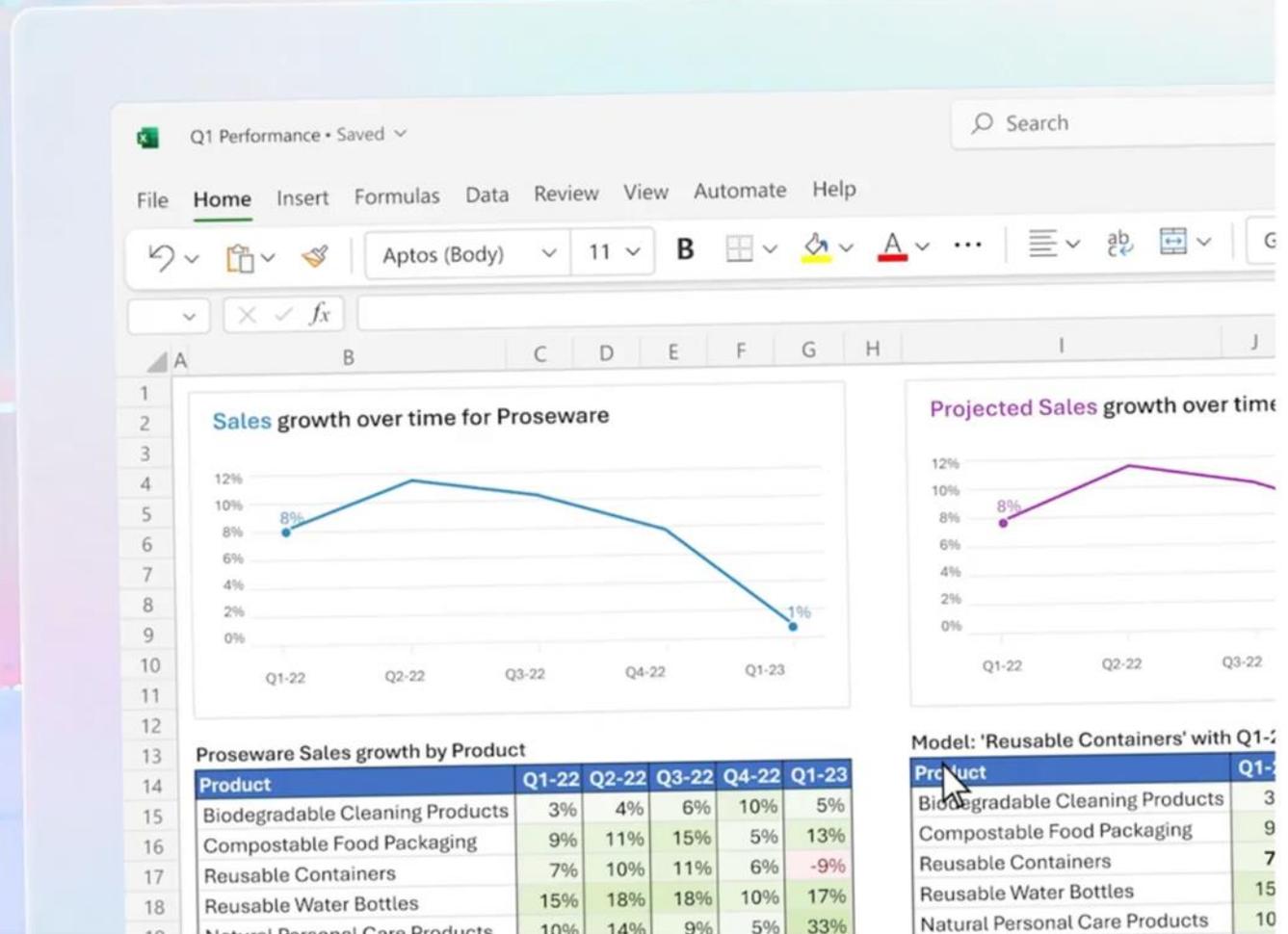
Targeted  
marketing  
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Personalized  
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experiences

MICROSOFT 365

# Copilot in Excel

VIDEO: [Microsoft 365 Copilot in Excel Explained \(youtube.com\)](https://www.youtube.com/watch?v=...)



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experiences



Search



# Chat



## Pinned

**Copilot** 9:15 AM  
Good morning Kat!

**Cassandra Dunn** 6/2  
Ok. I'll send an update later

**Aadi Kapoor** 6/2  
You: Great work!

**Eric Ishida** 8:40 AM  
Sure, I'll set something for next week t...

## Recent

**Cortex Framework** 8:41 AM  
Kayo: The review went really well! Can't wai...

**Will Little** 8:45 AM  
I don't see that being an issue, Can you ta...

**Marie Beaudouin** 1:21 AM  
Ohh, I see, yes let me fix that!

**Hillary Reyes** 1:07 AM  
Haha!

**Charlotte and Babak** 12:48 AM  
Charlotte: The client was pretty happy with...

**Reta Taylor** 12:40 AM  
Ah, ok I understand now

**Joshua VanBuren** 12:29 AM  
Thanks for reviewing

**Daichi Fukuda** 12:20 AM  
You: Thank you

**Kadji Bell** 12:03 AM  
You: I like the idea, let's pitch it!



# Copilot Chat About



## VIDEO: [Microsoft Business Chat \(youtube.com\)](https://www.youtube.com/watch?v=...)

Copilot 9:15 AM



Good morning Kat!

Here are some ideas that might help you get started:

- Catch up on a meeting you missed
- Summarize important documents to speed up review
- Quickly search your data for key information and timely answers

As your Copilot, I'm here to assist you but do make mistakes, so sources are provided for your review when possible.

What's going on with EraNext? Summarize the Green Builder's summit doc

Ask a work question or make a request



What is the opportunity for your business?  
How can you prepare?

For every \$1 a company invests in AI,  
it is realizing an average return of

**\$3.5**

**14** months

Average time it takes for organizations to  
realize a return on their AI investment

# Preparing for the era of AI



What are your organization's **goals** for using AI?



What are your organization's **pain points** that AI can address?



What are your organization's **current capabilities** in terms of AI?



Does your organization have a **data strategy** in place?



Does your organization have the necessary **infrastructure and resources** to support AI initiatives?

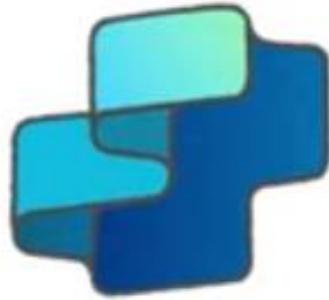


Thanks for all the fish 🐟



Fachhochschule  
Nordwestschweiz

VIDEO Playlist: [Copilot Studios | Explained by Microsoft - YouTube](#)



Copilot Studio



# Customer Inspiration

# STRABAG

## Automation

**Customer:**

Strabag SE

**Industry:**

Manufacturing

**Size:**

10,000+ employees

**Country:**

Austria

**Products and services:**

Azure Active Directory  
Azure Databricks (AI)  
Azure Functions  
Azure Key Vault  
Azure Machine Learning  
Azure SQL Edge  
Azure Synapse Analytics  
Microsoft Intelligent Data Platform  
Microsoft Purview  
Azure OpenAI Service

[Read full story here](#)



Microsoft is more than a technology partner. They advised us every step of the way. Together, we ran workshops to explore the organization's needs and using their Intelligence Driven Organization (IDO) framework, they helped us to create a strategy to address our digital priorities."

— Dr. Marco Borschlegl: Head of Innovation and Digitalisation, Strabag SE

### Situation:

As one of the oldest industries in the world, construction, hasn't always kept pace with the modernization that has swept across other industries, particularly when it comes to driving operational efficiencies with data.

### Solution:

Strabag SE, the global construction company, partnered with Microsoft to build a Data Science Hub to collect decentralized data and leverage it for insights. This enabled the organization to develop use cases to prove the value of data including its risk management project.

### Impact:

The solution uses an algorithm to pinpoint at-risk construction projects, saving Strabag SE time and reducing financial losses. With data now at the helm, Strabag SE is cementing its future in a traditional industry on the path to digitalization.



# Automation

**Customer:**

KPMG

**Industry:**

Professional Services

**Size:**

10,000+ employees

**Country:**

United States

**Products and services:**

Azure OpenAI Service

[Read full story here](#)



For us it is the combination of the technical architecture—how Microsoft has set it up to allow us to have more control over that—and then also the business architecture. That combination makes Azure OpenAI compelling.”

— Brad Brown: Chief Innovation Officer & Technology Leader, Tax

## Situation:

KPMG believes that Azure OpenAI Service will change its service delivery model and impact its coding lifecycle through product experience enhancement, knowledge enhancement, and content distribution.

## Solution:

KPMG has chosen Microsoft Azure OpenAI Service because of its architecture, which makes it an enterprise-ready solution that allows the company to augment and fine-tune its data—while ensuring KPMG meets governance, risk, and regulatory requirements.

## Impact:

The company believes that Azure OpenAI Service time to value is short, and there is a demonstrable increase in time to value over previous productivity solutions. The company believes that the iterative and fast fail approach of Azure OpenAI Service will help drive faster adoption and extend the capabilities of the tool.





# Communication

**Customer:**  
National Taiwan Normal University

**Industry:**  
Higher Education

**Size:**  
1,000-9,999 employees

**Country:**  
Taiwan

**Products and services:**  
Azure OpenAI Service  
Azure AI  
Azure Cognitive Services

[Read full story here](#)



The bots we experimented with before were fairly robotic, but with the advanced language models in Azure OpenAI Service, the responses felt much more inviting and approachable, which makes a big difference for our students.”

— Dr. Hao-Jan Howard Chen, Professor, Department of English, National Taiwan Normal University

## Situation:

The Ministry of Education and National Taiwan University (NTNU) wanted to help Taiwanese students to improve their English-language speaking skills to help them be even more successful in globally competitive world.

## Solution:

Together, the Taiwan Ministry of Education and NTNU launched Cool English, an English learning platform that offers creative modes of learning such as finishing song lyrics and watching animated videos. NTNU used the Davinci advanced language model in Azure OpenAI Service to build 10 educational bots for the platform, each with its own unique personality.

## Impact:

Cool English is taking an innovative step for English education in Taiwan, helping students reach their learning goals and overcome the challenges of limited opportunities for real-life conversational and writing practice.



# Content Generation

**Customer:**

Aprimo

**Industry:**

Professional Services

**Size:**

50 – 999 employees

**Country:**

United States

**Products and services:**

Microsoft Azure  
Azure OpenAI Service

[Read full story here](#)



We've always been focused on supporting smart workflows, clear content oversight, and ease in both creating marketing elements... The difference now is that we can apply breakthroughs in artificial intelligence and machine learning to enhance automation at all levels."

— Kevin Souer, CPO, Aprimo

## Situation:

Aprimo's content operations platform is 100 percent on Azure and AI as fundamental part of the company's product strategy. The company saw an opportunity to further enhance its content operations platform and deliver even higher levels of productivity and performance using ChatGPT.

## Solution:

With the Microsoft-OpenAI announcement of OpenAI's gated general availability on Azure, Aprimo applied to the preview and the company was accepted. Aprimo tested different generative AI features to address specific use cases and focused in on an embedded generative AI assistant designed to create better efficiencies across teams, drive time to market, and scale on-brand asset creation and distribution across all channels.

## Impact:

Aprimo released the solution in May 2023. Customer feedback has been overwhelmingly positive, and Aprimo anticipates a 95 percent adoption rate. As the first ChatGPT integration in the digital asset marketing category it has opened the door for more innovations and features releases on the Aprimo AI-powered platform in the coming months, including AI Content Coach.





## Content Generation & Summarization

**Customer:**

CarMax

**Industry:**

Retailer

**Size:**

10,000+ employees

**Country:**

United States

**Products and services:**

Azure AI

Azure OpenAI Service

[Read full story here](#)



With the help of Azure OpenAI Service, we're disrupting our industry for a second time by delivering cutting-edge digital tools and capabilities and becoming a true omnichannel retailer."

— Shamim Mohammad, Executive Vice President and Chief Information and Technology Officer, CarMax

### Situation:

With 45,000 cars in its inventory, CarMax needed a fast and efficient way to analyze customer reviews and provide brief, meaningful summaries for each model that would aid potential purchasers and boost the pages' search engine rankings.

### Solution:

After choosing to work with OpenAI, CarMax migrated to OpenAI Service to take advantage of the scalability, security, and Responsible AI features it provides.

### Impact:

CarMax was able to produce the equivalent of 11 years' worth of car summaries in a matter of months, freeing editorial staff to focus on more substantive content, providing customers with valuable insights, and successfully boosting search rankings.





# Content Generation

**Customer:**

CIPIO.ai

**Industry:**

Professional Services

**Size:**

1 – 49 employees

**Country:**

United States

**Products and services:**

Azure OpenAI Services

Azure AI

Azure Cognitive Services



With Azure OpenAI, we can now leverage its best-in-class language learning models to process content elements with better performance and lower cost. Without access to Azure OpenAI and the Microsoft support team, we would have been less likely to offer this application to our customers in such an efficient and effective manner.”

— Sundeep Sanghavi, Co-Founder and CEO, CIPIO.ai

## Situation:

With expertise in data science, AI, user generated content, social media, and community influence marketing, CIPIO.ai saw that building influencer relationships that lead to genuine customer connections was a challenge for most companies and that Community Commerce Marketing (CCM) was the answer.

## Solution:

The team wanted to use AI to give companies more personalized ways to encourage organic content sharing and customer connections and chose Microsoft and Azure OpenAI Services to build a CCM platform. Now Azure OpenAI is embedded at the core of the CIPIO.ai Community Commerce Marketing platform.

## Impact:

Though CIPIO.ai was founded less than two years ago, it has amassed a global team of social media marketers for its customers, including nearly 200 million social profiles and related consumer data. Customer feedback shows CIPIO.ai driven user generated content is outperforming other branded content.





# Customer Experience

**Customer:**

Zammo.ai

**Industry:**

Professional Services

**Size:**

1-50 employees

**Country:**

United States

**Products and services:**

Azure OpenAI Service

[Read full story here](#)



Zammo's solution and rapid prototyping capability helps democratize customer adoption of Azure OpenAI because customers can go live quickly with a very powerful tool. The age of manually curating knowledge bases is over."

— Stacey Kyler, Product Manager, Zammo

## Situation:

Zammo is on a mission to help businesses engage and transact with customers through conversational AI interactions that are secure, scalable, highly accessible, and simple to create regardless of size, industry, or IT skill set.

## Solution:

Zammo decided to support its proprietary AI platform technology with Microsoft Azure Cloud Service and Azure OpenAI Service.

## Impact:

Users can save time and money using prebuilt conversation modules for common use cases, creating their own branded, cross-platform voice apps.





# Customer Experience

**Customer:**

Take Blip

**Industry:**

Professional Services

**Size:**

Large (1,000 – 9,999 employees)

**Country:**

Brazil

**Products and services:**

Azure OpenAI Service

Azure AI



By using Azure OpenAI Service [...] Take Blip is taking a leading-edge approach to AI that makes us future-ready and gives us a competitive edge in the marketplace for customer experience technology.”

— Milton Stilpen, Innovation & Research Director, Take Blip

## Situation:

Take Blip wanted to pursue an AI-first approach to messaging between brands and customers using the latest language models, like GPT-4.

## Solution:

Take Blip began using Azure OpenAI Service and other Azure Cognitive Services to develop a robust, multichannel, AI-driven customer conversation platform backed a highly secure and scalable cloud infrastructure.

## Impact:

Using Microsoft AI technologies has boosted developer productivity, accelerating time to market for new campaigns. Clients are excited about the new AI-driven features and have enthusiastically embraced GPT capabilities.



# Trelent

## Customer Experience

**Customer:**  
Trelent

**Industry:**  
Professional Services

**Size:**  
1-49 employees

**Country:**  
Canada

**Products and services:**  
Azure OpenAI Service

[Read full story here](#)



With a product like OpenAI Service behind you, you can focus a lot more on what really matters, which is delivering a great experience, a great product, and a lot of value to your customers.”

— Calum Bird, CEO, Trelent

### Situation:

Trelent, a pre-seed code documentation startup that uses the OpenAI Codex algorithm, found its audience in high-growth tech companies with large or distributed engineering teams. The problem: How does a two-person team provide enterprise-ready service?

### Solution:

A Microsoft for Startups webinar provided the answer: Microsoft Azure OpenAI Service paired the powerful OpenAI algorithms Trelent was already using with Azure security, safety controls, and global availability—and worked with the startup’s existing solution.

### Impact:

With Azure OpenAI Service, Trelent benefits from content filtering, increased security, and faster response times (from 1-3s down to an average of 750ms). Those enterprise-ready features free Trelent engineers up to focus on their core innovation.





AT&T

# Employee Experience

**Customer:**

AT&T

**Industry:**

Telecommunications

**Size:**

10,000+ employees

**Country:**

United States

**Products and services:**

Azure OpenAI Service

[Read full story here](#)



We think there's a big upside potential for Azure OpenAI Service to help us improve employee experiences, enhance customer interactions, and drive more efficiency within our developer community."

— Jon Summers, Chief Information Officer, AT&T

## Situation:

AT&T is exploring how to use technology to help automate some business processes to improve employee and customer experiences. AT&T has started using Azure OpenAI Service to help its employees be more productive and provide customers with the service they expect.

## Solution:

AT&T is using Microsoft Azure OpenAI Service to enable IT service requests, migrate legacy code into modern code, and empowering employees to complete common human resources tasks.

## Impact:

By using Azure and AI technologies, the company can automate IT tasks and provide employees with fast answers to basic human resource requests, leading to increased efficiency, improved work life, and reduced costs.





# Employee Experience

**Customer:**

Moveworks

**Industry:**

Professional Services

**Size:**

50–999 employees

**Country:**

United States

**Products and services:**

Azure OpenAI Service

[Read full story here](#)



Nearly every organization in the world is scrambling to figure out how large language models (LLMs) can transform some part of their business. But many either don't know where to start, or they don't have the technical expertise to create meaningful solutions with LLMs. At Moveworks, we're partnering with Azure OpenAI Service to deliver the power of bleeding edge LLMs—like GPT-3—to these organizations on a robust and trusted enterprise-ready platform."

— Vaibhav Nivargi, Chief Technology Officer and Founder, Moveworks

## Situation:

Moveworks knows that a lot of businesses are just starting to scratch the surface of LLMs and conversational AI—with many not even knowing where to start. Moveworks is using its experience in advanced conversational AI and large language models to help enterprises and government agencies resolve employee issues with the help of Azure OpenAI Service.

## Solution:

Moveworks chose Microsoft Azure OpenAI Service as a core component of its machine learning architecture. Azure OpenAI Service semantic search and summarization capabilities enhance the platform's ability to resolve limitless support requests simultaneously—even anticipate the individual needs of employees and respond to them in their native language.

## Impact:

With Azure OpenAI Service Moveworks can deliver the power of large language models and conversational AI to customers in a way that's trusted, secure, and enterprise-ready—without customers needing the technical expertise required to leverage these technologies.





# Productivity

**Customer:**

Thread

**Industry:**

Professional services

**Size:**

1–49 employees

**Country:**

United States

**Products and services:**

Azure OpenAI Service

Microsoft Teams

[Read full story here](#)



Anyone who's going to win with GPT is going to be someone that has access to unique content. We're finding that content by linking Azure OpenAI with Microsoft Teams."

— Matt Linn, Chief Operating Officer, Thread

## Situation:

For IT technicians, logging time entries and summarizing customer interactions are critical to profitability and quality assurance. When done manually, technicians spend about an hour a day completing these time-consuming tasks.

## Solution:

Thread recognized this opportunity and launched an enhancement for their Service Collaboration Platform that uses Microsoft Azure OpenAI Service and GPT-3 to streamline customer interactions and automate these routine tasks.

## Impact:

Technicians are saving nearly an hour a day by automating their time entries. About 80% of the time entries generated automatically are accepted immediately – with technicians using this powerful automation for over 300 time entries per month.



# Blogs and Resources Featuring Product News, Research and Customers

What's new?: <https://aka.ms/aoai-newsfeed> | Thought leadership: <https://aka.ms/ai-blog>

## Azure OpenAI Service: 10 ways generative AI is transforming businesses

By [Andy Bestman](#) Sr. Product Marketing Manager, Azure AI

Posted on June 14, 2023  
6 min read



Technology is advancing at an unprecedented pace, and businesses are seeking innovative ways to maintain a competitive edge. Nowhere is this truer than in the realms of [generative AI](#). From generating realistic images and videos to enhancing customer experiences, generative AI has proven to be a versatile tool across various industries. In this article, we explore 10 ways businesses are utilizing this game-changing technology to transform their operations and drive growth.

1. **Content creation and design:** Effective content creation and design are crucial for attracting and engaging customers.

Generative AI enables businesses to create visually appealing and impactful content quickly and efficiently, helping them stand out in a crowded marketplace. Generative AI has revolutionized content creation by generating high-quality images, videos, and graphics. From designing logos and product visuals to creating engaging social media content, businesses are using generative AI algorithms to automate the

[AI](#) - [Machine Learning](#) - [Announcements](#) - [Azure AI](#) - [Industry trends](#)

## The economic benefits of innovating with Azure AI

By [Olivia Shone](#) Senior Director, Azure AI Product Marketing

At Microsoft Build this year our CEO Satya Nadella grounded the excitement surrounding AI back to one simple goal: to better serve unmet user needs. He asked “*Why do we build software?*” and, in doing so, he reminded us it’s not the technological capabilities of AI tools that make them so valuable, but instead where we apply them and for whom. Great products have always, and will always, be about people, and that’s what’s energizing us most on the Microsoft Azure team right now.

Azure customers are already infusing AI in incredible ways, building next-gen app experiences with cutting-edge innovation from [Azure AI services](#) with the backing of Azure’s trusted cloud platform. [CarMax](#), [H&R Block](#), [the NBA](#), and most recently announced, [Mercedes-Benz](#) are putting Azure AI to work to differentiate their respective businesses, and they’re proving how investments in innovation quickly pay themselves forward—even during a challenging economy. When AI-powered apps like the [CarMax research tool](#) help us scour online reviews of 4,500 car types in seconds, or [NBA](#)

[10 ways generative AI and Azure OpenAI Service are transforming businesses](#)

[The economic benefits of innovating with Azure AI](#)

[Mercedes-Benz enhances drivers’ experience with Azure OpenAI Service](#)

[Introducing Azure OpenAI Service On Your Data in Public Preview](#)

Customer Stories: <https://aka.ms/AOAIstories>