



# Winning with AI

Three stories of intelligent app success



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# Introduction

Organizations are transforming bold ideas into reality, bringing AI-powered intelligent apps to market and driving real results. These sophisticated applications—ranging from customer-facing tools to autonomous agents—are no longer just concepts; they're in production and delivering measurable business impact.

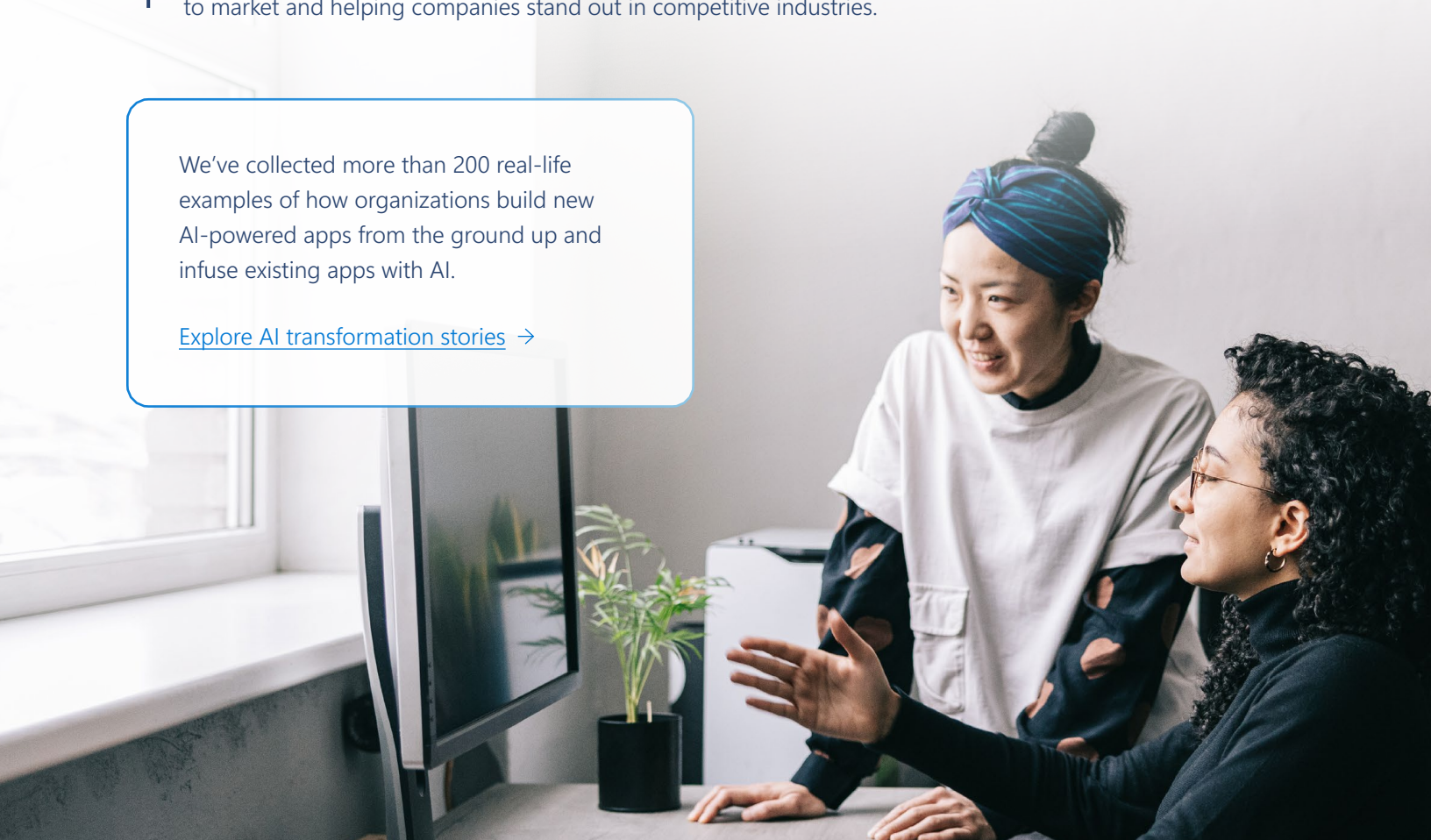
[A recent study revealed](#) that every \$1 USD an organization invests in generative AI achieves an average return of \$3.70. The study also highlighted AI's immense potential to transform business processes and drive innovation across industries.

Today, [over 85% of Fortune 500 companies](#) use Microsoft AI solutions to shape their future. From small businesses to global enterprises across diverse industries and geographies, most transformation initiatives are focused on achieving one of four key outcomes:

- 1 Enhancing employee experiences:** By automating repetitive, mundane tasks, AI empowers employees to focus on complex, creative, and high-value work.
- 2 Transforming customer engagement:** AI enables more personalized and tailored customer interactions, delighting audiences while reducing workloads for employees.
- 3 Reimagining business processes:** AI is revolutionizing operations across marketing, supply chain, and finance, optimizing processes, and uncovering growth opportunities.
- 4 Accelerating innovation:** AI speeds up creative workflows and product development, shortening time to market and helping companies stand out in competitive industries.

We've collected more than 200 real-life examples of how organizations build new AI-powered apps from the ground up and infuse existing apps with AI.

[Explore AI transformation stories](#) →



## The new frontier for innovating: Integrated AI application platforms

So, how do organizations go about building and modernizing AI-powered apps? The answer lies in using an integrated AI application platform.

An integrated AI application platform is a unified development environment designed to help businesses build and deploy intelligent applications more efficiently. It allows organizations to create new AI-powered applications or modernize existing ones by providing comprehensive tools and services such as AI model integration, managed databases, and developer tools. These integrated capabilities allow teams to streamline application development and deployment, all while maintaining security, performance, and scalability for enterprise needs.

An integrated AI application platform empowers developers to accelerate their work from concept to production by consolidating application services, data management, and AI capabilities.

### Integrated AI application platform advantages

**Accelerate time to market:** Go from idea to production faster with a streamlined platform that reduces development timelines.

**Enhance customer experiences:** Use AI to deliver differentiated, personalized customer experiences that set your business apart.

**Boost operational efficiency:** Leverage AI to optimize and improve business processes, driving greater productivity across the organization.

**Harness data for growth:** Unlock the power of data to fuel innovation and uncover new opportunities for business growth.

**Iterate faster with feedback:** Test, deploy, and scale AI applications rapidly, refining them based on user insights to ensure continual improvement.

**Empower developers with AI tools:** Enable developers to build AI apps faster using their preferred development tools for a seamless workflow.

**Securely integrate AI with enterprise data:** Connect AI models to enterprise data sources for advanced personalization, search, and analytics while maintaining robust security.

**Upskill your workforce:** Equip developers with AI skills to accelerate the creation and deployment of cutting-edge AI applications.



# The evolution of intelligent apps

Built on principles such as microservices architectures and modern application development, intelligent apps are designed to adapt and learn from user interactions and real-time data. They're versatile and applicable across industries and sectors, serving internal business needs through line of business applications or enhancing external user interactions with customer-facing solutions.

For years, AI has been the backbone of intelligent apps, enabling automation, prediction, and smarter decision-making. Generative AI is now redefining these possibilities, taking app capabilities to the next level.

Natural language interactions are more seamless and intuitive, allowing users to communicate with apps conversationally. Generative AI also enhances hyper-personalization by drawing on real-time data to tailor experiences and understand user context with greater depth. These advancements, combined with flexible and adaptive cloud-based designs, allow intelligent apps to evolve dynamically, meeting user needs more effectively than ever before.

To unlock their full potential, intelligent apps must be both flexible and scalable. Flexibility ensures that apps can adapt to changing user needs, incorporate new data sources, and evolve with minimal disruption, while dynamic scalability supports growth and handles increasing workloads, whether by expanding data resources or accommodating millions of users.

## Intelligent app use cases

Natural interactions built into software-based experiences

The combination of AI, machine learning, large language models (LLMs), neural networks, and other advanced capabilities offers the potential for limitless app innovation. Here are some of the ways these tools give people more value from intelligent apps:



A personal fitness tracker that analyzes the user's activity and offers recommendations to help the user hit a specific goal.



A social media marketing app that dynamically generates posts based on a marketing manager's prompts.



A language translation app that uses natural language processing (NLP) to translate text from one language to another without losing the context or subtleties of the conversation.



A generative AI app like OpenAI's ChatGPT helps expedite tasks like writing emails, generating code, and answering general questions.



A chatbot or virtual agent (like [Bing](#)) that helps users perform in-depth web searches in a friendly, human-like conversational setting.



A music app that creates personalized playlists based on listening habits.



An agent that can take actions, process information, and integrate with enterprise, leveraging advanced AI capabilities to understand the nature of work and act independently to support various business roles, teams, and functions.



## Requirements for intelligent app transformation

Modernizing existing systems to accommodate AI-driven functionality can be complex and resource-intensive. There are concerns about the ethics of AI. As governments and regulatory bodies work to establish guidelines and standards for AI, businesses are often uncertain of the best way to handle these advanced technologies responsibly. Many organizations will find it challenging to balance comprehensive security and privacy with the timely deployment of AI-powered solutions. To meet this challenge, they'll have to adopt a comprehensive approach to responsible AI usage that strikes a balance between security and productivity.

### Requirements for intelligent app transformation:

- Alignment between business outcomes and use cases
- The latest innovation in AI models and responsible AI
- [Skilling and tools](#) for developers to build faster
- The ability to leverage existing apps and data sources
- Enterprise security, scale, and performance



To help teams meet these requirements, Azure provides an industry-leading AI app platform that accelerates innovation through a powerful, unified ecosystem. With purpose-built tools for AI and a comprehensive app platform, developers can modernize applications and build intelligent apps with cutting-edge features, using AI-powered assistant tools to streamline workflows. Plus, Azure offers advanced data and analytics capabilities for handling complex workloads, ensuring businesses can drive smarter decisions and deliver value to users faster than ever.

### The Azure app innovation advantage

Whether you're looking to build new apps or modernize existing tried-and-true apps—or both—Azure offers an integrated AI application platform that helps bring ideas to production quickly.

Innovate with speed —————→ Up to 1.5 months faster time-to-market for new applications

Develop and deploy with minimal downtime —→ Up to 25% reduced app downtime

Empower developer talent —————→ Up to 25% increased developer efficiency<sup>1</sup>

<sup>1</sup>The Total Economic Impact™ Of Microsoft Azure App Innovation, a commissioned study by Forrester Consulting, June 2023. Results are for a composite organization based on interviewed customers.

In the next sections, you'll learn how three Azure customers were able to overcome previously unsurpassable barriers to deliver better service and employee experiences.





# AI drives a 38% boost in diagnostic precision for Mars Petcare Science & Diagnostics

Mars Science & Diagnostics, a division of Mars Petcare, is on a mission to transform veterinary science. As part of the global Mars brand, the company uses cutting-edge technology to enhance the quality and speed of care for pets worldwide.

## The challenge

Veterinary-trained radiologists are in short supply globally, while demand for their expertise continues to rise. Pets often face delays in diagnosis, with symptoms going unaddressed for hours or even days. Mars recognized the need for a solution to speed up diagnosis, reduce the burden on human radiologists, and save more pet lives.

## Intelligent app innovation: RapidRead

To address these challenges, Mars partnered with Azure to develop RapidRead, an AI-powered solution designed to accelerate the pet diagnostic process. Using the [Azure AI model catalog](#), Mars chose Mistral's model as a service (MaaS) offering to restructure unstructured data and enhance accuracy. [Azure Machine Learning](#) enabled Mars to scale its training processes, handling massive datasets with millions of images and reports, while [Azure Cosmos DB](#) served as the primary database for storing unstructured data and radiologist feedback.

To ensure scalability, the solution also took advantage of [Azure Kubernetes Service \(AKS\)](#) for efficient scaling of containerized workloads, [Durable Functions](#) to streamline workflows, and [Azure Service Bus](#) for scalable endpoints. Together, these tools created a robust and scalable platform that enhances diagnostic precision and accelerates veterinary workflows.

## New AI-powered capabilities

- Accelerated processing of radiological images
- Automated image annotation and report generation to streamline repetitive tasks
- Advanced diagnostic algorithms to identify abnormalities that might be missed by human experts
- Seamless integration with veterinary workflows for faster, data-driven decision-making





RapidRead is a great example of how AI can be used to advance veterinary medicine. With our domain expertise, all the data we've collected, and Azure AI capabilities, Mars can be so much faster in solving the challenges everyone involved in caring for animals must face."

**Jerry Martin**

Vice President of Research & Development, Mars

### Intelligent app results:

The company's innovative use of AI demonstrates the transformative potential of technology in veterinary care, offering faster, more precise diagnostics and saving countless pet lives.

- A 38% average precision boost in diagnostics, with 96.9% precision on synthetic test sets
- Pets with critical, undiagnosed conditions receive needed care in minutes versus hours or days
- Significant improvements in radiology workflow efficiency, enabling radiologists to focus on complex cases

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# AI-driven insights help BMW Group revolutionize vehicle development

Known for its luxury vehicles and cutting-edge technology, BMW Group is a global leader in automotive innovation. To maintain its reputation for reliability and quality, BMW operates a fleet of 3,500 development cars, testing and refining thousands of integrated digital systems and features.

## The challenge

Before 2018, operational data from BMW's development cars was manually transferred using onboard hard drives, a process that delayed data analysis and slowed vehicle design and prototyping cycles. Engineers needed a faster, automated system to streamline data collection, reduce lead times, and improve collaboration.

## Intelligent app innovation: Mobile Data Recorder

BMW introduced the Mobile Data Recorder (MDR), an IoT device integrated into each development car, which uses a cellular connection to transmit over 10,000 signals per second to the Azure cloud platform. The Azure ecosystem, including [Foundry Tools](#), [Azure Data Explorer](#), [Azure Kubernetes Service \(AKS\)](#), and [Azure IoT Hub](#), enabled BMW to efficiently process, analyze, and visualize data at scale.

[Microsoft Foundry](#) and [Azure OpenAI Service](#) also powered a GPT-4-based MDR copilot, allowing engineers to use natural language queries to access technical insights. The copilot also utilizes a knowledge base built from expert interviews to answer broader questions about development cars, data recorders, or related processes. With [Azure AI prompt flow](#), the team quickly developed and tested copilot prototypes, sharing them seamlessly with management. Prompt flow also enabled one-click deployment to managed online endpoints, ensuring smooth integration between development and production environments while supporting A/B testing to enhance responsiveness.

User interactions with the copilot, including conversations, feedback, and the general MDR knowledge base, are securely stored in [Azure Database for PostgreSQL](#). This robust storage supports the machine learning processes that improve the copilot's efficiency over time. Additionally, the database manages vectors, such as KQL shots and the copilot's Retrieval-Augmented Generation (RAG) chat patterns, to optimize performance.

### New AI-powered capabilities

- Automated data transmission and processing, eliminating manual transfers
- Real-time analytics with faster data delivery and analysis
- Natural language-based query system for engineers, enhancing accessibility
- Two-way data transmission for real-time configuration updates in test cars
- Comprehensive data visualization tools for decision-makers



The Mobile Data Recorder system has been critical for the development of all our cars since 2020. It helps guarantee high functionality and quality in the cars, and we're speeding time to market even as the number of features dramatically increases."

**Christof Gebhart**

Mobile Data Recorder Co-Creator, BMW Group

### Intelligent app results:

With Azure AI as a foundation, BMW continues to refine its development processes, ensuring its vehicles meet the highest standards of reliability and innovation long before they hit the road.

- Reduced lead time for insights from days to hours or minutes
- Doubled vehicle data coverage, accelerating innovation cycles
- Enhanced development agility, enabling faster prototyping and troubleshooting
- Increased collaboration among thousands of engineers and stakeholders
- Sustained BMW's reputation for quality, functionality, and cutting-edge technology

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# Air India automates 97% of queries with AI

Air India, the nation's flagship carrier, is reimagining itself with a five-year transformation plan designed to restore its global leadership and deliver an exceptional customer experience. This reinvention includes fleet modernization, operational upgrades, and a digital overhaul. A critical component of this transformation is using generative AI to improve customer service without increasing costs.

## The challenge

Years of outdated systems and a lack of technological advancements had left Air India struggling to meet growing passenger expectations. The existing virtual assistant was no exception—it was built on aging technology that couldn't keep pace with modern demands. As passenger volumes doubled, the airline needed an innovative solution to handle high query volumes while improving accuracy and customer satisfaction.

## Intelligent app innovation: AI.g virtual assistant

To enhance customer support, Air India developed AI.g, one of the airline industry's first virtual assistants powered by generative AI. Built using [Azure OpenAI Service](#), AI.g handles over 1,300 topics, from bookings and flight status to baggage tracking and lounge access. The integration of various Azure services was key to making AI.g not only efficient but scalable.

[Foundry Tools](#), including the powerful GPT models within Azure OpenAI, form the core of AI.g's natural language processing capabilities. This enables the assistant to understand and respond to a wide variety of customer queries with a high degree of accuracy, even when the requests are informal or incomplete. Plus, using [Azure AI Content Safety](#) helps detect and mitigate potentially harmful content, providing travelers with a safe and responsible virtual assistant.

The airline developed a multi-modal AI platform incorporating [Azure AI Search](#), [AI Speech in Foundry Tools](#), and [Azure Vision in Foundry Tools](#), built on a foundation of Azure data solutions. AI Search collaborates with Azure OpenAI to enable Retrieval Augmented Generation (RAG), while [Azure Cosmos DB](#) provides scalable storage for virtual assistant conversations, user states, and vectors, as well as meeting most of Air India's non-relational database requirements, including booking data.

## New AI-powered capabilities

- Automated customer queries escalating to human agents only when needed
- Ability to recognize nuanced or incomplete requests for more natural interactions
- Support for features like document scanning for passports, visas, and baggage tracking
- Voice-enabled capabilities analyze contact center calls for quality assurance and process improvement
- Enterprise system integration enables consistent and accurate responses





AI.g has revolutionized customer interactions at Air India. It not only delivers exceptional support but also frees our contact center staff to focus on complex cases. With Azure AI, we're creating an unmatched travel experience for our passengers."

**Dr. Satya Ramaswamy**

Chief Digital and Technology Officer, Air India

### Intelligent app results:

Since launching in May 2023, AI.g has handled nearly 4 million queries, reducing operational costs and enhancing customer satisfaction.

- 97% of customer sessions fully automated
- Millions of dollars saved in customer support costs
- Faster resolutions for passengers' needs
- Supported double the passenger volume with no increase in support costs

[Read the full story](#) →



# Start innovating with your own integrated AI app platform

Advancements in AI have ushered in a transformative era for companies, letting them develop and modernize previously unimaginable applications. This evolution has helped organizations like Docusign, Mars Science & Diagnostics, BMW Group, and Air India innovate solutions that enhance productivity and give them a sharper competitive edge. With Azure, these companies could bypass the toughest barriers to innovating with AI and become leaders of business innovation.



Microsoft customers across industries are seeing incredible results from their intelligent app initiatives.

[Read more intelligent app success stories](#) →

The Azure platform also offers unparalleled choice and trust. With global scale and multicloud or hybrid deployment options, it supports any workload, in any language, and integrates seamlessly with open-source tools. Azure offers security, reliability, and enterprise-grade governance, alongside responsible AI frameworks for ethical innovation. Its microservices architecture, continuous delivery, and ability to scale dynamically empower businesses to meet any demand while maintaining data integrity and delivering personalized, low-latency experiences at scale.

#### **Dynamic scalability**

- 60+ Azure regions, more than any other cloud provider
- Autoscale to meet any application demand
- 5,000 node scale limit for Azure Kubernetes Service (AKS), enabled by default
- Limitless and elastic scalability for your data

#### **Reliable performance**

- Up to 99.95% application service availability service level agreement (SLA)
- Up to 99.999% database availability SLA
- Up to 99.9% AI service availability SLA
- < 10-millisecond database latency



# Looking to bring your intelligent app strategy to life?

Azure capabilities extend far beyond borders—reaching even into space. With continuous investment in data centers, networking, and cloud services, Azure enables global-scale innovation wherever it's needed.

Learn how establishing your own AI app platform with Azure lets you seize the potential of AI and bring your digital offerings to the next level.

## Take the next steps

[Explore Azure Innovate](#)

[Contact Sales](#)

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