



Achieving transformative business results with artificial intelligence

How 10 leading organizations are using artificial intelligence to resolve key challenges and reveal new opportunities

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Business in the age of accessible artificial intelligence

Thanks to the rapid adoption of cloud computing, the rise of compute power and data volumes, and the emergence of easy-to-use solutions that require little or no experience, artificial intelligence (AI) is now more accessible than ever.

Leading organizations across nearly every industry are leveraging AI to achieve positive business results. For many, AI has become a core component of their operations. According to IDC, spending on AI in the United States will grow to \$120 billion by 2025, representing a compound annual growth rate (CAGR) of 26 percent over the 2021–2025 forecast period.¹

Amazon Web Services (AWS) is playing a pivotal role in the advancement of AI, empowering customers to effectively use and derive the most benefit from the technology. These customers span finance, healthcare and life sciences, manufacturing, media and entertainment, the public sector, retail, and technology.

Categorizing artificial intelligence objectives

By offering the broadest and most complete set of AI services, AWS is able to meet its customers wherever they are in their AI journey and help them achieve their business objectives. More than 100,000 customers in various industries use **AWS AI services** across three categories of critical business objectives: accelerating innovation, improving the customer experience, and optimizing business operations.

This eBook features success stories from AWS customers that have achieved transformative results across these three categories using powerful AI capabilities.

SUCCESS STORIES

Accelerating innovation

Organizations leverage AI to help accelerate innovation across their products, services, and applications. This can enable your team members to accomplish more—regardless of their machine learning (ML) skill level—while driving efficient resource management and helping to keep costs low. Read on to discover how Frollo, Amazon Robotics, and Showpad are leveraging AI to achieve transformative results across their organizations.





Opening the door to open banking

Frollo is Australia's first open banking intermediary. This purpose-driven fintech organization is on a quest to help people feel good about money. To date, Frollo has made over 25 million open banking API calls.

Opportunity

Frollo wanted to enable banks to go beyond their current capacity and develop a real engagement model that provides more money management and budgeting features for customers. The Frollo Data Enrichment API provides data enrichment solutions such as categorizing customer transactions and identifying merchants. This API and supporting ML models sort consumer spending into more than 60 categories, such as travel, taxes, and groceries.

Solution

Cloud-based ML has been instrumental in accelerating development of the Frollo platform, and **Amazon SageMaker** has been a core element of its ML strategy. Frollo is now running most workloads on AWS, having chosen the platform for its data and analytics capabilities, built-in security controls, and ML tools. With SageMaker, Frollo's team of data scientists can build their own ML algorithms and retain control over training their datasets.

Results

- **Improved accuracy:** Frollo achieved a 95% accuracy rate for ML models that categorize transactions
- **Better performance for customers:** Frollo enables banks to return credit results in only 20 seconds instead of 3–5 minutes
- **Enhanced security and reduced risk:** Frollo solutions secure product reference data for banks and reduce risk in loan origination

"With Amazon SageMaker, we've never had an issue with application limits or performance. We're now measuring an end-to-end latency for transaction categorization and merchant identification of 1,500 milliseconds."

Tony Thrassis, CIO, Frollo



Enabling machine learning inferencing at scale

Amazon Robotics develops sophisticated machinery and software to optimize efficiency in Amazon fulfillment centers.

Opportunity

As a purveyor of cutting-edge technologies, Amazon Robotics has long known that using AI to automate key aspects of the fulfillment process represented extraordinary potential gains—so in 2017, it devoted teams to accomplishing just that.

Solution

As the company iterated on its ML project, it turned to AWS and used Amazon SageMaker—which can be used to prepare data and build, train, and deploy high-quality ML models quickly—to create solutions. Looking to reduce time-consuming bin scanning, Amazon Robotics built the Intent Detection System, a deep learning-based computer vision (CV) system trained on millions of video examples of stowing actions.



Results

- **Easier management:** Amazon Robotics team was freed from the difficult task of standing up and managing a fleet of graphics processing units (GPUs) for running inferences at scale across multiple regions
- **Larger cost savings:** Amazon saved the company nearly 50% on ML inferencing costs
- **Greater productivity:** Amazon Robotics unlocked a 20% improvement in productivity
- **Better scalability:** The system is able to scale horizontally during rollout, and the team is confident it can handle peak inference demands

“Amazon SageMaker doesn’t just manage the hosts we use for inferencing, it also automatically adds or removes hosts as needed to support the workload.”

Eli Gallaudet, Sr. Manager, Software Development, Amazon Robotics



Helping sellers become trusted advisors to buyers

Showpad is a global leader in sales- and revenue-enablement technology. It integrates industry-leading training and coaching software with innovative content solutions to empower sales and marketing teams to engage the modern buyer.

Opportunity

Generative AI allows buyers to access information that only salespeople previously had access to in order to inform their purchasing decisions. To meet buyer expectations, Showpad needed to innovate their seller roles to help prospects and customers make sense of information in the context of the customers' specific business challenges.

Solution

Showpad embedded AI innovation throughout the product experience and was able to rapidly experiment and subsequently push new models to production by relying on **Amazon Bedrock** and **Amazon SageMaker**. PitchAI, Showpad's latest sales coaching software, helped improve pitch quality with actionable feedback in real time. PitchAI's AI-powered search enriched search results, reducing sellers' time spent looking for the information. Its AI-powered test questions also streamlined the process of creating training materials for sellers.

Results

- **Improved experience:** Showpad was able to add value during the sales process and build buyer trust and confidence
- **Automated workflow:** Showpad relieved time-consuming administrative tasks, allowing salespeople to focus on innovation
- **Enhanced decision making:** Showpad was able to drive better conversations that empowered more effective decision making in solving customer challenges

"Showpad is leveraging AI to improve how sales and marketing teams partner together in pursuit of a shared goal—closing more deals. It enables sellers to focus more time on what truly matters—bringing meaningful value to each buyer interaction."

Tony Grout, CPO, Showpad



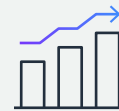
Machine learning services for accelerating innovation

Amazon SageMaker offers an end-to-end service to build, train, and deploy machine learning models for any use case with fully managed infrastructure, tools, and workflows



Make machine learning more accessible

Enable more people to innovate with ML through a choice of tools—integrated development environments (IDEs) for data scientists and no-code visual interfaces for business analysts.



Prepare data at scale

Access, label, and process large amounts of structured (tabular) data and unstructured data (photo, video, audio) for ML.



Accelerate machine learning development

Reduce training time from hours to minutes with optimized infrastructure. Boost team productivity up to 10 times with purpose-built tools.



Streamline the machine learning lifecycle

Automate and standardize MLOps practices across your organization to build, train, deploy, and manage models at scale.

SUCCESS STORIES

Improving the customer experience

Many organizations are turning to the intelligent, predictive powers of AI to enhance the customer experience and improve customer engagement. If customer service and support via contact centers are critical for your business, you're likely to find practical inspiration in the following five success stories. Read on to discover how State Auto, Discovery Education, WaFd Bank, Segment, and Philips are demonstrating the transformative power of AI to elevate customer satisfaction scores.





Building an AI-powered contact center to improve call experience

State Auto provides insurance in nine lines of business—three of which include auto, home, and commercial—through independent agents and agencies in 33 US states. State Auto was looking for new ways to improve the service experience for both its customers and customer service representatives (CSRs).

Opportunity

To meet quality and customer satisfaction score goals, State Auto sought new technology solutions. Access to data-fueled insights could help build a better service experience and equip CSRs with information to better understand and anticipate the requirements of their customers.

Solution

State Auto used **Amazon Transcribe**, which converts speech to text quickly and accurately, to create 15 ML models built with data. These models were leveraged by the **AWS Contact Center Intelligence (CCI) Post-call analytics (PCA) solution**, which provides CSRs with access to insights to help address calls from customers. Web applications also improved, so customers could avoid the hassle of calling for information.

Results

- **Workflow automation:** State Auto completed work that previously required 8–10 employees
- **Accelerated claims processing:** State Auto assessed 5,000 claims calls per week for call experience, caller, and call reason attributes
- **Faster insights:** State Auto gained insights on an entire department in only 20 minutes using call listening
- **Cost savings:** State Auto saved an estimated \$800,000 in service operating expenses

“State Auto was able to derive insights from millions of calls made to CSRs by using Amazon Transcribe. Because AWS services do their job so well out of the box, we have the flexibility to be creative and build things on top of them.”

Uthra Ramanujam, VP of Strategic Technology Research, State Auto



Helping educators deliver personalized learning experiences

Discovery Education transforms teaching and learning by empowering teachers with customized solutions that support learning wherever it takes place. This state-of-the-art digital platform supports edtech learning with award-winning multimedia content, instructional support, and innovative classroom tools. Discovery Education serves approximately 4.5 million educators and 45 million students in nearly 100 countries and territories.

Opportunity

Educators are constantly connecting to high-quality, standards-aligned digital content. To help increase efficiency, productivity, and engagement with students, Discovery Education was looking to incorporate personalization into every aspect of the customer experience. They sought an AI solution to ensure the delivery of tailored and relevant content to match individual users' patterns and preferences.

Solution

Discovery Education transformed the customer experience with personalized recommendations by embedding **Amazon Personalize**, a fully managed ML service that uses data to power personalized recommendations, into its enhanced learning platform. On Discovery Education's homepage, the "Just For You" area allows educators to connect to a unique, adaptive, and personalized set of resources based on grade level taught, preferences, and resources they have found useful in the past. Discovery Education was able to avoid the burden of building the model by using this AWS-managed AI solution.



Results

- **Higher engagement:** Discovery Education had a 229% increase in homepage click-through rate and a 220% increase in high-value interactions with content, such as assigning, downloading, and sharing
- **Better personalization:** The solution delivered personalized experiences to match users' patterns and behaviors

"Our goal is to use machine learning to better match what we know about our educators, and what we know about our students, and how our platform is being used. By using Amazon Personalize, we are able to personalize our K12 learning platform. As a result, we have seen a 229% increase on click-through-rate."

Pete Weir, CPO, Discovery Education



Leveraging conversational artificial intelligence to improve the customer experience

WaFd Bank is based in Seattle, Washington, with over 200 branches across eight states.

Opportunity

Over the past decade, the banking industry has been disrupted by new embedded finance applications and digital-only banks. To compete digitally and meet changing customer expectations, WaFd was looking to improve the customer experience in its contact center by innovating with conversational AI.

Solution

WaFd built a new solution that would implement conversational AI and voice identification technology using **Talkdesk**, an AWS Contact Center Intelligence Solutions Partner. WaFd also utilized **Amazon Lex**, a fully managed AI service with advanced natural language models, to design, build, test, and deploy conversational interfaces in applications, including chatbots and voice bots. **Amazon Polly**, an AI service that deploys high-quality, natural-sounding human voices, was leveraged to allow customers to talk with virtual agents using voice instead of text.

Results

- **Faster claims processing:** WaFd reduced the time to make an account balance inquiry by 90%
- **Unified experience:** WaFd enhanced the agent experience for managing voice and chat interactions in the contact center, which further improved the customer experience

“We’re getting incredible data from AWS through the conversational logs. That has given us insights into what our customers are asking for so that we can add more self-service functionality.”

Dustin Hubbard, CTO, WaFd Bank & Pike Street Labs





Creating custom recommendations to empower customer experiences

Segment is a customer data infrastructure company that helps its clients collect and unify their data. Using this data and AWS AI solutions, Segment allows organizations to deliver personalized recommendations that create meaningful customer experiences.

Opportunity

Segment recognized that many of its customers did not have the data necessary to power and perform personalized recommendations. To meet this need, the company set out to provide a central hub in which to collect, train, and track all data, as well as run an ML pipeline. With this system, Segment helps its clients deliver product and content recommendations based on their customer data.

Solution

To help run workloads and process over 450 billion events per month, translating to roughly 250,000 requests per second, Segment turned to the power of AWS. Its solution involved using thousands of **Amazon Elastic Compute Cloud** (Amazon EC2) instances and running more than 16,000 Docker containers on **Amazon Elastic Container Service** (Amazon ECS). This data feeds into **Amazon Personalize**, resulting in improved customer experiences.



Results

- **Enhanced insights:** Segment generated insights from all data across all apps
- **Improved customer experiences:** Segment discovered its customers' needs and translated the data easily into recommendations and world-class experiences
- **Accelerated growth:** Segment was able to move fast to propel business growth

"It's a beautiful synergy where they can spin up Segment easily from day one and get going collecting all their data. Then, they can use that data to power recommendations without having to build out their own machine learning pipeline using Amazon Personalize."

Calvin French-Owen, CTO & Co-Founder, Segment



Supporting clinicians with advanced artificial intelligence-enabled tools

Philips is a global leader in health technology whose purpose is to improve people's health and well-being through meaningful innovation. It aims to improve 2.5 billion lives per year by 2030, including 400 million in underserved communities.

Opportunity

Philips was looking to improve accessibility across the entire image workflow for radiologists and clinicians. This would result in reduced costs of hardware and on-premises data centers. In addition, it sought solutions that could manage growing workloads by accelerating time to diagnosis and enhancing patient outcomes.

Solution

Philips HealthSuite Imaging on AWS helped improve image access speeds, reliability, and data orchestration for radiologists and clinicians across the entire imaging workflow. With HealthSuite on AWS, healthcare organizations reduced costs previously invested in on-premises hardware or data centers to host their image management platform. Philips delivered a faster time to the first image, provided easy reuse of images for ML and research, and reduced medical imaging costs using **AWS HealthImaging**.

Looking forward, **Amazon Bedrock** can help accelerate the development of generative AI applications, which will provide clinical decision support, help produce more accurate diagnoses, and automate administrative tasks.



Results

- **Decreased costs:** Philips reduced operational costs by moving its image management platform to AWS
- **Easier management:** Philips HealthSuite Imaging improved health data interoperability
- **Informed decision making:** Philips empowered data-driven decision making for clinicians
- **Improved access:** Philips was able to increase access to quality patient-centered care

“With healthcare systems under increasing pressure, the focus of clinicians has shifted from technical specifications towards more efficient workflows that lead to accurate diagnoses—and that’s what we are delivering here.”

Shez Partovi, Chief Innovation & Strategy Officer, Business Leader Enterprise Informatics, Philips

Solutions to improve the customer experience

Virtual agents and chatbots

[Amazon Bedrock](#)

[Amazon Lex](#)

[Amazon Polly](#)

AI-enabled contact center

[Amazon Connect](#)

[AWS Contact Center Intelligence \(CCI\)](#)

[Amazon Transcribe Call Analytics](#)

Personalization

[Amazon Bedrock](#)

[Amazon Personalize](#)

Prepare data and build, train, and deploy machine learning models with Amazon SageMaker

Organizations that want to develop their own models can execute against any of the above use cases with [SageMaker](#). The end-to-end service provides pre-built models and purpose-built tools for every stage of the AI lifecycle—and even includes no-code tools for business analysts to generate ML predictions.

SUCCESS STORIES

Optimizing business operations

With its ability to process massive amounts of data quickly and intelligently, AI can help organizations streamline operations, automate processes, and predict business outcomes. This can help improve productivity and augment team capabilities. The following success stories from Elevance Health and Cargotec demonstrate how core business operations can be optimized with the power of AI.





Enabling intelligent claims processing

Elevance Health, previously known as Anthem, is one of the largest health insurance providers in the United States. The company's stated mission is to deliver better care to its members, provide greater value to its customers, and improve the health of communities.

Opportunity

Health insurance companies spend millions of dollars to extract sensitive information from claims forms and accompanying attachments to perform their business operations. At Elevance Health, it took an average of 20 minutes per claim to manually extract this information. To reduce manual labor, the company wanted to automate the process.

Solution

Elevance Health digitalized and automated its claims process using **Amazon Textract**—an AI service that automatically extracts printed text, handwriting, and other data from scanned documents. Elevance Health chose Amazon Textract for its image processing capability, ability to detect tables and forms, and adherence to security and compliance standards.



Results

- **Faster claims processing:** Elevance Health can now extract and digitize data to quickly process thousands of claims each day
- **Workflow automation:** The solution automatically indexes and makes text available for batch processing from about 80% of forms, and Elevance Health has reached 90% automation

"We hope these kinds of technologies will help us... move Anthem to a digital-first organization."

Reddi Gudla, Staff VP, Elevance Health



Driving sustainable solutions for intelligent cargo handling

Cargotec operates in more than 100 countries and provides cargo-handling machinery and logistic solutions for ships, ports, and terminals.

Opportunity

Cargotec made a goal to cut its carbon dioxide emissions in half by 2030. To make it happen, Cargotec drives efficiency and sustainability by providing customers with electric solutions and collecting data with its Internet of Things (IoT) solution. While aiming for digital transformation of cargo and load handling, Cargotec's mission is to provide smarter cargo flow for better everyday life.

Solution

Cargotec's data-driven services team built its IoT and data analytics solution using **Amazon SageMaker** to create models to support data-driven digital services. Using SageMaker and other AWS services, Cargotec turns its data into insights, which has led to more efficient, sustainable, and cost-effective operations.

Results

- **Improves sustainability:** Cargotec used an ML model to enable customers to estimate operational costs and save on emissions when transitioning to machines like electric forklift trucks
- **Controls costs:** Adopting serverless technologies has helped Cargotec improve cost-efficiency
- **Delivers predictive analytics:** Cargotec data scientists can use ML to access and explore hundreds of terabytes of stored data from their machines

“Using AWS solutions, we distill information from service data, maintenance data, and equipment-usage data to improve customer operations and provide better uptime for our customer equipment.”

Pekka Mikkola, Director, Data-Driven Services,
Cargotec



Solutions to optimize business operations

Intelligent document processing

[Amazon Augmented AI](#)
(Amazon A2I)

[Amazon Comprehend](#)

[Amazon Comprehend Medical](#)

[Amazon Rekognition Content Moderation](#)

[Amazon Textract](#)

Fraud detection

[Amazon Fraud Detector](#)

Supply chain optimization

[Amazon Bedrock](#)

[Amazon SageMaker Canvas](#)

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Solutions to boost employee productivity

Content discovery

[AWS Enterprise Q](#)

Content creation

[Amazon Bedrock](#)

[AWS Enterprise Q](#)

Text summarization

[Amazon Bedrock](#)

[AWS Enterprise Q](#)

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NEXT STEPS

Start realizing the business value of artificial intelligence today

AWS offers the most comprehensive selection of AI services and solutions to solve the most challenging and important business use cases. That's why more than 100,000 organizations use AWS to accelerate their AI journeys.

Explore AWS AI services that fit your business needs—and learn how to get started today.

Accelerate your AI journey with AWS ›

