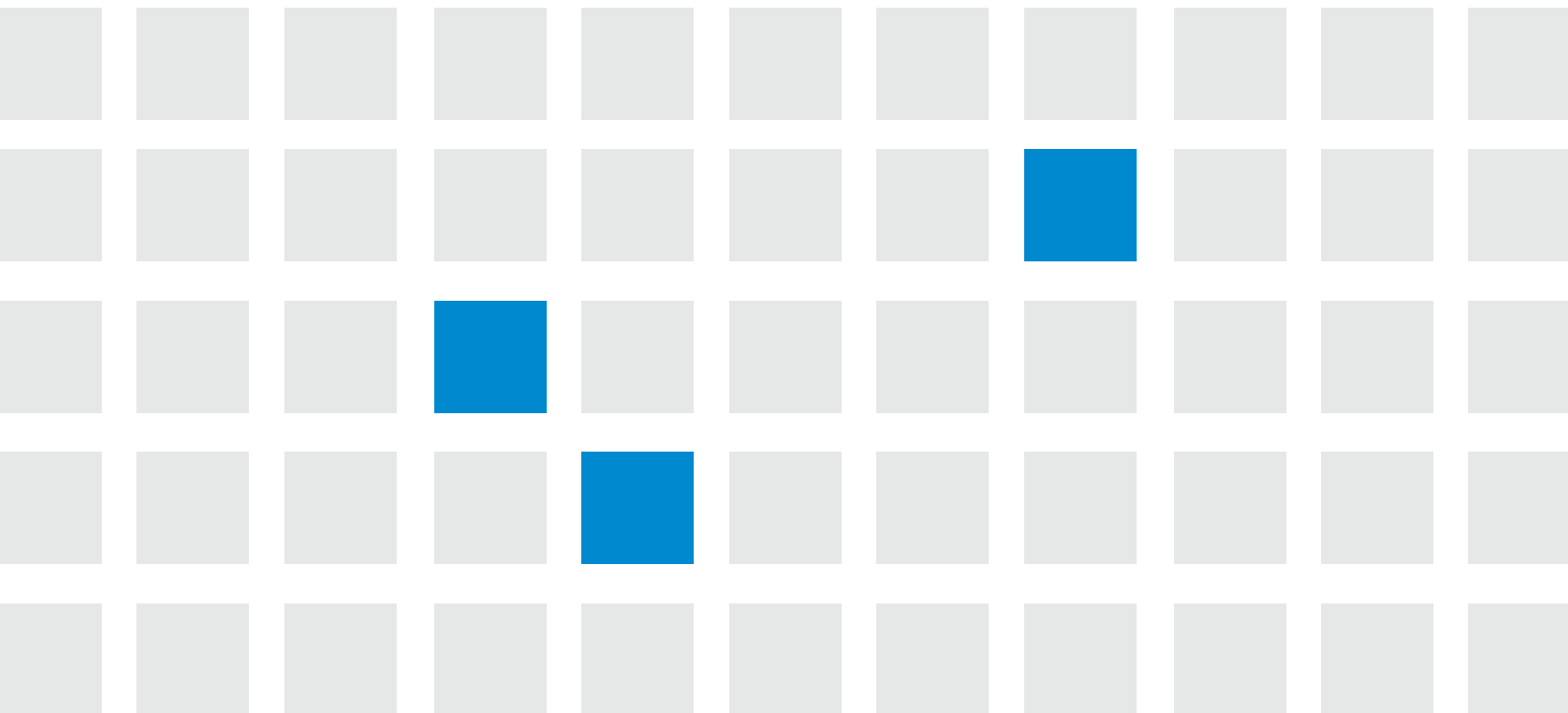


Differentiate your apps with intelligent technology

How software vendors are using artificial
intelligence to bring greater value to customers



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Differentiate your apps with intelligent technology helps you see how artificial intelligence (AI) can bring value to your customers.

Innovation is important to you, and to your customers. By using the Microsoft Azure AI platform, you can start delivering innovation faster than you thought possible. In this e-book, we show you how companies like yours are using AI services, such as machine learning and cognitive services, to make their apps more useful to their customers.

Who should read this e-book?

You're a software provider who recognizes that AI can give your apps a competitive edge—but you need to convince others in your organization. The real-world success stories in this e-book offer inspiration and evidence to help your apps stand out in a crowded marketplace.

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Introduction

As a software vendor, you know that offering innovative solutions with built-in intelligence is becoming a requirement in today's application marketplace. On top of

this, you need to bring your apps to market as quickly as possible while providing more value for your customers, without incurring additional development and operating costs.

Microsoft has been investing heavily in AI, extending a breadth and depth of intelligent services ready for use in the cloud. This enables you to jump in quickly to make use of existing tried-and-true AI models, and focus more effort on delivering quality products to customers.

High-level services to jump-start your intelligent apps

One of the key benefits of working with the Microsoft Azure AI platform is that the hard work has already been done. Developers can make use of services with pre-trained, customizable models rather than having to build their own models from the ground up. You can refine these models to better suit your customers' needs and business objectives. By

combining bots with AI services, you can create next-level customer interactions, bringing innovative interfaces and better accessibility to your applications.

With Azure, you can extend and innovate with Azure Machine Learning and Azure Cognitive Services. Azure Machine Learning provides highly scalable infrastructure that allows you scale out and in based on immediate demand. AI capabilities built into the infrastructure can even help you with the scaling process. Azure Cognitive Services allow your apps to see, hear, speak with, and understand your users. Together, these capabilities enable you to take your apps to new markets—with less time investment, code changes required, or need to acquire new specialized data science skills.

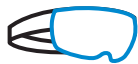
Success stories

To give you a clear picture of the capabilities and benefits of integrating AI as a service into your applications, this e-book looks at some real-world examples of software vendors using AI to bring greater value to their customers.

In these case studies, you'll see how AI can help you:



Inspect and categorize massive data stores to make information searchable and accessible, replacing the need for manual processing.



Create engaging, interactive training environments through virtual and augmented reality.



Improve the speed and accuracy of data entry, such as contact information.



Provide people working in the field the up-to-date information and actionable insights they need.



Accelerate crime investigations, while taking precautions to protect the privacy and security of people's data.

These are just a few possibilities that can be realized by bringing Azure AI services to your application.

Now let's learn how some other software vendors have been using Azure AI to their advantage.

Making it easier for media companies to discover their own content

IDC estimates that, with the digital universe growing at 40 percent per year, by the year 2020 the data we create will reach 44 zettabytes (IDC, 2014).¹

Many broadcast and media companies have so much content, it's overwhelming trying to find the right piece when they need it. Tagging content manually can help, but this takes time. And it's not just text files that need to be evaluated and indexed, but also photographs, video, and other multimedia files—and the metadata they contain. These need to be processed in massive volumes. For some companies, it can be just as efficient to recreate digital assets instead of discovering them.

Helping customers struggling with their own data is a core issue **GrayMeta**, a California-based firm, is addressing by infusing their platform with intelligent technology.

The GrayMeta Platform analyzes a customer's file systems—on-premises and in the cloud—and extracts, indexes, and makes searchable the metadata from all the files it finds. The

platform can do this with the help of computer vision and other AI services. This not only frees people from having to manually review and tag content—which is not only time-consuming but prone to error—but speeds up the process immensely.

With scalable services, GrayMeta's platform also reduces operating costs, as these costs are tied to the volume of computation used, as opposed to needing full-time resources available on-premises.



"We wanted to get away from making people sit through video content and tag it manually. If the product requires a lot of human training before it can recognize things on its own, that kind of defeats the purpose."

— Aaron Edell, Chief Product Owner, GrayMeta

¹ EMC Digital Universe with Research & Analysis by IDC. *Data Growth, Business Opportunities, and the IT Imperatives*. 2014. Retrieved from: <https://www.emc.com/leadership/digital-universe/2014iview/executive-summary.htm>

Key features of the Computer Vision API for GrayMeta include facial recognition, celebrity detection, image recognition, and adult content detection. The Emotion API is used to analyze faces and determine what sort of emotion the person is displaying. For example, combining the two APIs makes it possible to search for a video of a specific celebrity looking happy, sad, or surprised.

GrayMeta developers found it very easy to integrate the Cognitive Services APIs into the GrayMeta Platform. In doing so, they didn't have to invest heavily in the development of the intelligence and modeling that would have been associated with building their product from scratch. With the benefit of incorporating pre-trained models, the process of implementing the APIs took only a few hours. The development team was able to quickly build upon the power built into the APIs, which Microsoft also continually updates and improves.



"Because the Cognitive Services APIs harness the power of machine learning, we were able to bring advanced intelligence into our product without the need to have a team of data scientists on hand."

— Aaron Edell, Chief Product Owner, GrayMeta

Using existing scalable services and pre-trained AI models enables application developers to jump-start their delivery of highly intelligent applications or services without having to build intelligence platforms of their own. This leads to faster time-to-market, and frees developers to focus on innovative features that better serve their customers. And the raw ability to process large data volumes—combined with the ability to scale out or in based on the immediate demand—enables organizations to handle massive amounts of data in a cost-efficient manner.

The GrayMeta Platform helps its customers discover content more efficiently and intuitively. GrayMeta is also hoping to have a wider impact with its platform. They can see possibilities in such sectors as law enforcement and healthcare, where massive repositories of content have also proven challenging to discover—and the stakes for finding information fast can be crucial.

The applications of intelligent technology can be far and wide, as we'll continue to learn in this e-book.

Enhancing capabilities for training new salespeople

In addition to automating high-volume tasks, AI can change the way humans interact with technology. Virtual, augmented, and mixed reality (VR/AR/MR) can bring people into a simulated world. When coupled with intelligence able to interpret and react to human speech, gestures, and even emotion, VR/AR/MR can change the way people study and learn.

For instance, consider your salesforce. How do you educate your new sales personnel? Learning from experience in the field can be expensive as well as challenging to measure and correct an employee's approach. But what if you could train your sales team in real-life client scenarios without leaving the office?

Brainshark, a Massachusetts-based software provider, answered this question by enhancing their industry-leading solution with intelligent technology. In doing so, they brought sales enablement to the next level with a cloud-based sales training and readiness platform. They've reinvigorated their sales training content, making it more effective, long-lasting—and even fun.

The Brainshark platform helps salespeople practice presenting materials to virtual clients before working with actual clients in the field. With this platform, customers can help their salesforce cut costs on the resources needed for sales training while maximizing the effectiveness of sales engagements.

In Brainshark Labs, a revolutionary new chapter is unfolding.



"Now, companies are simply pushing salespeople into the field and they're learning through experience—a ridiculously expensive way to train. Every deal lost due to lack of confidence costs the company real money. If we can minimize that and actually get salespeople ready to sell, it'll have a huge impact on productivity."

— Jim Ninivaggi, Senior Vice President,
Business Development, Brainshark

The newest generation of Brainshark will enhance their industry-leading core solution on Azure with the newest Microsoft developments in AR, motion sensing, biometrics, AI, machine learning, and analytics. These capabilities will transform how Brainshark's customers prepare their people for selling.

The new Brainshark sales training solution provides a completely immersive simulation environment that merges AR and AI. In contrast to VR technologies, AR technologies such as HoloLens combine real-world spaces with virtual elements. Salespeople can practice and master their presentation performance with a virtual audience before ever being in a room with a live client. Data captured from practice sessions can be fed into analytics and used for optimizing pitch content and ongoing coaching from sales managers.



"Companies need to keep salespeople in the field while simultaneously enhancing their knowledge and skills so they can have better, more productive conversations with clients."

— Jim Ninivaggi, Senior Vice President, Business Development, Brainshark

But Brainshark's innovative learning tools don't end with collecting trainee information. Adding to the experience is motion-sensing technology that tracks important physical cues to analyze the trainee's comfort level and confidence.

In addition, the behavior of client avatars in the simulation environment is driven by AI algorithms (vision, speech, language, knowledge) and machine learning. As trainees make their pitches, the avatars respond in a human-like fashion. For example, if a trainee lacks energy, avatars may act bored and start checking their mobile devices. Avatars may also test the trainee's preparedness to respond effectively by posing unexpected objections.

Imagine this type of learning technology being put into use in other scenarios, offering training and education, or even therapeutic services in a virtual environment. AR/VR/MR, coupled with AI, can bring about a paradigm shift in the ways people can learn, adapt, and hone new skills.

Capturing up-to-date customer data without typing

How can people input data on their mobile devices faster and more efficiently? It's an issue common to any company with employees in the field, particularly sales. They need to collect customer information and generate leads—on the fly but also accurately.

The Finnish company Blucup found a way to enable its salespeople to do this, building a solution to capture customer data. And they did it by removing existing interfaces from the equation.

First, let's take a step back and think about how human interfaces have been innovated in the past. Consider telephone technology. The initial widespread use of the telephone involved connecting with a human operator to request a connection to another phone user. This progressed to user input via a rotary dial, then to push buttons, cordless, mobile—eventually to mobile smart phones with touch, speech, and most recently facial recognition. Intelligent apps can now make use of touch, gesture, voice recognition and language understanding capabilities to better interact with people, foregoing the need for buttons or keyboards.

Blucup created the Zero Keyboard, which employees use to quickly add data to the customer relationship management (CRM) system on mobile devices. Instead of typing, they use touch gestures, voice, and pictures.

In developing the Zero Keyboard app, Blucup investigated the Computer Vision and Speech APIs offered by Microsoft Cognitive Services—and found these were a perfect fit for what they were trying to create. These APIs brought intelligence into the app. As a result, Blucup gets accurate and high-quality data and meets customer needs in innovative ways.



"We tried many different options for Zero Keyboard, and this [Computer Vision API] is the best-performing API we've found—our customers get accurate results."

— Jaan Apajalahti, CEO, Blucup

By including speech and vision capabilities in the Zero Keyboard mobile app, Blucup made it possible for sales representatives and other users to record voice memos and take photos of business cards or identification badges, translate both speech and images into text, and upload the data into their CRM system. This approach reduced the likelihood of people forgetting information, or making mistakes in data entry. Information is accurately recorded immediately, giving people a faster, more accurate way to store important data.



"Microsoft Cognitive Services gives us a huge range of opportunities. It's a perfect match for us now, and in the future when we want to add more features to our app."

— Jaan Apajalahti, CEO, Blucup

Blucup's app can have a positive impact on a company's CRM systems, helping to keep data up-to-date and increasing data quality. The solution provides customers with accurate results and rich features—and Blucup is continuing to explore adding and refining capabilities for customers in the future.

Helping salespeople close more deals with improved access to information

Companies want to bring their new products and services to market faster.

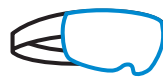
It's a major reason behind their investments in digital transformation. But late in this journey, many of these companies are hitting a roadblock: sales quoting and contracting.

This is an important step in the process, but one that can be limiting to digital transformation efforts. Salespeople don't always have easy access to information that's critical to closing deals—like up-to-date pricing, existing entitlements, and contractual information.

To support companies with this issue, the California-based business software provider **Apttus** developed their pioneering Quote-to-Cash (QTC) solutions. Using intelligent technology, these solutions optimize product configuration, pricing, quoting, contract lifecycle management, B2B e-commerce, billing, and revenue management. And they're powered by Apttus' next-generation platform, Apttus Intelligent Cloud.

Apttus designed, developed, and delivers its Apttus Intelligent Cloud using cloud services,

including intelligence services and APIs from Microsoft. By using Microsoft Azure, Apttus can provide what enterprise customers want: innovative, AI-driven business outcomes; superior flexibility to support a variety of IT configurations; and the power to manage complex, compute-intensive business processes.



"We're at the forefront of enabling optimized quote-to-cash business processes. We are creating new user experiences such as a virtual assistant, augmented reality, and machine-learning systems that get smarter as people use them. Azure can support us in all these areas."

— Alan Manuel, General Manager, Apttus Intelligent Cloud

Apttus integrated predictive analytics and innovative customer engagement into its

Apttus Intelligent Cloud. Their cloud applies AI and deep-learning technologies to discover and dynamically recommend relevant, intelligent actions that will help salespeople increase the size and speed of deals. When a salesperson takes an action, Apttus Intelligent Cloud looks at similar sales scenarios and advises the sales rep on the best, most profitable next step.

Using existing language understanding and bot service capabilities helped the company bring their product—and intelligent speech-based and text-based user interfaces—to market at least six months sooner than would have been possible otherwise.



"From announcing our new platform direction to our first customer going live was 12 months—an insanely fast development. A lot of that speed was due to the capabilities that are built into Azure. Azure helped us expand our product portfolio and quickly bring innovations like Max, our virtual assistant, to market. With Microsoft cloud technologies, our customers can achieve outcomes that simply were not possible before."

— Alan Manuel, General Manager, Apttus Intelligent Cloud

By partnering with Microsoft, Apttus can devote more financial resources to things that are of higher value to customers, such as hiring developers—versus buying servers and orchestration software.

AI can be a powerful tool to enhance our ability to do work. Applied AI helps companies address the common challenge of the top 10 percent of a salesforce generating 90 percent of a business's revenue. Machine learning looks at what makes those top sellers successful. These insights are available for other team members to learn from, emulate, and use to further individual and team success.

Applied AI is able to draw from the wealth of data created by past transactions, evaluate ongoing interactions against historical data, and provide suggestions on how best to proceed. This makes the combined knowledge of an organization available to employees—bringing actionable insights to the people who need it, when they need it.

Clearing crime investigations faster with automated digital processes

AI can extract new levels of insight from a sea of data—photographs, audio, video—with incredible speed and accuracy. It can also provide levels of security and privacy protection that can make AI a very powerful tool in law enforcement.

Yet while the ability to use intelligent technology to evaluate and index data is of great importance to solving crimes, these capabilities are of little use if privacy is placed at risk.

A leading global provider of IP security solutions, Canada-based **Genetec Inc.** created an automated case management system. The solution is improving efficiency, collaboration, and public safety by providing a secure, centralized way for law enforcement and security teams to access, analyze, and share videos and other digital evidence. But it's also protecting people's privacy through a patented user interface that runs on top of redaction technology.



"We leverage a lot of Azure components out of the box, which is really helpful in terms of rapid time-to-market. And for the marketspace we're addressing, it's a huge benefit to be able to use Azure Government and take advantage of CJIS compliance along with some of the more advanced capabilities on the Azure platform."

— Erick Ceresato, Product Manager, Genetec Inc.

Through solutions such as Genetec Clearance, the software provider is simplifying collaboration by eliminating manual processes. For instance, police recording an incident no longer need to make multiple copies of the video for multiple stakeholders. Instead, they can put these files in a central location within reach of each concerned organization.

A more efficient system for evidence also leads to another important benefit: more time to create safer communities.

Genetec is taking advantage of machine learning capabilities hosted on the Azure Media Services platform. For example, using the built-in indexer, the company can automatically generate captions or metadata, and enable users to easily search and analyze multiple files. In addition, the company is working closely with the Microsoft Research team on a capability that detects and tracks faces across multiple video frames.



"With Genetec Clearance, police and security departments can more efficiently process files for an investigation. And because they're processing cases much faster, they can spend more time in the field protecting the community."

— Pota Kanavaros,
Product Marketing Manager, Genetec Inc.

Genetec is also planning to expand its analytics capabilities. To do this, they're exploring Azure Data Lake Analytics to start querying large amounts of information. This will allow them to present statistics, such as the location of surveillance devices and incidents, and enable their customers to better align their security resource spend.

Using data storage technologies with limitless scale is critical for large-scale analytical applications, but its value is vastly increased when coupled with tools that possess the ability to process these massive data stores intelligently and securely, continuing to adapt and learn along the way.

Conclusion

Advances in intelligent technology augment and magnify what you're able to offer customers through your apps. And Microsoft—our experts, researchers, and developers—have been at the forefront of this progress. In fact, we've been driving it as an industry leader in AI with more than 25 years in the field.

Microsoft Azure offers the most comprehensive set of tools to help you integrate these new technologies into your apps. These technologies can scale dynamically to process very large volumes of data at blazing speed. This means that customers using your apps will be provided with actionable insights quickly.

Our intelligence models can process the world of text, images, sound, and video with great accuracy. With these models, you can enable customers greater efficiency in using your apps, which will have the added benefit of giving them more time for value-creating work.

Azure helps you develop apps and technologies that reshape the way we learn—and help your products compete in the



Take the next step

1. Learn more from [this webinar](#) about how to differentiate your apps with Microsoft AI tools and services.
2. Read an [Introduction to Machine Learning in the Azure cloud](#).
3. Dig into the [APIs for operationalizing your models and analytics with Machine Learning Server](#).
4. Prepare your business to deliver growth and innovation with the IDC e-book, [Partnering for Success: Building Apps in the Cloud](#).



Sell your apps

Microsoft even helps you market the apps you build with Azure AI capabilities. To get started, visit [Microsoft AppSource](#), the premier destination for top apps.

marketplace. Our AI capabilities also allow you to interpret our speech, gestures, and facial expressions and understand what they mean.

These capabilities are available out-of-the box with powerful capabilities ready to integrate into your apps, and provide unique value to your customers. They can be combined and packaged quickly, allowing your developers to focus on the features that matter to your users. They can be extended and modified to suit the specific needs of your customers, bringing your innovation directly to their lives.

Resources

[Metadata experts unlock hidden value stored in video with computer intelligence tools.](#)

[Powered by Microsoft, Brainshark takes sales enablement to the next level.](#)

[Finnish company creates application to capture up-to-date customer data without typing.](#)

[AI expert helps salespeople close more deals.](#)

[Clearing crime investigations faster with automated digital processes.](#)

[Data Growth, Business Opportunities, and the IT Imperatives.](#)