

Microsoft's vision for AI in the enterprise

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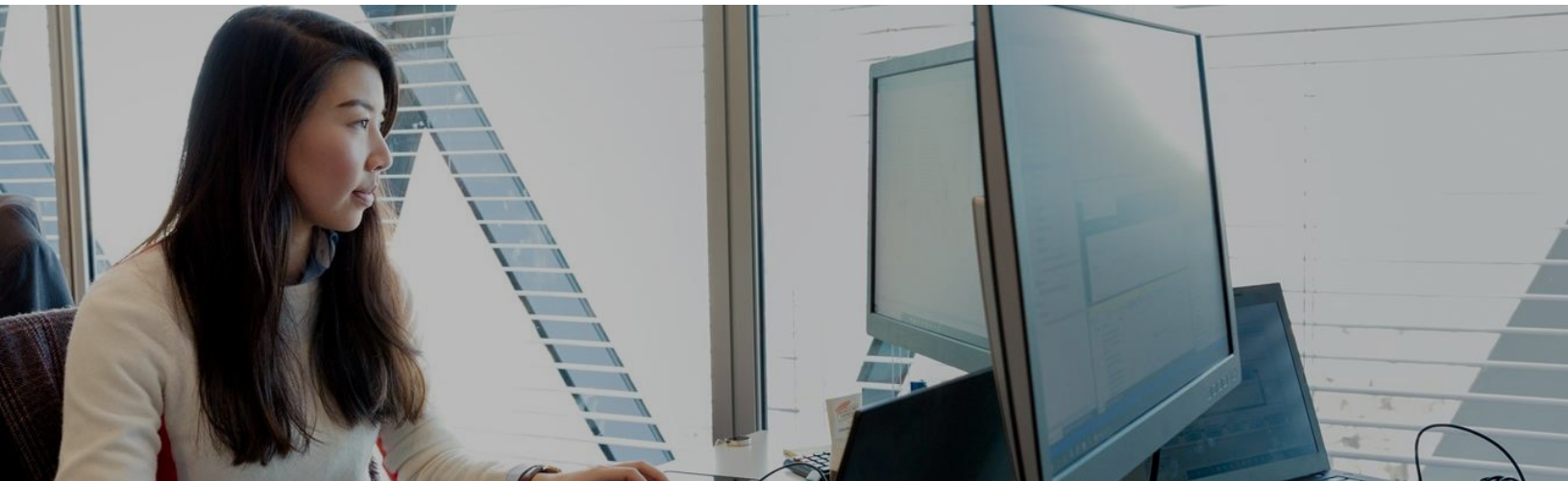
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The promise of AI is holistic transformation

AI technology is changing the way the world does business. A study by PwC calculated that global GDP will increase by 14% by 2030 as a result of AI adoption, contributing an additional $15.7T to the global economy (PwC, 2017).[1] In the next five years, business executives across the globe expect AI to have a positive impact on growth (90%), productivity (86%) and job creation (69%) in their country and industry (Economist Intelligence Unit, 2018).[2] And this growth isn't limited to specific industries. According to Gartner, "Any organisation in any industry, especially those with very large amounts of data, can use AI for business value." (Gartner, 2018).[3]

> *We want to pursue democratising AI just like we pursued information at your fingertips*
>
> *Satya Nadella* [4]

With such enormous potential, it's no wonder that enterprises are ramping up their AI spend. The majority of enterprises surveyed by Constellation Research are planning to increase their AI investment by more than 50% in 2018 (Constellation Research, 2018).[5]

But, there's a problem. While everyone knows AI has broad transformative potential, enterprises struggle to translate this potential into tangible advantages. Some of the key obstacles to organisations' progress with AI include "the requirements to establish a strategy and goals, justify projects and secure formal funding" (Gartner, 2018).[6] Without a comprehensive strategy, enterprises often utilise AI only for limited use cases.

However, these single-use cases only scratch the surface of the potential of AI. We believe the real power of AI rests in its ability to holistically transform enterprises and redefine business in ways that move beyond our imagination.

To make this happen, organisations need a long-term strategy and a technology partner that goes beyond providing run-of-the-mill solutions and acts as a strategic thought partner. As AI implementation continues to expand, this partnership must be capable of meeting the needs and concerns of the enterprise, such as security and scalability. It must also ensure that all employees, regardless of technical expertise, are able to benefit.

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Redefining the enterprise through AI

At Microsoft, we believe that enterprises can achieve far more with a comprehensive AI strategy rather than incremental changes through isolated use cases. Our vision for the enterprise is to enable every company to transform by bringing **AI to every application, every business process and every employee** – and as a result, achieve more than it ever thought possible.



Every application

Quickly and easily develop intelligent applications to create engaging user experiences and surface unprecedented insights.

One of the clearest use cases of AI is creating business applications with intelligent capabilities. Use of AI in applications is rapidly increasing; by 2021, 75% of commercial enterprise apps will use AI (IDC, 2017).[7] AI offers tremendous opportunity to increase the functionality of existing business applications and turn them into tools for more effective customer engagement and employee productivity. However, most organisations' app developers do not have the AI expertise needed to make this a reality.

To help developers integrate AI into every application, we are giving them the tools needed to build the next generation of smart applications where their enterprise data lives – in the intelligent cloud, on-premises and on the intelligent edge. By putting the reins of innovation in the hands of each developer, they can then build intelligent apps that can see, hear, speak, understand and interpret user needs.

To that end, Microsoft provides a comprehensive set of offerings to developers in the enterprise – ranging from flexible tools for those that want to build from the ground up, to plug-and-play APIs that integrate AI capabilities into apps with minimal coding requirements.

Comprehensive AI platform

To help developers and data scientists build intelligent apps, we are creating tools and services that make AI integration faster and easier. For example, we developed PowerApps for Dynamics 365, a powerful tool that enables faster innovation with a point-and-click approach to app design.

The Azure AI platform is no different. It features modern AI tools and services designed to help developers and data scientists create AI solutions easily, while maximising productivity. Users can choose from a large selection of templates, or start from a blank canvas, to build a custom app based on the Common Data Model. Popular deep-learning frameworks enable developers to harness intelligence with massive datasets on a platform with

Transform your organisation by bringing AI to...



Every application

Quickly and easily develop intelligent applications to create engaging user experiences and surface unprecedented insights.



Every business process

Enhance every business process with intelligence to expand customer engagement, optimise operations and improve offerings.



Every employee

Foster innovation and collaboration across the enterprise by placing AI in the hands of every employee.

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comprehensive support. And our enterprise-grade AI infrastructure runs AI workloads anywhere at scale.

To further simplify the creation of AI solutions, Microsoft also offers a comprehensive set of flexible and trusted AI services.

Trusted AI services

Our trusted AI services accelerate the development of AI solutions – from pre-built APIs, such as Cognitive Services and Conversational AI with bot tools, to platforms for building custom models such as Azure Machine Learning Studio.

Pre-built services (Cognitive Services) enable developers to make their apps more intelligent and engaging by infusing them with cognitive capabilities. These services are high-quality RESTful intelligent APIs for Vision, Speech, Language, Knowledge and Search. With just a few lines of code, developers that are new to AI can infuse their applications with cognitive capabilities to communicate with users in natural language, identify relevant content in images and recognise users by voice.

Custom models built on Azure Machine Learning Studio enable organisations to make better decisions, at any scale, when it matters. Azure Machine Learning Studio is a fully managed cloud service for data scientists and developers that helps them to easily prepare data and build and train custom models. Spanning from the edge to the cloud, users can access the service from any device – going from idea to deployment in a matter of clicks.

Data Science VMs save developers time by providing a ready-to-use image that can be provisioned on Azure. The image comes preinstalled, configured and tested with several popular tools that are commonly used for data analytics, machine learning and AI training. DSVMs offer on-demand elastic capacity for large-scale projects and a pay-as-you-go structure.

Knowledge Mining helps manage the chaos of data and tackles the challenges that distract developers from finding the information they need. Powered by Azure Search with built-in Cognitive Services, Knowledge Mining is an AI-first approach to content understanding. It pulls data from a variety of Azure data sources and applies a set of composable cognitive skills that extract knowledge. This knowledge is then organised and stored in a search index, enabling new experiences when exploring data.

Adobe integrated Microsoft Translator into their Adobe Experience Manager (AEM), an enterprise content management platform for managing web content, digital assets, online communities, mobile applications and forms. With Microsoft Translator, users can dynamically translate their content into more than 50 languages to extend their reach around the world.

UBER To protect against fraud and ensure both driver and passenger safety, Uber used face recognition APIs in Microsoft Cognitive Services to enhance their mobile applications. They needed a visual verification solution that was fast, easy, scalable and functional across a variety of smartphones. With the Face API, Uber was able to add photo-matching technology to their platform to help ensure the driver using the app matches the account on file.

Conversational AI

One of the most compelling use cases for AI in the enterprise is creating chatbots or virtual agents. These solutions meet customer demand for intuitive, personalised, accessible touchpoints across all channels – as well as supporting employees by helping them connect to resources more quickly. Gartner estimates that "25% of all customer service and support operations will integrate virtual customer assistant or chatbot technology across engagement channels by 2020, up from less than 2% in 2017" (Gartner,

PROGRESSIVE Progressive used Microsoft Azure Bot Service and Cognitive Services to quickly and easily build the Flo Chatbot – currently available on Facebook Messenger – which answers customer questions, provides quotes and even offers a bit of witty banter in the well-known style of the company spokesperson, Flo.

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2018).[8] As chatbots and virtual agents become more ubiquitous, developers must ensure their conversational interfaces rise above the competition.

Most of today's chatbots are designed to respond to simple commands and queries, such as giving a weather report, playing a song or sharing a reminder. These simple chatbots are efficient when the user's need aligns with the chatbot's specific purpose. But for complex communication, intelligent assistants need to be able to understand meaning, learn from interactions and have natural dialogues that move beyond simply responding to commands.

Microsoft offers a wide array of Conversational AI technologies to support the creation of intelligent bots: from a simple QnA bot, to a robust virtual agent that can learn continually and maintain a seamless, personalised conversation across channels. Regardless of their needs, Microsoft is helping enterprises build conversational interfaces that interact with users in more natural ways, enabling them to create outstanding customer experiences and help employees maximise their time.

For developers that want to create their own conversational bots, we offer industry-leading NLP capabilities through the Azure Bot Service and Cognitive Services Language APIs. These language services help ensure apps understand the meaning of a speaker's query and reply using natural language. For instance, developers with varying levels of AI experience can experiment with the Text Analytics API to identify sentiment and key phrases or leverage Language Understanding for contextual understanding.

In addition to providing tools for developers to build their own bots, Microsoft is investing in the next generation of enterprise-ready virtual assistants, so organisations can start reaping the benefits of a conversational AI experience immediately. Using industry-leading AI technology, Microsoft virtual assistants are able to better serve the needs of both enterprise customers and employees. For customers, they understand user intent and navigate complex multi-turn dialogues in a natural, conversational style – all while maintaining consistency with the customer across channels and over time. These assistants also support customer service agents, for example, by providing context on the issue at hand and making recommendations to expedite optimal outcomes.

AI-infused applications like chatbots are one of the top ways enterprises are driving value from AI capabilities, but they are only one piece of a larger AI strategy. Next, we want to talk about the ways Microsoft can integrate AI in every business process and transform the enterprise along the way.

Telefónica

The multinational telco Telefónica used Microsoft Azure Bot Service and Cognitive Services to build and support Aura, an intelligent conversational agent for multiple services. With Aura, Telefónica customers can manage their products and services with the company, get real-time support or just change the TV channel – all through natural voice interaction and a personalised user experience.

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Every business process

Enhance every business process with intelligence to expand customer engagement, optimise operations and improve products and services.

Over the last several decades, the advent of the internet has completely redefined business processes. From sales and marketing to customer support, the way we do business today would be nearly unrecognisable to the enterprises of a few decades past – and the result has been dramatic increases in productivity and output. To say that AI will have a similar impact is no overstatement.[9]

AI enables organisations to make better-informed decisions by making it easy to derive insights from data, helping to expand customer engagement, optimise operations and improve offerings. Reimagining business processes with AI also makes work more efficient, saving employees time so they can focus on higher priorities.

Microsoft's vision is to accelerate business process transformation with enterprise-ready, AI-infused experiences. Here, we'll take a look at a few of the most powerful scenarios where AI is already having a proven impact – horizontally, in specific industries, and right here at Microsoft.

Transformation across industries

Across industries, there is a pressing need for increased efficiency and improved decision-making capabilities. We are working to provide solutions that address common business problems with AI out-of-the-box. To accomplish this, we are infusing intelligence into the products and services that organisations use every day.

Thousands of enterprises rely on Dynamics 365 to help them move their business forward. To give our customers the most powerful experiences, we've included AI layers within Dynamics 365 products to provide AI experiences out-of-the-box with immediate time to value. For example, Dynamics 365 for Field Service uses AI to detect, troubleshoot and resolve equipment issues remotely with self-healing commands. Enterprises can extend these capabilities further and connect them to other Microsoft services such as Azure, Office, Skype or even augmented reality.

To further help our customers integrate intelligence into their organisation, Dynamics 365 has announced a new class of AI applications that deliver out-of-the-box insights by unifying data and infusing it with advanced intelligence.

Infusing intelligence into our commonly used applications helps ensure that AI is more accessible and easier to utilise for enterprises in any industry. But cross-industry solutions are only the beginning.

> *The business value of AI for your organisation will be proportional to how thoroughly you reinvent your business in light of AI capabilities. AI will enable you to reduce costs. But, its greater impact will be in answering questions such as, "How do I change the nature of the customer experience?" or "How can I initiate AI-driven insights to alter all levels of decision-making?"*
>
> Gartner, 2018 [8]

New Dynamics 365 AI Applications:

Dynamics 365 AI for Sales enables sellers to build relationships and increase revenue by providing actionable insights to drive personalised engagement and proactive decision-making.

Dynamics 365 AI for Customer Service improves customer service and lowers support costs by surfacing automated customer insights and leveraging virtual agents.

Dynamics 365 AI for Market Insights helps users monitor their brand and respond faster to trends by using AI models to identify what people are saying about products.

Learn more about Dynamics 365

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Transformation within industries

Microsoft is also partnering with technology innovators within industries to create AI solutions that meet vertical-specific needs.

Financial Services

This is a time of transformation for the financial services industry. With technological advances, cultural shifts, cybersecurity threats and regulatory changes, there's a pressing need for banks to rethink the way they work. Banks are now competing with a growing number of cloud-native industry disruptors and, as a result, customer expectations are shifting. Today, only 24% of customers report that they believe their bank understands their current goals (NIIT, 2017).[10] This is compounded by the risk of financial crime: in the last 24 months, 56% of financial institutions have experienced consumer fraud and 41% have experienced cybercrime (PwC, 2018).[11] Innovative new capabilities, enabled by the financial services-ready cloud, are helping banks to meet these challenges and transform their business for the better. Such capabilities include:

Next Best Action (NBA) – AI-powered NBA solutions use sophisticated rules, analytics and algorithms to better predict customer needs and, in turn, offer more relevant actions and promotions, leading to improved wallet share and loyalty.

Risk analytics and fraud prevention – Machine learning makes more accurate risk, fraud and customer models possible, enabling financial services institutions to spot more hidden risks and decrease operating costs.

QuarterSpot, a startup online lender, makes credit more available and affordable to credit-starved small businesses. With the goal of connecting small businesses with the capital they need, QuarterSpot created a marketplace for investors to purchase portions of approved loans in small increments. The company's lending platform uses sophisticated risk models that incorporate real-time data from various sources – including business bank accounts – to calculate the probability of whether an applicant will default on the loan. By leveraging automatic updates to operationalised models, QuarterSpot can continually approve scoring and approval terms, helping lower default rates by over 50% and increasing borrower approval rates by over 15%.

Manufacturing

The rise of digital technology and the IoT has provided manufacturers with vast stores of data that reflect operational efficiency and business performance. More than half of manufacturers with revenues exceeding $1 billion have invested over $100M towards smart factories, and they are seeing an average productivity gain of nearly 20% (Capgemini, 2017).[12] Gleaning useful insights from this data is essential for manufacturers who often operate on thin margins and are increasingly looking for value-added services – especially field services – to differentiate themselves. AI is empowering manufacturers to create more with their data, leading to advancements in:

Predictive maintenance – Estimate the remaining useful life for machines and their components, enabling maintenance technicians to be proactive about repairs and reduce costly downtime.

Performance improvements – Anticipate the risk of production disruptions, bottlenecks and safety risks in real time, highlighting problems before they occur.

Jabil, one of the world's largest manufacturing services companies, needed a solution that would combine the IoT and deep learning to reduce errors and improve quality in the production process. Jabil collaborated with Microsoft on a project that connected an electronics manufacturing production line to the cloud and collected more than one million data points from a 32-step manufacturing process. The result was a program that anticipated nearly every error in the production process by step six – meaning that errors could be corrected prior to adding expensive electronic units and costly mistakes.

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Retail

In retail, customers have an increasing expectation of personalised experiences that demonstrate an understanding of the customer as an individual. 79% of consumers aged 18–65 in the US say brands must actively demonstrate that "they understand and care about me" before they consider purchasing (Wunderman, 2017).[13] AI is enabling retailers to tailor their offerings more precisely to customer demand with services such as:

Sales personalisation – Intelligence applied to customer history enables retailers to deliver customised experiences, offerings, pricing and planning – modernising the online and physical buying experience.

Dynamic pricing & planning – Forecasting models predict demand for different products, providing greater confidence for pricing and stocking decisions and reducing losses from overstocks and OOS.

ASOS, a leading online fashion retailer, transformed its platform from a monolithic, on-premises e-commerce system to a microservices platform running on Microsoft Azure. As part of their transformation, the company launched a natively running mobile app that includes a built-in recommendation engine, to ensure that the right subset of their 85,000 products is in front of the right consumers. In 2016, the new platform handled more than double the volume of Black Friday orders compared to the previous year.

Public sector

Governments are under pressure to create more effective citizen services. In particular, there is a lot of room for growth in providing citizens with digital government services. Studies have shown that citizens are 58% more likely to trust a government institution if they provide a modern and excellent digital experience (Foresee, 2017).[14] And increasingly, citizens want to use mobile devices to access government services (Accenture, 2016).[15] At the same time, governments are fighting to control costs and ensure security and privacy. As a result, AI tools enable governments to connect with their citizens more effectively, eliminate waste and protect sensitive information. Two key areas for these innovative AI initiatives are:

Smart cities – Intelligent technology designed to tackle common challenges such as fee and toll management, traffic optimisation and sustainability.

Citizen services – Tools designed to provide citizens with easier access to consolidated government services through tracking, search and conversational bots.

The City of LA worked with Microsoft to create Chip the chatbot, a digital personal assistant that helps residents more easily navigate government resources and procedures and frees up employees to focus on higher-value activities.

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Healthcare

Clinician shortages, time and cost pressures, and increased patient needs create a number of challenges for health organisations as they try to improve patient experiences and outcomes. According to the Association of American Medical Colleges, there will be a shortfall of between 42,600 and 121,300 physicians by 2030 (AAMC, March 2018).[16] Because of the tremendous potential that AI has to address these challenges and help clinicians save lives, Microsoft is focusing heavily on paving the way to a transformed healthcare industry. We've set up an extensive research team that is pioneering new AI-led approaches to patient care, and we're working with a dynamic partner ecosystem to bring solutions to market. Here are some ways we are integrating AI into healthcare:

Ochsner A new artificial intelligence tool launched by Ochsner Health System enables doctors to focus on the right patient at the right time by analysing thousands of data points to predict which patients will deteriorate in the near future.

Personalised medicine – Analytics-driven individualised treatment plans based on a patient's genetic makeup, medical history, lifestyle and more – made possible through advances in genomics and intelligent analysis of massive amounts of healthcare data.

Healthcare Bot service – A cloud-based solution that enables healthcare organisations to build and deploy compliant, virtual health assistants that can provide users with conversational and engaging access to the most relevant and accurate healthcare services and information.

Inner eye – A Microsoft research project that is exploring state of the art machine learning technology to build innovative tools that automatically analyse 3D radiological images.

Learn more about how Microsoft is democratising AI in health.

Education

Technology is creating unprecedented opportunities to connect students to the world around them and help them realise their full potential. Teachers, administrators and technology innovators are collaborating to solve some of the most pressing challenges in education through AI. These collaborations have produced:

Accessibility in the classroom – AI-powered tools, such as real-time lesson translation for students that speak a different language and narration of surroundings for students who are blind, enable teachers to make the classroom more accessible.

School-wide AI insights – Deep analytic insights into student success and risk across entire schools or school districts help educators make informed decisions on how to improve student outcomes.

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TACOMA PUBLIC SCHOOLS
EVERY STUDENT. EVERY DAY.

The Tacoma Public School District utilised AI-powered analytics to assess student success across the district. They were able to gain deep insights into their students and identify in real time any "at-risk" students or groups that required immediate intervention and support. Their analysis provided an evidence-based backbone for a programme to strengthen the school district – and the result was an increase in graduation rates from 55% to 86.2% over the course of six years.

Transformation at Microsoft

The first place we build and test our AI capabilities is in our own internal processes, so we can get a better grasp on how to make the most useful tools for our customers across industries. These are just a few of the internal Microsoft projects that are leveraging AI to create better outcomes:

Customer support virtual agent – We created a conversational virtual agent to support customer queries on a variety of Microsoft products, including Windows, Office, Xbox and more. The agent resulted in a 2× increase in self-help success and a massive decrease in agent-to-agent transfers.

Revamped sales processes – We simplified our complex sales processes, increased the accuracy of sales data and enabled an individualised customer experience by creating a new sales process built on Dynamics 365 and Azure Cloud Services.

Smart buildings powered by data analytics – We leveraged data analytics, IoT and Azure Machine Learning for predictive maintenance,

Other areas we have experimented with include:

- Credit and collections chatbot
- Machine learning revenue forecasting
- Intelligent supply chain management
- Compliance predictive analytics
- Contract setup automation

climate control and HVAC optimisation – keeping our buildings comfortable while minimising our environmental footprint.



Every employee

Foster innovation and collaboration across the enterprise by placing AI in the hands of every employee.

AI has the capacity to empower all people to achieve more, not just highly skilled technical workers. "In 2021, AI augmentation will generate $2.9T in business value and recover 6.2B hours of worker productivity" (Gartner, 2018).[17] This human-AI partnership combines the strengths of both computers and humans to drive unprecedented value across every industry. Microsoft is a technology company, but people have always been at the core of our mission. Our vision for AI is to amplify human ingenuity with intelligent technology.

Enabling every employee to become a citizen data scientist is crucial to realise the full potential of AI. Only then can the whole organisation glean new insights, make better decisions and perform complex analysis using AI. Gartner predicts that "by 2019, citizen data scientists will surpass data scientists in terms of the amount of advanced analysis they produce." (Gartner, 2018).[18] We believe there are three imperatives to provide any employee with the ability to explore, derive insights and create new knowledge from vast amounts of data: turning disparate data into knowledge, enriching employee experiences with searchable knowledge and driving innovation with democratised AI.

Cortana uses AI capabilities to take care of everyday meeting tasks, such as scheduling meetings and transcribing notes. With Cortana, members can manage meetings through voice commands such as directing Cortana to present the meeting deck or add someone new.

Turn disparate data into knowledge

First, we need to convert an enterprise's siloed and chaotic data into information they can easily access.

AI is only as powerful as the data it's built on. While most enterprises have amassed huge quantities of data, it often resides in siloed systems, like marketing and finance systems. Moreover, the majority of this data is either

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unstructured, like video files, images and PDFs, or redundant, obsolete or trivial (ROT). Without usable data across the enterprise, most organisations are limited to employing AI on specific siloes of structured information.

Instead of developing AI applications that can only perform niche tasks, Microsoft is helping enterprises organise their structured and unstructured data into a single, searchable knowledge base enriched with relevant external data. AI deep learning capabilities run on top of data to understand the content and infer relationships, turning data into knowledge and ensuring that the user receives the most relevant information. Serving as a strategic foundation for current and future AI initiatives, this knowledge base is also understandable, consumable and searchable by AI models and can enable enterprises to integrate AI into every aspect of their business.

From this centralised resource, employees can search, find and explore previously unavailable enterprise information, enabling them to be more efficient and impactful.



In **Dynamics 365 applications**, the Common Data Model (CDM) provides a built-in shared data repository across all applications – from Sales and Marketing, to Customer Service and Field Service – as well as external data sources, like SAP. Capturing and synthesising data from across the business makes it possible for enterprises to drive deeper insights.

Enrich employee experiences with searchable knowledge

Moreover, we are providing more user-friendly ways to democratise access to this enterprise knowledge. With Microsoft AI, enterprises can build AI experiences on top of their enterprise knowledge, either by infusing it with existing productivity and business applications or by creating new applications powered by AI, like conversational agents. For example, the next generation of conversational agents can pull from customer knowledge and world knowledge to answer questions specific to businesses like "Which customers are within a 10-mile radius of the airport?" This knowledge base democratises AI experiences and provides powerful new connections to employees.

Consider the following illustration of the searchable knowledge base in action: Lisa, a marketer, needs to find an advertising agency to use for an upcoming campaign. Typically, identifying an agency with the right capabilities would require relying on colleagues for recommendations and spending hours reviewing past records, agency websites, web results and the agency's previous work. Lisa would have struggled to piece together this information, manually combing through countless sources of data, never certain if she had all the right information.

With an AI-infused knowledge base, Lisa can search "Find me advertising agencies" and a ranked list of agencies her company used in the past will be populated. Curious about her colleagues' experiences, she selects two agencies that her company has previously used and types a new query into the search bar: "Find me Teams threads that mention these agencies." Her search yields dozens of Teams threads. Keen to quickly identify which agency her colleagues have had the most positive sentiment about, she applies a sentiment analysis AI model. She can now use more advanced queries like "Show me Teams threads with negative sentiment for Agency A" or "Show me the trend of sentiment for Agency B."

centrica Partnering with Microsoft, Centrica was able to combine their disparate data into searchable knowledge, helping them improve customer experiences, provide their employees with more actionable customer insights and expand the capabilities of their AI-powered digital assistant, Wilbur.

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Instead of searching for hours with potentially less informed results, users like Lisa can now easily perform complex analysis with AI tools and quickly find the information that matters most to them. However, creating knowledge bases is just one way we are revolutionising how employees search, find and explore information.

To further help employees find the information they need, we developed Microsoft Search, an intelligent search experience embedded within over nine familiar Microsoft products, including Excel, Word, Bing and Outlook. Our solution uses AI to index content across an organisation's data sources and provide employees with the most relevant answers. For instance, say you wanted to search for a colleague that goes by the nickname, Chuck. If you search for Chuck in the global address list, Microsoft Search reasons with AI to understand that the nickname Chuck is short for Charles and, due to contextual clues, is able to pinpoint the exact Charles you are referring to at the company.

Drive innovation with democratised AI

To truly enable employees to become citizen data scientists, we are providing them with an easy way to run AI models on top of enterprise knowledge. When employees are empowered with these AI capabilities, not only can they ask the important questions, they can also very quickly extract relevant insights applicable to the task they are trying to complete. From highly technical employees to non-technical business users, we are placing AI in the hands of every employee and giving them the power to transform how they work and think in more innovative ways than ever before.

To provide employees with even greater access to AI capabilities, we are infusing intelligence into the products and services that employees use every day like Dynamics, Bing and Microsoft 365 – which includes Office 365, Windows 10 and Enterprise Mobility and Security. Employees can leverage AI in existing workflows to make them more efficient and ultimately save time. In Word and PowerPoint, employees can develop documents and presentations in less time with automated design capabilities like PowerPoint Designer and Editor, which provide design tips and digital writing assistance. In Outlook, employees can streamline emails and calendars with features that help filter out the noise and surface the most relevant information, so they don't miss what's important. In Excel, intelligent capabilities have been a part of the experience for years. Features like advanced data transformation and flash fill have helped organisations perform and derive value from their data. With continued advancements in our AI technology, Excel is introducing more advanced AI features that help employees unlock new insights from raw data sets in just a few clicks by highlighting relevant patterns.

Not only are we building up our AI capabilities in existing workflows, but we are also using AI to power new productivity experiences. Workplace Analytics, for instance, surfaces insights on how effectively an organisation is working together by identifying collaboration patterns and helping identify areas to increase productivity, workforce effectiveness and employee engagement.

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PUBLICIS GROUPE

With more than 80,000 people spanning 200 specialties, Publicis Groupe worked with Microsoft to create the Marcel AI platform to help employees connect with each other, find examples of great work and spark new ways to innovate and boost creativity.



Accelerate enterprise transformation with Microsoft

AI isn't new and it isn't new to Microsoft. Our computer scientists have been working on AI and machine learning technologies for decades. Today, we have over 1,000 researchers across 11 labs who are focusing on over 55 areas of computing and collaborating with leading academic, government and industry researchers. Plus, our AI innovation is backed by the security, scalability and reliability that the enterprise needs. Regardless of where enterprises start or want to grow to, Microsoft is the technology partner that can support their transformation.

Our AI capabilities are built on top of Azure, Microsoft's leading Enterprise cloud platform. Azure has 50+ regions worldwide – more than any other cloud provider – and comes with robust uptime SLAs, ensuring enterprises can deploy and scale with confidence. We also provide access to a global ecosystem of thousands of qualified partners with deep AI expertise.

Principles driving Microsoft AI innovation in the enterprise

For decades, we've been empowering enterprises around the globe with innovation in productivity software, business applications and cloud technology. Now, we want to bring the groundbreaking capabilities of AI out of the lab and into every organisation. At Microsoft, AI is playing a central role in our company narrative and is driving our thought leadership agenda. To that end, we've focused our AI investments for the enterprise around three core principles: innovation, empowerment and ethics.

Innovation

We have a continuous and ambitious focus on innovation. We're pushing the boundaries of AI to create fast, agile and powerful tools for the enterprise. With 25+ years of investment, and some of the best AI researchers on the planet (including winners of the Turing Award, Fields Medal and Dijkstra

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Prize), Microsoft is a proven leader in AI innovation. That's why over one million developers are currently accessing our pre-built and customisable AI services. Every year, Microsoft's AI capabilities are reaching new milestones:

- 2016: Object recognition human parity
- 2017: Speech recognition human parity
- 2017: Machine translation human parity
- 2018: Machine reading comprehension human parity

Our advancements in vision, speech, machine reading and translation have achieved historic milestones in just the last two years. However, our focus is not on celebrating the breakthroughs we achieved; what matters to us is how we translate those breakthroughs into platforms and experiences. By doing so, we can put innovation into the hands of every developer and every organisation, empowering them to leverage AI and have a positive impact on every industry and every application.

Empowerment

At Microsoft, we are focused on developing AI in such a way that it is human-centric and augments human abilities, especially humankind's innate ingenuity.

Our first priority is to develop AI technology that leverages the unique strengths of computers – such as probabilistic reasoning and pattern recognition – with the creativity, ingenuity and capacity for meaning-making of humans. That's why we're innovating AI to enable better decision-making across organisations, amplify the tools and processes employees already use and tear down knowledge siloes – so people can do more, together.

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Ethics

As we look to a future powered by a partnership between computers and humans, it's important that we address ethical challenges head-on. Designing trustworthy AI requires creating solutions that reflect ethical principles deeply rooted in important and timeless values. At Microsoft, we've identified six ethical values – fairness, reliability and safety, privacy and security, inclusivity, transparency and accountability – to guide the cross-disciplinary development and use of artificial intelligence.

We've made **security and privacy** a top priority by helping ensure compliance with existing privacy laws (including GDPR), providing transparency and choices regarding data collection and use, designing our systems to protect against bad actors and using de-identification techniques to promote both privacy and security. As organisations transform, Microsoft has already taken precautionary measures to help ensure their crucial data remains safe. Thanks to systems like Windows Defender Advanced Threat Protection and Office 365 Advanced Threat Protection, AI can help actively monitor threats and secure business data by detecting, and automatically protecting computers and documents from, malware.

We have committed to promoting **fairness** by understanding how bias can be introduced into AI models and affect recommendations, attracting a diverse pool of AI talent, developing analytical techniques to detect and eliminate bias and leveraging human review and domain expertise.

We're working to ensure that our products maintain high standards of **reliability and safety** by evaluating training data, testing extensively with a user feedback loop, monitoring ongoing performance and designing in anticipation of unexpected circumstances – including nefarious attacks.

We pursue **inclusivity** by using inclusive design practices to address potential barriers that could unintentionally exclude people, enhancing opportunities for those with disabilities, building trust through contextual interaction and designing with emotional intelligence in mind.

None of those are possible without transparency and accountability. Our commitment to **transparency** means we believe people should understand how decisions were made. We strive to provide contextual explanations of our AI processes and we make it easier to raise awareness of potential bias, errors and unintended outcomes.

We believe in creating **accountability** for how systems operate. We're ensuring that norms are observed during system design, and in an ongoing manner, and that there is a role for internal review boards.

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AI for Good

AI can be a powerful tool for increasing access to information, education, employment, government services and social and economic opportunities. There are no limits to what people can achieve when technology reflects the diversity of everyone who uses it. Enterprises should play an active role to ensure that these new technologies are applied responsibly and inclusively.

Over the past 18 months, Microsoft has been investing in AI for Good programmes that lower the barriers of entry to cloud and AI technologies through grants, education, research and strategic partnerships.

A new way of seeing
Seeing AI is a free app designed to help the low vision community better see the world around them. This ongoing research project harnesses the power of AI to describe people, text and objects.
Learn about Seeing AI

AI for Accessibility

Our AI for Accessibility programme promotes inclusion through intelligent technology. We are focused on empowering organisations and developers to harness AI to amplify human capabilities for people with disabilities. The programme focuses on driving breakthroughs that make the workplace more inclusive, providing equal access to information through innovations in vision, speech and machine reading, and helping people with disabilities gain more independence to perform daily tasks.

AI for Humanitarian Action

We recently announced an AI for Humanitarian Action 5-year programme aimed at harnessing the power of AI to support disaster response and recovery, help ensure the safety and wellbeing of children around the world, protect refugees and displaced people, and promote respect for human rights.

AI for Earth

Our AI for Earth programme empowers people and organisations to create breakthrough innovations in the way we monitor, model and ultimately manage Earth's natural systems. The programme focuses on four key areas that are vital to creating a sustainable future – agriculture, water, biodiversity and climate change.

Our goal with all the AI for Good programmes is to empower and accelerate the impact that people around the world can have in solving some of society's biggest challenges.

Operation Smile gives hope to more children

Our non-profit partner Operation Smile uses AI to analyse photos with a facial modelling algorithm, and the AI-powered Microsoft Pix camera app, to improve surgical outcomes and help more children in need of facial surgery.
Learn about Operation Smile

Project Premonition

AI technology and cloud software enables Project Premonition researchers to detect and track pathogens to prevent outbreaks and protect biodiversity.
Learn about Project Premonition

Get started today

AI is the defining technology of our time, impacting every industry and business. Enterprises are looking for a strategic partner to help them harness AI to drive their transformation. Microsoft is ready to be that strategic partner, accelerating enterprise transformation with AI.

Together, we have an opportunity – and a responsibility – to empower transformation that has positive impacts on entire industries. By transforming industry verticals, AI can solve some of society's biggest challenges in areas like health and environmental conservation, as well as broader issues like access to technology. We are already seeing breakthroughs in the application of AI in these areas, from conducting a complete species census in the field of biodiversity to quickly developing maps for tracking environmental changes over time. Bringing innovation to the people that will change the world and driving that innovation with responsibility are key principles of Microsoft's AI vision.

We recognise, however, that every enterprise is unique and you will have your own path to transforming your organisation. To help you take the first step towards your own AI transformation, we have created the AI Ready assessment tool. This tool evaluates your own organisational readiness for adopting AI-based systems and provides customised recommendations around appropriate AI implementations for your business.

For more information on Microsoft AI, please refer to the list of additional resources below.

Top considerations to ensure an AI-ready culture:

1. **Adopt a data-driven culture:** Ensure your AI solutions are founded on high-quality data.
2. **Share knowledge:** Commit to breaking down data siloes across the enterprise and making data accessible to all.
3. **Choose the right AI solution:** Align the AI solution to your unique enterprise and ideal business outcomes.
4. **Adapt AI to your enterprise:** Test AI with minimally viable products and improve applications and processes that already exist – while always putting the customer experience first.
5. **Plan ahead:** Communicate the AI strategy throughout your business, be proactive about AI training and be cognisant of ethical concerns.

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MICROSOFT AI

Microsoft AI homepage
Microsoft AI for business
The Future Computed: Artificial Intelligence and its role in society
Ethics: Microsoft AI principles
AI for accessibility
Microsoft Generation AI

INTELLIGENT APPS

Cognitive Services
Visual Studio
Windows Machine Learning

CONVERSATIONAL AI

Bot Framework

BUSINESS TRANSFORMATION

Azure AI Gallery
Dynamics 365
Dynamics 365 AI
Office 365
Bing for Business

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[1] PwC, "PwC's Global Artificial Intelligence Study: Exploiting the AI Revolution", 2017.

[2] Economist Intelligence Unit, "Intelligent Economies: AI's transformation of industries and society", 2018.

[3] Gartner, "Deliver Artificial Intelligence Business Value: A Gartner Trend Insight Report", Mike Rollings, 20th April 2018.

[4] Nadella, Satya, "Innovation Keynote", Ignite, Microsoft, 26th September 2016, Atlanta, Georgia.

[5] Constellation Research, "Constellation wResearch 2018 Artificial Intelligence Study", 4th June 2018.

[6] Gartner, "Choose the Right Center of Excellence for Your Artificial Intelligence Strategy", Whit Andrews, Bern Elliot and Jim Hare, 18th June 2018.

[7] IDC, "IDC Predictions Provide a Blueprint and Key Building Blocks for Becoming a Digital Native Enterprise", 31st October 2017.

[8] Gartner Press Release, "Gartner Says 25% of Customer Service Operations Will Use Virtual Customer Assistants by 2020", 19th February 2018.

[9] Gartner, "Deliver Artificial Intelligence Business Value: A Gartner Trend Insight Report", Mike Rollings, 20th April 2018.

[10] NIIT, "Delivering Personalized Digital Banking Experience: Technology and Strategy to Increase Customer Engagement and Revenue", 2017.

[11] PwC, "Pulling fraud out of the shadows: Global Economic Crime and Fraud Survey 2018", 2018.

[12] Capgemini, "Smart Factories: How can manufacturers realize the potential of digital industrial revolution", 2017.

[13] PR Newswire, "Wunderman Study Reveals 79% Of Consumers Onwly Buy From Brands That Prove They Care About Earning Their Business", 5th January 2017.

[14] Foresee, "The Foresee Experience Index: E-Gov, Q1", 2017.

[15] Accenture, "Digital Government: Your Citizens are Ready, Willing and Waiting", 2016.

[16] Association of American Medical Colleges, "The Complexities of Physician Supply and Demand: Projections from 2016 to 2030", March 2018.

[17] Gartner, "Forecast: The Business Value of Artificial Intelligence, Worldwide, 2017-2025", John-David Lovelock, Susan Tan, Jim Hare, Alys Woodard and Alan Priestley, 12th March 2018.

[18] Gartner, "How to Enable Citizen Analysts to Drive Business Value in Midsize Enterprises", Alan Duncan and Joao Tapadinhas, 10th September 2018.

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