

15-Minute Guide

Accelerate intelligent outcomes everywhere with AI.

Abstract

Today, artificial intelligence (AI) is powering change in every industry across the globe. AI allows organizations in every sector to reduce risk, move faster and gain deeper insights and value from their data.

Whether you're new to AI or ready to take it to the next level, accelerating intelligent, automated outcomes requires identifying, curating and activating high-value data; optimizing infrastructure so you can put AI to work anywhere; and accelerating success as you grow.

In this guide, we share the Dell Technologies approach to using AI to fuel better decisions across your organization.

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~33%

of enterprises have adopted leading operational practices to support AI.¹

28%

of enterprises have adopted processes associated with strong AI outcomes.¹

25%+

of enterprises have reached full-scale deployment of five or more AI applications.¹

Reveal the full potential of AI.

Accelerate discovery and innovation by illuminating a universe of insights.

The AI era is dramatically reshaping industries and reinventing the future. The rise of AI is being fueled by the advancements made in machine learning (ML) and deep learning (DL), allowing organizations in every sector to reduce risk, move faster and gain deeper insights and value from their data. The capabilities of AI, ML and DL can help organizations of all sizes and industries accelerate intelligent outcomes.

AI algorithms are producing value and propelling digital progress using millions of data points collected both from traditional data sources and increasingly from the edges of the enterprise. But in a typical organization, only a small portion of available data is used to guide decision making. Widening the spectrum of data you can use enables you to tap its hidden potential, leveraging powerful AI applications to help you answer bigger questions and make more amazing discoveries, faster, to keep pace with competition coming from every angle.

Dell Technologies sees the 2020s as a fully data-driven and AI-enabled decade. This new era is full of bright possibilities for those who can see them. We help customers run AI workloads anywhere they need them and scale AI from proof of concept to production. From speech recognition and recommender systems to medical imaging and improved supply chain management, we're providing the expertise, IT power and streamlined solutions organizations need. We've spent decades optimizing our products, services and strategic partnerships to empower customers to do their best work.

¹ Deloitte Insights, [Becoming an AI-fueled organization](#), 2021.



Activate intelligent outcomes.

Advance the merging of human and artificial intelligence.

AI isn't coming — it's already here, enabling a new degree of human-machine partnerships with an impact that is reverberating around the world.

Today, more than a quarter of organizations have reached full-scale deployment of five or more types of AI applications.¹ These organizations rely on AI to improve IT efficiencies, provide analytics insights, mitigate compliance risk and deliver better customer insights and experiences along with much else.

Of course, every organization approaches implementing and deriving value from AI differently. But because AI is a rapidly emerging and evolving set of technologies, many organizations lack the internal skills and resources to get started designing, deploying and managing AI solutions.

Dell Technologies can help identify, curate and activate your high-value data so your teams can focus on putting AI to work anywhere in any way to achieve success at any scale as you grow.

Make a plan to get the full benefits of AI.



- **Define strategic outcomes.** Analyze your existing technology landscape and form a sound AI strategy to solve your unique business challenges. This may involve education and training to address skill gaps.
- **Put data to work to realize your AI vision.** Find a partner who can help you develop and deploy powerful, cost-effective AI solutions that are optimized for your use cases, scalable for future needs and supported with continued enhancement to keep you on the leading edge.
- **Enhance your competitive advantage to enable innovation.** Evolve your AI vision as use cases change, data grows and demands increase. By harnessing the power of AI everywhere, you can leverage past successes to create new competitive advantages.



How you can use the transformative power of AI

Dell Technologies is dedicated to bringing the power of AI to anyone who wants to use it. Our portfolio of products and solutions is designed to get AI into the hands of businesses and institutions of all sizes so that more organizations can harness the power of human-machine partnerships to advance their business goals.

Epsilon: AI makes marketing smarter and faster.

Epsilon® is the digital powerhouse behind the marketing and loyalty programs of many Fortune 500® companies. Everything Epsilon does is centered around data and the quest to get the right message to the right person at the right time. To accomplish this mission, Epsilon makes use of AI, ML and predictive analytics, running on Dell PowerEdge servers. Watch the [video](#).

Konica Minolta: AI helps doctors make earlier diagnoses.

Konica Minolta® Healthcare Americas is applying its more than 150 years of experience in imaging toward a new game-changing invention, Dynamic Digital Radiography (DDR). Because of the technology's ability to visualize movement inside the body, DDR may enable doctors to diagnose conditions such as lung disease earlier. And Dell Technologies hardware is at the center of it all. Watch the [video](#).

Duos Technologies: AI at the edge speeds inspections.

The impact of time-consuming manual train inspections is substantial, costing rail companies millions of dollars annually. Duos Technologies® deploys AI at the edge to capture images, model data and handle sophisticated analytics and reporting without halting the trains. To keep pace with expanding AI-enabled analytics for edge railcar inspections, Duos Technologies partners with Dell Technologies. Read the [case study](#).

Taboola: AI fuels 30 billion recommendations a day.

Taboola is the world's largest discovery platform, delivering 30 billion recommendations daily across four billion webpages, processing up to 150,000 requests per second. The company partners with Dell Technologies to keep insights flowing with adaptable AI systems, extraordinary computing power, innovative architecture and intuitive systems management. Read [more](#).

150,000

AI-driven requests
processed per second⁷

120:1

efficiency gains⁸

18X

faster AI models⁹

The journey to intelligent, automated outcomes starts with AI.

Adopting, expanding and evolving AI requires a commitment to ongoing digital transformation and the expert partnerships to help you get there.

Identify, curate and activate your high-value data.

AI doesn't happen without data. Leveraging this powerful technology starts with enabling effective data access and control across the organization from edge to core to cloud so it can create measurable value for the organization. Dell Technologies can help you simplify your data landscape. Start by leveraging the industry's #1 server,² storage³ and HCI⁴ portfolios, which cover block, unstructured and streaming data platforms that are scale-out, programmable, and multi-protocol to handle data in every format at any scale. Choose from ops-ready solutions that feature built-in integrations with industry leading ISVs, automation and DevOps platforms for rapid creation, modification and execution of data pipelines and data-centric app testing and development. You can simplify procurement and management of data storage resources by choosing [APEX-as-a-Service](#) (APEX aaS).

We can help you move forward with data-driven confidence. Leverage [consulting services](#) to help you create a future-state data architecture and roadmap to AI success. You can also take advantage of the opportunity to collaborate on solutions and technologies at [Dell Technologies Customer Solution Centers](#) and our [HPC & AI Innovation Lab](#). Either way, you'll benefit from an extensive partner ecosystem and history of continuous investment with industry leaders in the fields of data analytics and AI. It's no wonder our customers report that they can scale rapidly with solutions that enable client and data growth with 13% cost savings.⁵

Put AI to work anywhere in any way.

Dell Technologies can power your choice of AI workloads with best-in-class IT infrastructure that supports on-premises, cloud or hybrid environments, with protection across boundaries. We can help you fast-track innovation everywhere, by enabling AI within your existing infrastructure. You can deploy advanced file and object storage at the edge, core and cloud with purpose-built, software-defined, cloud-native storage architectures. And fully-secure, remote and customized deployment of Dell PowerEdge servers enables speedy set up wherever you need it.

Run compute and I/O-intensive workloads anywhere, with the ability to run virtualized AI workloads alongside existing infrastructure using Dell Validated Design for AI with VMware®. You can also run containers in any environment with HCI DevOps for Kubernetes®, Docker®, Tanzu™, Google® Anthos, and AKS. And Dell Technologies Services' 1,800+ VMware-certified professionals can help you optimize all of your virtualized systems.⁶ Optimize connectivity from core to edge and into the cloud and reduce capital expense (CAPEX) and operational expense (OPEX) with an industry-leading Open Networking portfolio. Finally, you can empower employees to develop and deploy AI remotely with VDI powered virtual workstations.

Data security is top of mind for every aspect of the business. Dell Technologies also helps you protect AI capital everywhere, securing critical data and enhancing your cyber resiliency with Dell PowerProtect Cyber Recovery.

² IDC, WW Quarterly x86 Server Tracker, Vendor Revenue & Shipments, March 2022.

³ IDC, WW Quarterly Enterprise Storage Systems Tracker, March 2022.

⁴ IDC, WW Quarterly Converged Systems Tracker, 4Q2021, March 2022.

⁵ Dell Technologies case study, [Advancing healthcare analytics and saving lives](#), January 2021.

⁶ Dell Technologies brochure, [Accelerate Your Innovation](#), April 2021.

⁷ Dell Technologies case study, [Taboola Makes AI Real](#), August 2020.

⁸ Dell Technologies case study, [Automated railcar inspections increase security and revenue with AI at the edge](#), February 2021.

⁹ Dell Technologies, [Illuminate opportunity. Reveal the full potential of your data](#), accessed May 2022.



“We count on PowerEdge servers to process and analyze the images and other data from the cameras and sensors 24x365, using our AI models.”

— David Ponevac,
Chief Technology Officer,
Duos Technologies⁸

Achieve success at any scale as you grow

Dell Technologies can deliver AI at any scale and AI-optimize any part of your business, for organizations of any size, wherever you are in your AI journey, as your data grows and your use cases change. This can help you reduce time to results:

- Enable 37% more efficient IT teams and 12% faster development cycles with APEX aaS.¹⁰
- Resolve performance issues 2–10X faster with CloudIQ AIOps.¹¹
- Run AI models 18X faster (from 1–2 months to 2–3 days) with Validated Designs for AI.⁹

It also helps enable flexible growth, ensuring performance never suffers as AI workloads grow with independent asynchronous scaling of compute and storage, and fast Dell PowerSwitch networking that supports connectivity from 25GbE to 400GbE. You also have the option to increase IT agility while improving cost predictability with APEX aaS. This scalability and flexibility has helped our customers process 150,000 AI-driven requests per second⁶ and reduce railcar inspection times by 120:1.⁸

Dell Technologies solutions strategy

Complete portfolio for AI

Dell Technologies is at the forefront of AI, providing the technology that makes tomorrow possible today. You can rely on the Dell Technologies team of experts as AI, ML and DL evolve.

Validated Designs for AI

Dell Technologies has invested to create a portfolio of Validated Designs for AI, simplifying IT to provide faster, deeper insights. Our extensive portfolio lets you choose from a variety of workload-optimized solutions that are built with proven expertise.

[AI in virtualized environments](#) makes it easier to run accelerated AI workloads alongside existing applications in VMware virtualized data centers with near-bare-metal performance, while optimizing hardware investments such as server GPUs.

[AI MLOps](#) standardizes ML pipelines to minimize friction for data science and engineering teams from research to production, helping you adopt MLOps with confidence and accelerate and improve AI results.

[DataRobot®](#) encapsulates the knowledge, experience and best practices of the world’s leading data scientists into an automated ML solution so you can quickly and easily build highly accurate predictive models without previous coding and ML skills.

¹⁰ An IDC Business Value Executive Summary, sponsored by Dell Technologies and Intel, [The Business Value of Dell Technologies APEX as-a-Service Solutions](#), August 2021.

¹¹ Dell Technologies, [Dell CloudIQ - AIOps for Intelligent IT Infrastructure Insights](#), accessed May 2022.



[Deep learning with NVIDIA®](#) is a complete solution that incorporates the latest CPU, GPU, memory, network, storage and software technologies with impressive performance for both training and inference phases.

[Distributed Deep Learning Infrastructure for Autonomous Driving](#) automates and accelerates deployment of applications at massive scale across diverse environments to support next-generation automotive capabilities.

[Domino® Data Science Platform](#) speeds development, delivery and monitoring of AI models, giving data scientists a platform that accelerates the data science lifecycle with open access to tools, compute and data.

[H2O.ai](#) applies AI to emerging technologies, such as IoT and mobile technologies and applications, to convert massive amounts of data into the fuel that enables you to make better decisions faster.

[Iguazio®](#) speeds and simplifies deployment of ML applications, enabling real-time processing of streaming data for rapid time to insight. By unifying the data pipeline, Iguazio reduces latency and complexity, effectively bridging the gap between development and operations.

[Intelligent video analytics](#), created in collaboration with NVIDIA and Deep Vision, helps create safer and smarter environments. It uses AI to monitor and analyze video feeds in real time for intelligent insights that can help improve customer service, efficiency, health and safety and more.

[Kubeflow](#) integrates production-grade AI technologies into well-defined platforms within the protection of the data center. It extends investments by supporting AI use cases as well as augmenting the resources available to data science teams.

[NVIDIA Fleet Command](#) enables managing and scaling AI deployments across dozens or up to millions of servers and edge devices to give you realtime, actionable insights at the point of decision, with lower latency and costs than transferring data between the data center and cloud.

[Retail loss prevention](#) is a self-learning computer vision solution that helps cost-effectively reduce inventory loss with AI-driven software and hardware technology, developed in partnership with Malong Technologies and NVIDIA.

Product highlights

[Dell Data Science Workstations](#) are fully integrated AI hardware and software solutions designed together with NVIDIA, Intel® and other leading technology providers. They deliver the data science platform you need with the performance and reliability you expect from Dell workstations.



[Omnia software](#) is an open source, Ansible®-based software stack designed to automate the deployment of mixed-workload clusters, giving IT the agility to run AI, high performance computing (HPC) and analytics workloads in the same environment, with a single pane of glass for cluster provisioning, deployment and management, with easy-to-use point-and-click templates for building complete environments.

[PowerEdge servers](#) are engineered to deliver unmatched performance and versatile configurations to meet the demands of AI workloads. Flash storage, the latest processors and memory with flexible local storage make PowerEdge servers a foundational choice for AI.

[PowerFlex storage](#) is software-defined to enable transformational agility to modernize your data center operations. PowerFlex enables extreme flexibility, massive scalability and enterprise-class performance and resilience while simplifying infrastructure management and operations.

[PowerScale storage](#) provides the large, scalable, reliable and efficient storage that AI environments require. With support for multiple workloads and enterprise-grade data and file management capabilities out of the box, PowerScale scale-out network-attached storage (NAS) is the leading storage for AI. You can take advantage of the high capacity of PowerScale to reduce the acquisition and ownership cost for managing and monetizing data using advanced or predictive analytics and ML.

[PowerSwitch networking](#) helps you improve network performance, lower networking costs and remain flexible to adopt new innovations. Take control of your network's future and learn how the Dell Technologies strategy for open networking can dramatically transform your business.

[VxRail](#) hyperconverged infrastructure (HCI) is engineered jointly by Dell Technologies and VMware for a seamless, curated and optimized experience that provides an ideal AI platform across core, edge and cloud.



Dell APEX: Simple and consistent cloud experiences delivered as a service

[APEX](#) enables you to provision quickly, scale on demand and pay as you go across your entire multi-cloud, multi-edge and multi-data center environment. Consuming best-in-class Dell Technologies innovation as a service helps you unlock the flexibility you need to adapt and thrive.

With APEX for Artificial Intelligence, you can get the AI-optimized solutions you need on your terms so you can:

- **Fast-track innovation** — Accelerate digital transformation with the methodologies, processes and platforms needed to modernize apps and decouple them from your data.
- **Leverage the right data faster** — Deliver cloud operating models on-premises, off-premises and at the edge so you can manage data more effectively throughout its lifecycle.
- **Create measurable value** — Optimize analytics and AI as any scale, from workstation to supercomputer.

Learn more about [APEX for AI](#).



AI experience and capabilities

Dell Technologies is committed to advancing AI. We offer a range of opportunities for you to engage with our experts to start imagining your AI possibilities.

Customer Solution Centers

Our global network of dedicated [Dell Technologies Customer Solution Centers](#) are trusted environments where worldclass IT experts collaborate with you to share best practices, facilitate indepth discussions of effective business strategies, and help your business become more successful and competitive. Customer Solution Centers help reduce the risks associated with new technology investments and can help improve speed and ease of implementation.

AI Experience Zones

Curious about AI and what it can do for your business? Run demos, try proofs of concept and pilot software at our Customer Solution Centers in Singapore, Seoul, Sydney, Bangalore and more. Dell Technologies experts are available to collaborate and share best practices as you explore the latest technology and get the information and hands on experience you need for your advanced computing workloads.

HPC & AI Innovation Lab

The [HPC & AI Innovation Lab](#) in Austin, Texas, is our flagship innovation center. Housed in a 13,000 square foot data center, it gives you access to thousands of Dell servers, three powerful HPC clusters, and sophisticated storage and network systems. It's staffed by a dedicated group of computer scientists, engineers and subject matter experts who actively partner and collaborate with customers and other members of the community. The team engineers HPC and AI solutions, tests new and emerging technologies, and shares expertise, including performance results and best practices.

HPC & AI Centers of Excellence

As AI, HPC and analytics converge and the technology evolves, the Dell Technologies worldwide [HPC & AI Centers of Excellence](#) provide thought leadership, test new technologies and share best practices. They maintain local industry partnerships and have direct access to Dell and other technology creators to incorporate your feedback and needs into their roadmaps. Through collaboration, these Centers of Excellence provide a network of resources based on the wide ranging know-how and experience in the community.

Additional resources and information

Visit our solutions page:
dell.com/ai

Technical documents

Visit the [Infohub](#).

Services and financing for AI

Along your AI journey, Dell Technologies is with you every step of the way, linking people, processes and technology to accelerate innovation and enable optimal business outcomes.

[AI Consulting Services](#) help you create a competitive advantage for your business. Our expert consultants work with companies at all stages to help you plan, implement and optimize solutions that enable you to unlock your data capital and support AI.

[Deployment Services](#) help you streamline complexity and bring new IT investments online as quickly as possible. Leverage our 30+ years of experience for efficient and reliable solution deployment to accelerate adoption and return on investment (ROI) while freeing IT staff for more strategic work.

[Support Services](#) driven by AI and DL will change the way you think about support with smart, groundbreaking technology backed by experts to help you maximize productivity, uptime and convenience. Experience more than fast problem resolution — our AI engine proactively detects and prevents issues before they impact performance.

[Payment Solutions](#) from Dell Financial Services help you maximize your IT budget and get the technology you need today. Our portfolio includes traditional leasing and financing options, as well as advanced flexible consumption products.

[APEX](#) offers a simple approach that gives you a wide range of consumption models, payment solutions and services so you can optimize for a variety of factors while realizing more predictable outcomes.

[Managed Services](#) can help reduce the cost, complexity and risk of managing IT so you can focus your resources on digital innovation and transformation while our experts help optimize your IT operations and investment.

[Residency Services](#) provide the expertise needed to drive effective IT transformation and keep IT infrastructure running at its peak. Resident experts work tirelessly to address challenges and requirements, with the ability to adjust as priorities shift.

Take the next step.

No matter where you are on your journey, Dell Technologies believes in the power of AI to change the way you do business. Get in touch to learn how we can help you accelerate intelligent outcomes.

