NetApp AI solutions for manufacturing

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Spark innovation and drive profitability with an AI-based smart factory

The challenge

To be competitive in today's global market, manufacturers need all the help they can get to produce their products faster, with greater cost efficiency and less risk. From boosting productivity to improving product quality to releasing more personally customized goods, Industry 4.0 is changing the game for both manufacturers and consumers. For manufacturers in all industries, it's no longer a question of whether they will get onboard with Industry 4.0—it's a matter of when.

NetApp AI solutions for manufacturing

To become part of the Industry 4.0 revolution, manufacturers around the globe are turning to AI to modernize their factories and drive efficiency in nearly every aspect of their business. From maintenance and quality control to managing process, efficiency, and supply chain, AI is at the heart of it all.

- **Intelligent maintenance.** AI-connected sensors help predict equipment failures before they happen so that engineers can order parts and schedule maintenance to prevent downtime.
- **Quality control.** AI combined with <u>computer vision</u> helps detect product defects in real time. It can also help predict the quality of your finished product based on the characteristics of your raw materials.
- **Process and efficiency management.** AI helps automate tasks, improve energy management, and make workplaces safer. By streamlining manufacturing processes with AI, you can maximize production and optimize your labor investment.
- **Supply chain management.** An AI-integrated supply chain provides real-time inventory management, insight into individual vendors, and raw material price forecasting, enabling continuous production and more agile decision making.

<u>NetApp® AI solutions</u> help keep your data available in the right place at the right time to fuel transformation. We remove data silos to provide real-time supply chain insight and efficiency, enable optimized equipment and product yield, make labor more productive and efficient, and reduce costs. Our proven AI solutions integrate with your legacy IT infrastructure and the world's biggest public clouds.

As the data authority on hybrid cloud, NetApp delivers AI solutions that remove bottlenecks at the edge, core, and cloud. By removing these bottlenecks, NetApp enables more efficient data collection, accelerated AI workloads, and smoother cloud integration. You get the performance, mobility, protection, and scalability you need to meet changing market demands.

Key benefits

Get the speed you need to optimize productivity

- Keep your data flowing to feed, train, and operate your applications so that they can provide the real-time information you need to maximize product yield, increase labor productivity and efficiency, and improve workplace safety.

Extract the most value from your data

- Gain deeper insights into your data with a simplified AI solution that enables you to harness and analyze data from multiple disparate data sources.
- Reduce the amount of time spent wrangling data so that you can improve supply chain management, increase product quality, and reduce downtime on production lines.

Keep your data protected

- Get trusted data protection, compliance, and secure access for your distributed, diverse, and dynamic data.

Grow without limits

- Start small and grow seamlessly—from hundreds of terabytes to tens of petabytes—without disrupting ongoing operations.
- Realize cost efficiencies with a resilient architecture that can scale and flex from production line to plant to enterprise.
- Run an exhaustive array of simulations to test the strength of your models.

Get the speed you need to optimize productivity

AI can be a powerful tool for increasing operational efficiency and keeping costs under control. To be successful, you need a data management solution that can keep up. <u>NetApp ONTAP® AI</u> gives you the performance you need to feed, train, and operate your applications. With that high performance, your applications can deliver the information needed to maximize product yield, increase labor productivity and efficiency, and improve workplace safety.

NetApp AFF systems keep data flowing to deep learning (DL) processes with all-flash storage that leads in speed and flexibility. You can get up to 300GBps read throughput per all-flash cluster with well under 1ms of latency.

By adding more network switches and storage controller pairs to the ONTAP cluster, the architecture can scale to multiple racks to deliver extremely high throughput, speeding up model training and inferencing. With this flexible approach, you can alter the ratio of compute to storage independently based on the size of the data lake, the models that you use, and the performance metrics you need.

Extract the most value from your data
To truly unlock the potential of AI, you need to capture, prepare, access, move, and protect large volumes of data from multiple sources, including all the vendors across your global supply chain. You need a way to harness and extract the most value from your data as quickly as possible so that you can make more timely, informed decisions. That requires powerful AI capabilities that reach from the edge to the core to the cloud—without adding to the complexities that are inherent in an AI environment.

Only NetApp can help you build a data fabric that satisfies the needs of complex, high-performance data pipelines with solutions that span your entire hybrid multicloud environment.

For example, our VantEdge edge inferencing solution offers near-zero-touch, autonomic edge operations. You can deploy edge applications in minutes and easily scale to meet Internet of Things (IoT) growth. A secure, reliable architecture keeps your data flowing from the edge to your ONTAP hybrid cloud environment—or to your hyperscaler cloud environment—for large volume data tiering and high-performance modeling.

Keep your data protected
The growth in data from AI can make it difficult to keep up with constant security threats and ever-changing compliance requirements. With NetApp solutions, you can provide trusted data protection, compliance, and secure access for your distributed, diverse, and dynamic AI data.

NetApp enables you to integrate, protect, and secure a data pipeline from edge to core to cloud. Our unified data solution supports multiple data formats. And to get your data where you need it, quickly and securely, NetApp Cloud Sync can help. This easy-to-use cloud replication and synchronization service automatically transfers your data across your hybrid cloud environment. Even the largest workloads are continuously synchronized, giving you immediate access to your data whenever and wherever you need it.

Grow without limits
As AI adoption spreads across the manufacturing industry, organizations face another boom in data growth. With NetApp solutions for AI, you can confidently tap into growing data sources with nearly unlimited, nondisruptive scalability and performance. NetApp offers a powerful unified data solution to feed, train, and operate data-hungry AI, ML, and DL applications. Our AI solutions help you realize cost efficiencies with a resilient architecture that can scale and flex from production line to plant to enterprise.

The NetApp rack-scale architecture allows organizations to start with a NetApp AFF A250 all-flash storage system and grow as needed to scale from hundreds of terabytes to tens of petabytes. And with NetApp ONTAP FlexGroup, up to 20PB of single namespace can handle more than 400 billion files.

Breakthrough AI solutions for manufacturing
Are you ready to take the market by storm? NetApp AI solutions help you simplify dataset management, enabling you to reduce errors and operational costs with an infrastructure that's built for the enterprise.

Learn more
NetApp AI solutions
for manufacturing.

About NetApp

In a world full of generalists, NetApp is a specialist. We're focused on one thing, helping your business get the most out of your data. NetApp brings the enterprise-grade data services you rely on into the cloud, and the simple flexibility of cloud into the data center. Our industry-leading solutions work across diverse customer environments and the world's biggest public clouds.

As a cloud-led, data-centric software company, only NetApp can help build your unique data fabric, simplify and connect your cloud, and securely deliver the right data, services and applications to the right people—anytime, anywhere. www.netapp.com

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