

ADVANCE INDUSTRY 4.0 WITH AI AND HPC

AMD Instinct™ GPUs Drive the New Standard for Manufacturing

AT A GLANCE

Manufacturers are adopting or expanding their use of artificial intelligence (AI), generative AI (GenAI) and high-performance computing (HPC). These innovative technologies, accelerated by data center server GPUs, can improve efficiency, product quality and competitiveness.

Opportunity

LEAD WITH TECHNOLOGY

Today's smart manufacturing organizations are pushing boundaries with the latest in AI and HPC, advancing the most impactful use cases.

AI Use Cases

Predictive maintenance

Reduce downtime and extend asset longevity.

Quality control

Improve accuracy and consistency.

Demand forecasting

Optimize supply chains and minimize waste.

Generative design

Reduce development time, improve design and product quality.

Robotics and automation

Improve productivity, reduce risk and cost.

HPC Use Cases

Product design and optimization

Iterate quickly to improve overall quality and efficiency.

Fluid and aerodynamics analysis

Understand how to improve performance, efficiency, and safety.

Manufacturing process simulation

Improve overall production quality and efficiency.

Materials science and engineering

Enhance material strength, durability, and functionality.

AI and machine learning (ML)

Gain the resources to train complex AI and ML models.

Challenge

CHALLENGES CAN STAND IN THE WAY OF PROGRESS

Advanced technologies like AI and HPC are essential for driving innovation and efficiency in manufacturing. However, challenges can stand in the way of success.

Performance

There's no substitute for getting answers and results fast to bring a new or improved product to market.

Efficiency

Entry-level cost of hardware for both HPC & AI are rising dramatically, pushing leaders to get the most out of every investment.

Choice

Proprietary or closed software can make it impossible to see and modify code to meet specific needs.

Solution

AMD INSTINCT™ GPUs

AMD Instinct™ GPUs supercharge demanding workloads with leadership performance and low total cost of ownership. Plus, AMD facilitates easy adoption and migration with the open source AMD ROCm™ software platform so you can deploy with confidence.

Supercharge AI and HPC

Leverage leadership performance for even the most demanding workloads at any scale—from single-server solutions up to the world's [exascale-class](#) supercomputers.

Low total cost of ownership

Greater GPU memory capacity and bandwidth means you can run larger and more models on fewer GPUs/servers for a [cost of ownership](#) advantage.

Deploy with confidence

AMD facilitates the adoption of and migration to AMD Instinct™ GPUs with the extensive AMD ROCm™ software ecosystem, which supports [1M+ AI models out of the box](#)—typically no porting needed.

Choices

DATA CENTER APUs AND GPUS

AMD gives you the power of choice to accelerate your workloads.



AMD Instinct™ MI300 Series APUs and GPUs

Advance demanding AI and HPC workloads with exceptional compute performance, large memory capacity, high-bandwidth memory and support for specialized data formats.

AMD Instinct™ MI200 Series GPUs

Based on the 2nd Gen AMD CDNA™ architecture, AMD Instinct™ MI200 Series GPUs deliver a leap in HPC and AI performance over the previous generation.

ADVANCE YOUR INNOVATION ASPIRATIONS

Find out how AMD Instinct GPUs and AMD ROCm software supercharge AI and HPC to drive manufacturing innovation.

LEARN MORE AT [AMD.COM/INSTINCT](https://amd.com/instinct) AND [AMD.COM/ROCM](https://amd.com/rocm)

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