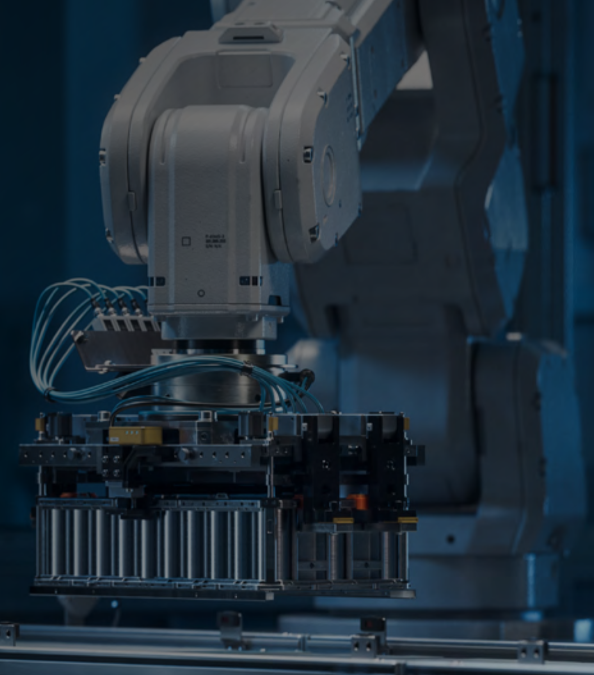
AMD
together we advance_



ACCELERATE INDUSTRY 4.0 WITH AMD

Unifed AI-ready Infrastructure for Modern Manufacturing

THE CHALLENGE

Manufacturers are accelerating digital transformation initiatives to operate faster, smarter, and more efficiently in the era of Industry 4.0. AI, simulation, robotics, computer vision, and real-time analytics are reshaping operations across the manufacturing lifecycle.

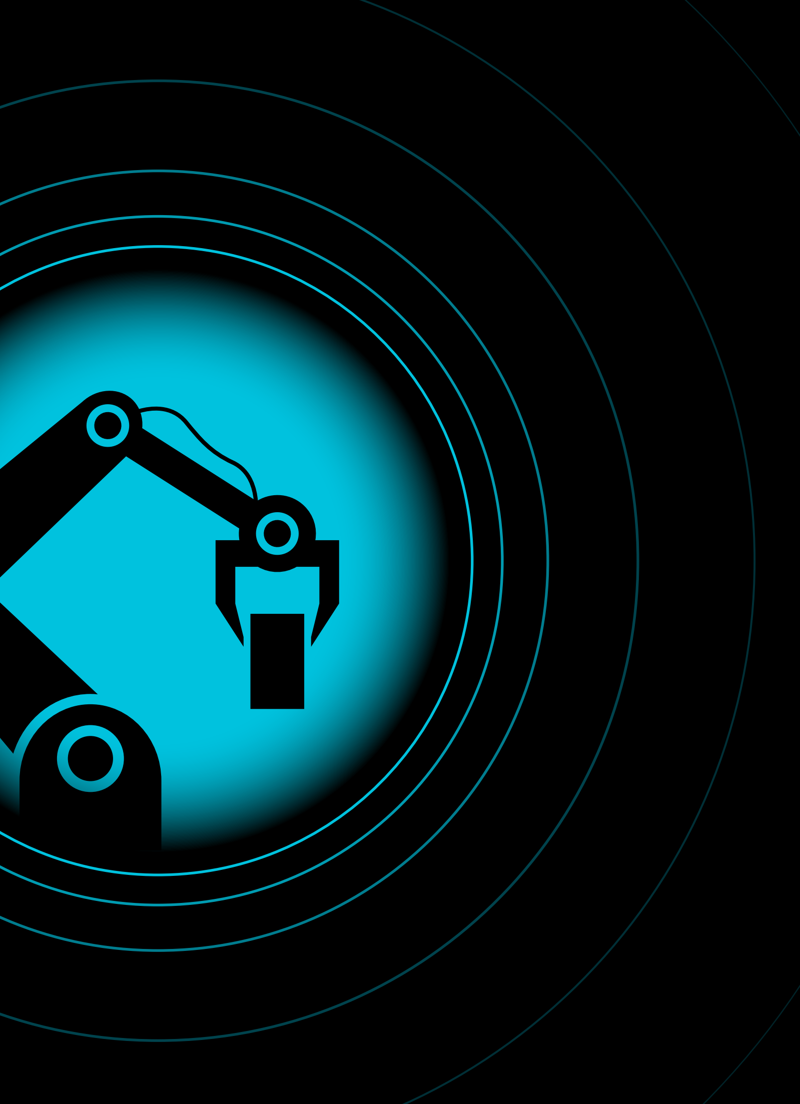
But legacy infrastructure often cannot support the scale, performance, and flexibility modern manufacturing requires. Rising AI and HPC costs, cybersecurity risks, and ongoing supply chain disruption are making it harder to modernize operations while maintaining efficiency and resilience.

Bridging enterprise IT systems with operational technology (OT) across distributed factories, edge environments, and data centers adds even greater complexity.

95% of manufacturers cite inadequate infrastructure as a top barrier to AI deployment[1]

THE REQUIREMENTS

To compete in the era of Industry 4.0, manufacturers need scalable, unified infrastructure that connects the entire value chain, from design and simulation to production and operations. That means:



01
High-performance compute for AI, digital twins, Computer-Aided Design/ Computer-Aided Engineering (CAD/CAE) simulation, and advanced analytics

02
Scalable platforms supporting real-time analytics across data center, cloud, and edge

03
Efficient, high-density consolidated systems to reduce footprint, energy consumption, and total cost of ownership

04
Secure, reliable infrastructure that protects intellectual property and operational data

THE AMD SOLUTION

HIGH-PERFORMANCE COMPUTE FOR MODERN MANUFACTURING

AMD EPYC™ server CPUs deliver exceptional core density and performance, enabling faster simulation, digital twins, and product development.

OPTIMIZE OPERATIONS WITH AI AT SCALE

AMD Instinct™ GPUs power AI workloads across the manufacturing lifecycle, from predictive maintenance to automated quality inspection and process optimization.

MODERNIZE INFRASTRUCTURE ACROSS IT AND OT

AMD enables manufacturers to consolidate traditional IT, HPC, AI, and edge workloads onto a unified platform spanning data center, cloud, and factory operations.

REDUCE COST AND ENERGY CONSUMPTION

Industry-leading performance-per-watt enables server consolidation, lowering infrastructure footprint, power usage, and operational costs.

PROTECT CRITICAL DATA WITH BUILT-IN SECURITY

Advanced security features help safeguard intellectual property while supporting an open, flexible ecosystem free of vendor lock-in.

ACCELERATE INNOVATION THROUGH AN OPEN ECOSYSTEM

AMD works with leading Independent Software Vendors (ISVs), Original Equipment Manufacturers (OEMs), and cloud providers to simplify deployment of manufacturing solutions including predictive maintenance, digital twins, robotics, and AI-powered quality inspection.

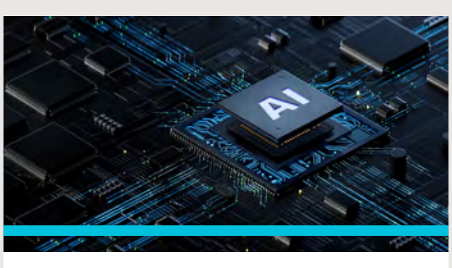
THE IMPACT

Modern manufacturing demands infrastructure that can scale with innovation, without increasing complexity or cost. AMD empowers manufacturers to:

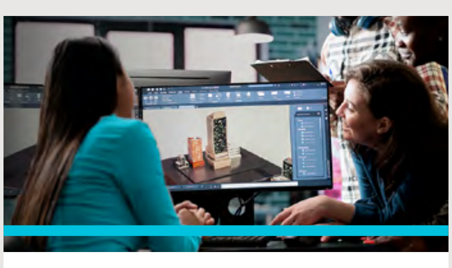
Accelerate product design and time to market

Improve production efficiency and automation

Lower energy consumption and total cost of ownership

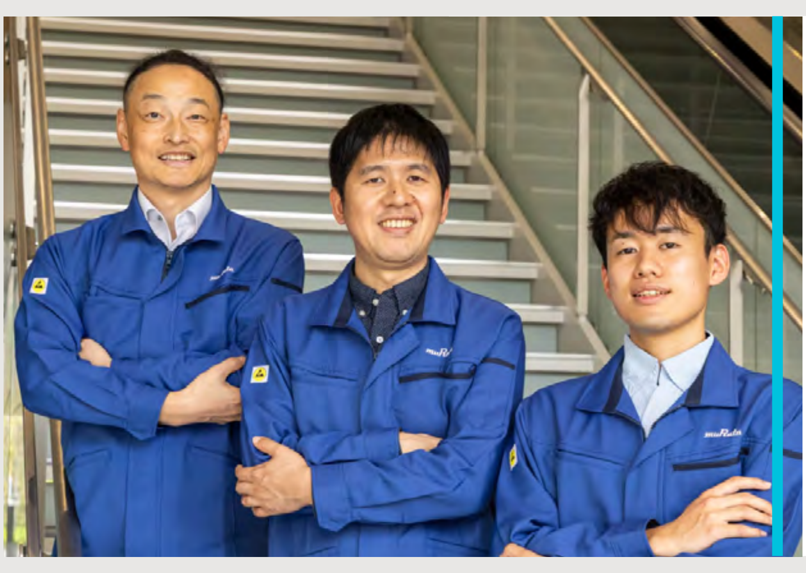


Deploy AI across data center, edge, and embedded environments



Protect critical systems and intellectual property

MURATA



Murata tripled its simulation performance with the same data center footprint while improving energy consumption by deploying AMD solutions.[2]

LEARN MORE AT MANUFACTURING SOLUTIONS OR SPEAK TO YOUR AMD REPRESENTATIVE.

AMD
together we advance_

[1] 5-Point Likert Scale; Watchtower, Global, n=265,194.
[2] GD-181: All performance and cost savings claims are provided by Murata and have not been independently verified by AMD. Performance and cost benefits are impacted by a variety of variables. Results herein are specific to Murata and may not be typical. GD-181.