



DISCOVER THE FUTURE OF MANUFACTURING BUILT ON NEXT GENERATION SUPERMICRO WORKSTATIONS

Enhancing product design capabilities with unmatched performance



Supermicro Workstation Family

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SUPERMICRO

As a global leader in high performance, high efficiency server technology and innovation, we develop and provide end-to-end green computing solutions to the data center, cloud computing, enterprise IT, big data, HPC, and embedded markets. Our Building Block Solutions® approach allows us to provide a broad range of SKUs, and enables us to build and deliver application-optimized solutions based on your requirements.

Executive Summary

In the manufacturing industry, companies are transforming their IT environments with workstation solutions built on compute technology, a new breed of CPUs and GPUs, more memory, increased storage, and comprehensive management software. By implementing cutting-edge workstations, manufacturers will have the ability to boost the performance of their critical applications to enhance product design.

Today's companies are using advanced workstations to improve the speed and quality of their product development cycles. Significant improvements are already seen in graphics-intensive manufacturing applications, including computer-aided design (CAD), computer-aided engineering (CAE), 2D, and 3D design.

Manufacturers that partner with Supermicro and NVIDIA stand to gain an extraordinary competitive advantage:

- Performance at scale: Leverage high throughput and low latency to ensure peak levels of efficiency while ramping up diverse data-centric workloads.
- Enterprise reliability and enhanced manageability: Work with confidence with increased operational performance, durability, and longevity.
- Rich, expansive visual workspace: Experience stunning imagery through movie-quality, anti-aliasing techniques, high-dynamic range (HDR) color support, rapid refresh rates, and up to 8K screen resolution.
- Unmatched acceleration: Realize greater memory and bandwidth to boost productivity, creativity, and innovation.

These tools are enabling manufacturers to accelerate their workflows with unmatched capabilities:

- Bringing new products to market faster
- Optimizing designs for appearance, performance, reliability, cost, and manufacturability
- Enhancing collaboration with geographically dispersed teams to produce and accelerate optimal results

Many manufacturers are using visual computing solutions to transform massive amounts of data into insights. High-performance workstations improve the productivity of high-level decision-makers and engineers by allowing them to make smarter decisions and take immediate action. These technologies deliver incredible performance to run manufacturing applications for predictive analytics, prescriptive analytics, and artificial intelligence (AI). The result is an ideal work environment for power users with high CPU and GPU computation core counts right at their desks to instantly identify, resolve, and even predict issues in production.

Choosing Trusted Partners

The world of professional visualization is changing quickly. Advanced requirements like real-time ray tracing, engineering simulation, immersive virtual reality (VR), and AI-augmented tools are common [across the manufacturing sector](#). With professional workflows constantly evolving, workstations are pushed to the edge to optimize application performance.

Supermicro and NVIDIA are delivering the next generation of visual computing to accelerate the future of manufacturing. Together, Supermicro and NVIDIA provide the right visual computing solutions to maximize the speed and precision of the manufacturing lifecycle.

Supermicro is a global leader in high-performance, high-efficiency technology, offering the broadest product portfolio for robust workstations. With operations in [more than 100 countries](#), Supermicro is a leader in enterprise, cloud, AI, edge, and IoT, developing state-of-the-art products that help manufacturers outpace the competition. The goal is to enable the success of every company.

Supermicro achieves this through extensive engineering expertise and the industry's broadest product portfolio, which offers green computing technologies that reduce energy costs, effectively allocate resources to tackle complex design workflows, and improve the overall total cost of ownership. In addition, Supermicro provides a range of performance-boosting solutions to help manufacturers work better, smarter, and faster in partnership with NVIDIA.

Supermicro is committed to building work environments that deliver industry-leading energy efficiency, acceleration, and stability. Leveraging [first-to-market innovations](#) from Supermicro and the NVIDIA RTX™ technology, Supermicro workstations are purpose-built for unprecedented performance at scale to enhance any application. These platforms are expertly designed to optimize manufacturing workflows that require powerful compute and graphics

Next generation workstations are designed with key capabilities in mind to improve manufacturing operations:

- Purpose-built for the most demanding manufacturing workloads
- Accelerated application performance to create tomorrow's products, today
- Optimized workflows for powering innovation

capabilities so that companies can complete critical processes in record time. These solutions are already radically improving how teams design and collaborate to bring new products to market faster.

Backed by GPU-powered workstations, manufacturers are applying VR, physically-based rendering, graphics virtualization, real-time simulation, and AI to optimize designs. These workstation solutions have the best product selections and configurations to ramp up production:

- Building complex models
- Rendering photo-realistic designs
- Fueling real-time and predictive AI insights
- Simulation product performance

Product designers and engineers will experience a boost in productivity by enjoying a smooth graphics workflow using leading CAD/CAE software applications, even when working with complex 3D models on 4K displays. These game-changing technologies are empowering manufacturers to improve engineering efficiency to meet tight deadlines and project milestones.

Now, enterprises can adopt the latest workstation solutions to power innovation anywhere.

Building The Ideal Production Environment

[Supermicro workstations](#) are fast, reliable, and cost-effective to meet the demands of any manufacturing operations. These workstations utilize enterprise-grade technologies which are tested and validated to meet specific application requirements. Solutions from Supermicro offer a high degree of flexibility and upgradability to support the rising need for graphics and AI wherever employees need to work. The workstations feature a wide range of industry standard components to optimally configure the system for enterprise needs—including NVMe storage, the latest CPUs, and breakneck acceleration from NVIDIA GPUs.

Supermicro offers recommended configurations to fit an enterprise's unique application requirements. Each Supermicro workstation is assembled and tested at a production facility in the USA. For EMEA and APAC companies, Supermicro builds workstations at production facilities in the Netherlands and Taiwan. All support issues are managed by local engineering experts, product managers, and global support services that include next-day onsite options.

These workstations can deliver the best possible experience and performance for a range of demanding applications with optimized configurations, ultra-fast NVIDIA GPUs, and optimized drivers.

Supermicro Workstations for Design Professionals



SYS-5039A-I



AS-5014A-TT



SYS-740A-T

Single-processor workstations provide exceptional power to handle the most demanding workflows

Entry-level configurations are engineered to be cost-efficient while providing the right level of performance to empower teams using design and modeling applications.

Most versatile workstation delivering full spectrum compute capability enables reduced render times, more creative iterations, faster simulation solving, quick assembly rebuilds, and smooth interactivity with 3D assets

Mainstream configurations are an ideal choice for smaller electromagnetics, computational fluid dynamics (CFD), and mechanical simulation applications.

Dual-processor workstations are fully configurable and provide high performance with server-grade reliability

Expert configurations enable companies to harness the critical speed and compute capacity for larger electromagnetics, CFD, and mechanical simulation applications.

- Intel® Xeon® W-2200 processor, up to 18 cores
- 128GB DDR4-2933 Memory
- NVIDIA RTX™ A2000
- 1TB M.2 NVMe + 6TB HDD
- Windows 10/11 Pro 64 or Linux

- AMD Ryzen™ Threadripper™ PRO 3900WX Series Processor, up to 64 Cores
- 512GB DDR4-3200 Memory
- NVIDIA RTX™ A6000
- 3x 1TB M.2 NVMe in RAID 5 + 2x 3.8TB U.2 PCIe Gen 4 SSD
- Windows 10/11 Pro 64 or Linux

- Dual 3rd Gen Intel® Xeon® Scalable processors, up to 76 total cores
- 2TB DDR4-3200 Memory
- NVIDIA RTX™ A6000DR4-3200 Memory
- 2TB M.2 NVMe + 2x 7.6TB U.2 PCIe Gen 4 SSD
- Windows 10/11 Pro 64 or Linux

Summary

Supermicro and NVIDIA are empowering companies across the manufacturing industry to work better, smarter, and faster with solutions designed to boost productivity and insight. Today, these powerful workstations are created to help manufacturers deliver amazing new products and innovate without bounds. As a result, organizations can benefit from solutions and capabilities that are the best in the industry:

- **Best performance:** Highest memory and storage capacities available in a single tower system, featuring up to four passively cooled GPUs in tower form factor. Supermicro is the only manufacturer to offer up to four NVIDIA A100 Tensor Core GPUs in multiple models, with up to 80 cores, 4TB of memory, 61.44TB of NVMe, and optional DCPMM support.
- **Best expandability** Up to six PCIe Gen4 x16 expansion slots, or up to four PCIe Gen4 M.2 with optional hardware RAID 0/1/5/10 support.
- **Best component selection:** Supermicro validates a wide variety of memory, storage, and networking components with different specifications to help configure an optimized system for an organization's needs without locking anyone into one brand.
- **Best assembly and local support:** All workstation systems shipped in the Americas are built and tested at Supermicro headquarters in San Jose, California, and include technical support services by in-house Supermicro engineers and product managers.

Whether building complex 3D models, rendering photo-realistic designs, or simulating product performance, workstation solutions from Supermicro and NVIDIA have the best product selections and configurations to accelerate overall productivity.

Together, Supermicro and NVIDIA can help enterprises deploy the ideal workstation for specific requirements to optimize product design workflows, from intensive graphics work to the cutting edge of AI. Let Supermicro help organizations transform any environment. Visit Supermicro online to get started.

Learn more at

supermicro.com/en/products/superworkstation

nvidia.com/en-us/design-visualization/rtx/