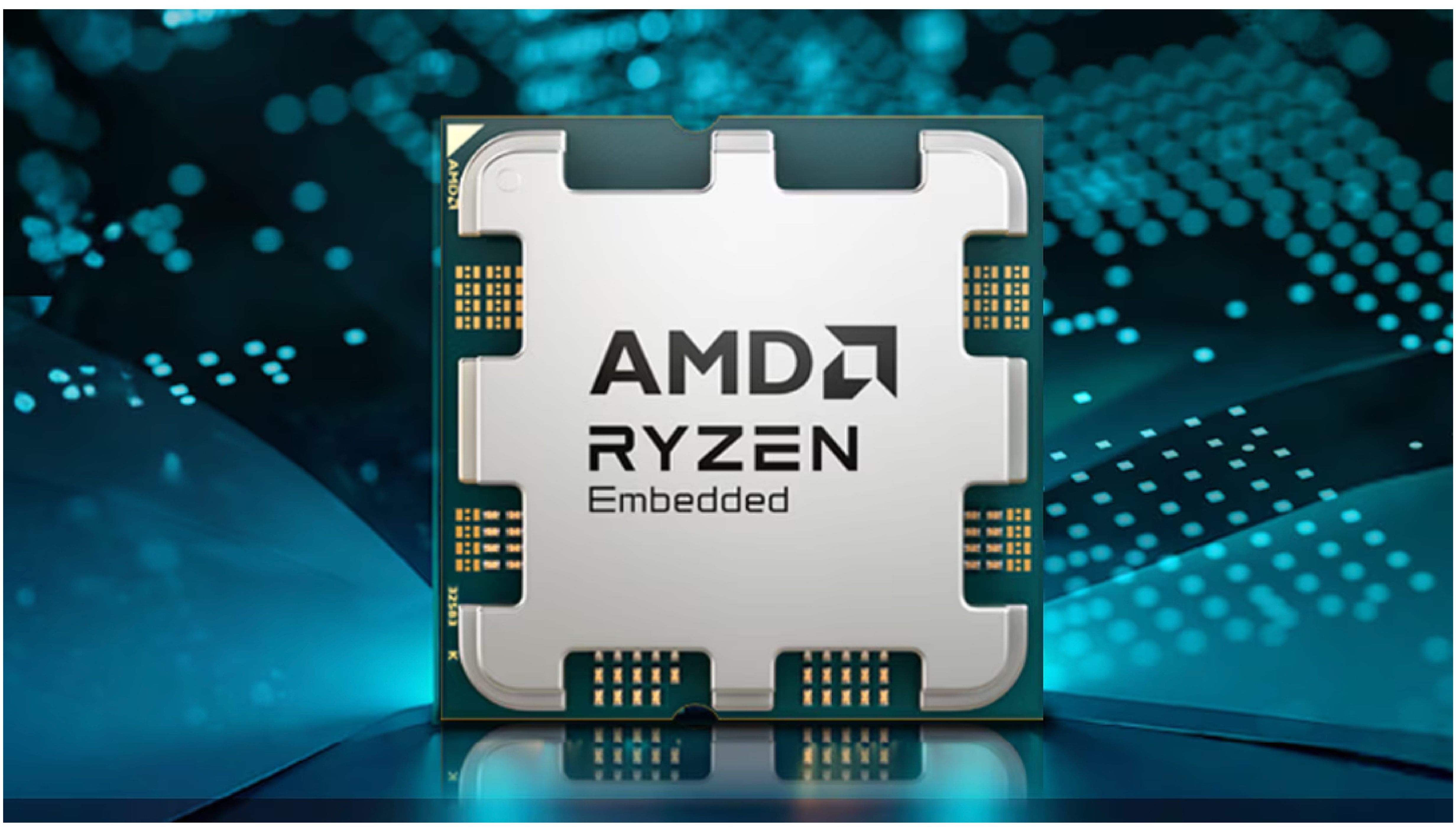
AMD Ryzen™ Embedded 9000 Series Brings Next-Gen Performance and Efficiency to Industrial Computing and Automation

Oct 07, 2025



Industrial computing is rapidly evolving, with new demands for platforms that balance performance, energy efficiency, and long-term reliability. AMD is meeting this challenge with the introduction of Ryzen™ Embedded 9000 Series processors built for industrial PCs, automation systems, and machine vision applications. This new series delivers exceptional performance-per-watt, low latency, and the long-term stability required by industrial customers.

The versatility of Ryzen Embedded 9000 Series processors is evident across its target applications. For industrial PCs, it delivers a combination of performance, integrated graphics, and efficiency that are needed to power and sustain operation in harsh environments. In industrial control and automation, the processor provides the low-latency, high-throughput performance required for robotics, edge computing, and smart-factory operations. In machine vision, the combination of real-time AI inference and advanced video processing helps to ensure that tasks like defect detection, quality control, and test and measurement can be executed with exceptional precision and speed.

At the core of the Ryzen Embedded 9000 Series is the advanced AMD "Zen 5" architecture, designed to push the limits of performance and efficiency. Built on a 4nm process, these processors offer up to 16 high-performance cores with configurable power that scales from 65W to 170W, making it possible to tailor systems for everything from energy-conscious industrial control to high-throughput machine-vision systems used for factory automation.

This performance is elevated with support for the AVX-512 instruction set for AI and video processing. Combined with DDR5 memory, PCIe® Gen 5 connectivity, and up to 128MB of cache using AMD 3D V-Cache™ technology, the Ryzen Embedded 9000 processor delivers the speed and throughput needed for latency-sensitive tasks. For applications requiring graphics and visualization, the AMD RDNA™ 2 architecture provides cost-effective display and vision solutions without the need for discrete GPUs, reducing both complexity and system costs.

Reliability That Lasts

Industrial deployments often span years, if not decades, requiring platforms that can match those long lifecycles. The Ryzen Embedded 9000 Series is built with this reality in mind. Designed for an AMD AM5 socket, the platform provides backward- and forward-compatibility for easy installation.

Ryzen Embedded 9000 Series processors feature up to seven years of product availability and reliability, so that system designers can be confident that their investments will remain viable long into the future. Ryzen PRO embedded SKUs, expected to be available later this year, will extend support even further, with up to 10 years of product availability and reliability. Additionally, AMD PRO technologies deliver multilayered security and seamless manageability, with built-in protections such as AMD Platform Secure Boot[1] and full memory encryption with AMD Memory Guard[2], to help defend against evolving cyber threats. From factory floors to medical systems, the Ryzen Embedded 9000 Series is designed to deliver consistent, trusted performance no matter how demanding the condition.

Future-Ready

Beyond performance and reliability, the Ryzen Embedded 9000 Series is engineered to give solution providers the flexibility and scalability they need to meet both today's and tomorrow's challenges. Expansive connectivity, including WiFi 6E, PCIe® Gen 5, and high-speed I/O, makes it possible to design platforms that are not only powerful today but also adaptable to support future technologies. With compatibility through the AM5 socket and a broad range of SKUs, system architects can scale solutions to match diverse application requirements while keeping costs under control.

The AMD Ryzen Embedded 9000 Series delivers a platform built for endurance and innovation. By combining state-of-the-art performance-per-watt, robust reliability, and future-ready scalability, it empowers industrial and embedded system designers to create solutions that will stand the test of time. Ryzen Embedded 9000 Series processors offer a foundation that is as forward-looking as it is dependable and is a big step forward for industrial computing.

For more information about this product, please visit:
https://www.amd.com/en/products/embedded/ryzen/9000-series.html.