

Optimized Edge AI Performance Tailored for Harsh Industrial Settings



About ASRock Industrial

ASRock Industrial is a leading provider of edge computers and industrial motherboards. Our vision is to co-create an intelligent world with vertical applications in CARES (Commerce, Automation, Robot, Entertainment, Security) industries. ASRock Industrial works with systems integrators and independent software vendors to provide high-performance and flexible total solutions.

ASRock Industrial's iEP-9030E Series Amplifies Edge AI Performance with Intel® Core™ processors (14th Gen)

Within the industrial sector, the demand for edge AI applications has surged, driven by the necessity to process data instantaneously, maximize resource efficiency, and keep pace with evolving customer demands. To address these challenges, ASRock Industrial designed the iEP-9030E Series Robust Edge AIoT Platform. Powered by Intel® Core™ processors, it supports up to 24 cores/32 threads, ensuring optimized edge performance. With a hybrid performance architecture, it delivers up to 1.05x faster single-thread performance, 1.18x faster multithread performance, and 1.05x faster CPU plus GPU image classification inference performance compared to previous generations.¹

The performance boosts image processing and analysis speed, enhancing user experiences, especially in AI-based applications. Additionally, it maximizes computational power usage, improving efficiency in handling complex AI workloads, thereby meeting the needs for real-time processing and resource utilization.

Industrial Workload Consolidation Designed for Durability and Versatility

The iEP-9030E Series Robust Edge AIoT Platform stands out for its workload consolidation capabilities – able to replace dedicated edge compute devices for tasks like HMI, PLC, and motion/vision control, enhancing results for industrial use cases such as factory and machine automation, AI AOI systems, robotics, motion control, surveillance and security systems, and more.

¹ Performance varies by use, configuration, and other factors. Learn more at [intel.com/processorclaims](https://www.intel.com/processorclaims); Intel® Core™ processors (14th Gen), Edge. Results may vary.

To accommodate these types of use cases, the solution offers a space-saving, fan-less, robust power design supporting wide power input ranges, and extensive surge protection and safety features such as OVP, UVP, OCP, and reverse protection. Additionally, the platform operates reliably across broad temperature ranges, exhibits high shock and vibration resistance, and features onboard TPM 2.0 for extended security to help ensure continuous functionality in harsh environments.

Intel Ingredients



**Intel® Core™
processors (14th Gen)**

Optimized computing power with performance hybrid architecture to optimize edge AI solutions.

Key Features

- **Rich I/O flexibility and real-time computing** with Intel® Time Coordinated Computing and Time-Sensitive Networking, connecting edge devices seamlessly.
- **Rugged design for industrial usages** with its fan-less, wide range operating temperature (-40°C to 70°C) and robust power design of 9-36VDC power inputs.
- **Seamless network expandability** with integration of additional sockets for RF modules, supporting such as 4G LTE, 5G, Wi-Fi 6E, and BT 5.3.

Use Cases

- **The iEP-9030E optimizes AI AOI** using ASRock Industrial's AICO engine, enabling on-site operators and process engineers (OP/PE) to perform instant annotation, AI model training, and re-training. This capability facilitates rapid decision-making and reduces R&D efforts.
- **The iEP-9030E integrates with the AI LLM Fine-Tuning Kit**, featuring AI technologies such as Intel® Distribution of OpenVINO™ Toolkit, Intel® One API, BigDL, Hugging Face, and Intel® Extension of PyTorch. These integrations enhance model accuracy, reduce costs, and simplify AI LLM development.

Learn More

- [Intel® Foundational Developer Kits](#)
- [ASRock Industrial - iEP-9030E Series product page](#)

Intel® Foundational Developer Kits allow you to get started on your targeted application development with a superior out-of-the-box experience. Deploy your application at scale by building customized systems via Intel ecosystem partners.



Performance varies by use, configuration, and other factors. Learn more on the Performance Index site.

No product or component can be absolutely secure.

Your costs and results may vary.

Intel technologies may require enabled hardware, software, or service activation.

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