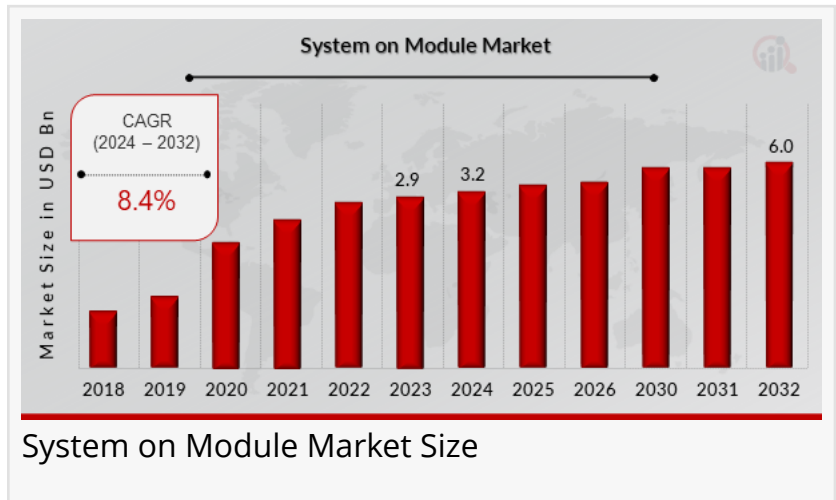


System on Module Market is Expected to Reach \$6.0 Billion by 2032

*System on Module Market Research
Report Information By Type, Standard,
Application, and Region*

CA, UNITED STATES, February 20, 2025 /EINPresswire.com/ -- The global [System on Module \(SoM\) Market](#) has experienced significant growth in recent years and is expected to expand steadily in the coming decade. In 2023, the market size was valued at USD 2.9 billion and is projected to grow from

USD 3.2 billion in 2024 to USD 6.0 billion by 2032, reflecting a compound annual growth rate (CAGR) of 8.4% during the forecast period (2024–2032). The growth is primarily driven by the increasing adoption of embedded computing solutions, rising demand for industrial automation, and advancements in artificial intelligence (AI) and Internet of Things (IoT) applications.



Key Companies in the System on Module market include

- AAEON Technology
- Advantech Co Ltd
- Avnet Inc
- Avalue Technology
- Axiomtek Co Ltd
- ConnectTech Inc
- Cognatec AG
- EMAC Inc
- Eurotech Inc
- Kontron ST&G
- Microchip Technology
- National Instruments
- Phytex
- SECO spA
- TechNexion Ltd

- Toradex
- VIV Technologies Inc.

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Key Drivers of Market Growth

Increasing Adoption of Embedded Computing

System on Module (SoM) technology is widely used in embedded systems, offering a compact and scalable solution for a wide range of applications, including automotive, medical devices, industrial automation, and consumer electronics. The rising demand for high-performance computing in embedded systems is a key driver of market expansion.

Growth in Industrial Automation and IoT

The rapid adoption of IoT, smart manufacturing, and industrial automation has significantly increased the demand for System on Modules. These modules enable seamless integration of computing power into industrial control systems, robotics, and smart sensors, enhancing operational efficiency and real-time data processing.

Advancements in AI and Edge Computing

The integration of AI-driven applications and edge computing is propelling the demand for high-performance and energy-efficient System on Modules. These technologies are widely used in autonomous vehicles, AI-powered medical diagnostics, and real-time surveillance systems, enabling faster data processing at the edge.

Expansion of the Automotive and Healthcare Sectors

The automotive industry is leveraging System on Modules for advanced driver-assistance systems (ADAS), infotainment systems, and vehicle-to-everything (V2X) communication. Similarly, the healthcare sector is integrating SoMs into medical imaging, patient monitoring, and diagnostic devices, enhancing the precision and efficiency of healthcare technologies.

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Market Segmentation

To provide a detailed analysis, the System on Module Market is segmented based on type, processor, application, and region.

1. By Type

- ARM-Based SoM – Highly efficient and widely used in IoT, automotive, and consumer electronics.

- x86-Based SoM – Preferred for industrial automation, medical devices, and AI-driven applications.
- PowerPC SoM – Deployed in aerospace, defense, and high-performance computing applications.

2. By Processor

- Single-Core Processors – Used in low-power embedded systems and IoT devices.
- Multi-Core Processors – Ideal for high-performance computing, AI applications, and industrial automation.
- Graphics Processing Units (GPUs) – Integrated for AI, edge computing, and advanced imaging applications.

3. By Application

- Industrial Automation – Increasing use of SoMs in factory automation, PLCs, and robotics.
- Automotive – Critical for ADAS, infotainment, and autonomous driving systems.
- Healthcare – Integration into medical imaging, wearable health devices, and diagnostics.
- Consumer Electronics – Powering smart home devices, gaming consoles, and portable computing.
- Aerospace & Defense – Deployment in avionics, unmanned aerial vehicles (UAVs), and secure communication systems.

4. By Region

- North America – Leading market, driven by strong demand for AI and IoT-powered applications.
- Europe – Growth fueled by advancements in automotive technology and Industry 4.0 initiatives.
- Asia-Pacific – Fastest-growing region, led by increased semiconductor production and expanding industrial automation in China, Japan, and South Korea.
- Rest of the World (RoW) – Gradual adoption in Latin America, the Middle East, and Africa, supported by smart city projects and infrastructure development.

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Future Trends in the System on Module Market

1. Increased Adoption of AI-Optimized SoMs

With AI applications becoming more widespread, AI-optimized SoMs featuring dedicated neural processing units (NPUs) and GPUs will become a critical trend, enabling real-time AI inference and edge processing.

2. Integration of 5G Connectivity

The growing demand for real-time data transmission and low-latency computing will drive the

integration of 5G-enabled SoMs, benefiting applications in smart cities, autonomous vehicles, and industrial IoT.

3. Miniaturization and Power Efficiency

Advancements in semiconductor fabrication are leading to smaller, more power-efficient SoMs, making them ideal for wearable devices, drones, and battery-powered embedded systems.

4. Expansion of RISC-V Architecture

The open-source RISC-V architecture is gaining traction in the embedded computing space. Future SoMs will likely integrate RISC-V-based processors to offer greater customization, flexibility, and cost efficiency.

5. Advancement in Security Features

As embedded systems handle sensitive data in IoT, healthcare, and finance, security-enhanced SoMs with hardware-based encryption and secure boot mechanisms will become more prevalent.

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