

Today's robots specialize in narrowly defined tasks, built for simple automation of repetitive behavior. The next generation of autonomous platforms will be more advanced and adaptable to new tasks, environments, and events as part of the physical AI market. These platforms will think and make decisions for a variety of use cases:

Automotive

- Autonomous Vehicles (L2+ AV)
- Advanced Driver Assistance Systems (ADAS)
- Natural Language Processing for In-Vehicle Information Systems (IVI)

Industrial

- Predictive Maintenance
- Quality Control
- Energy Management
- Natural Language Processing for Safety and Control systems
- Smart Manufacturing
- Surgical Assistance
- Medical Imaging
- Pest Detection
- Precision Farming
- Crop Monitoring



Self-directed robots, capable of evaluating and planning autonomously, will fit more easily into the human world to drive scale, consistency, and safety in many industries. From enabling better control interfaces to quickly adapting to new processes, physical AI at the edge makes machines better.

Real-time intelligence is the essential tech stack for physical AI. The **MIPS™ S8200** enables the capabilities of multi-modal AI to deliver mixture-of-experts processing at the edge. Build physical AI applications with open-source, commercial, or self-developed models to dial-in the inference capabilities of the physical AI platform.



Aiming to enable a 4X higher TOPS/W (tera-operations per second, per Watt) output, the MIPS S8200 is built out of quad-core building blocks, featuring multiple-thread support, and tiling of coherent clusters for scaling up into large designs. The MIPS S8200 AI inference engine may be integrated into SoC designs, chips based on MIPS reference silicon, or custom-tailored solutions.

The MIPS S8200 will feature highly-efficient RISC-V application cores with tightly-coupled AI engines. Capable of running vector or matrix workloads, these engines provide support for deep learning frameworks (PyTorch, Tensorflow, and others) with MIPS optimized compilers and libraries.

With industry-leading performance combined with a power-efficient, open-specification based design, adopting physical AI in autonomous platforms will be easier than ever before.

[Contact us to learn more.](#)

