

# AI Semiconductor Startup Develops 'Five Times More Efficient Than GPUs' for Communications Infrastructure

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The semiconductor design and development startup, EdgeCortex (Chuo, Tokyo), will develop semiconductors for artificial intelligence (AI) infrastructure by 2026.

The company will receive up to 4 billion JPY in subsidies from the Ministry of Economy, Trade, and Industry. Compared to image processing semiconductors (GPUs), it aims to achieve more than five times the computational efficiency per unit of power consumption.



Sakyasingha Dasgupta CEO revealed in an interview with the Nikkei at the SEMICON Japan, international semiconductor exhibition held at Tokyo Big Sight. The company is developing semiconductors for next-generation infrastructure that will incorporate AI into mobile base stations, enabling data processing without the need to send data to data centers.

The same infrastructure technology is being developed not only by overseas telecommunications companies but also by domestic companies such as SoftBank. Mr. Dasgupta stated, "We will collaborate with telecommunications companies and others to develop chips that are cost-effective and highly energy-efficient."

The new chip will utilize advanced technology with a circuit line width of 6 nanometers (one nanometer is one-billionth of a meter) or less, and its manufacturing will be outsourced to Taiwan Semiconductor Manufacturing Company (TSMC). The chip will adopt "chiplet" technology, which integrates chips with different functions onto a single substrate to enhance performance.

The company was established in 2019 and specializes in the design technology of software that drives semiconductor chips. It has received investments from companies such as Renesas Electronics. Mr. Dasgupta has experience in development at IBM in the U.S. and RIKEN, the Institute of Physical and Chemical Research etc.

At the SEMICON Japan, the company showcased a system that controls multiple AI models using a small chip. The system captures a person with a camera, displays them on a screen, and AI provides a description of their features through subtitles. This technology is useful for systems that require low power consumption and real-time processing.

## Translation prepared by EdgeCortex

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