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NEDO grants EdgeCortix JPY 4 bn for AI RAN chiplets

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Japanese nonprofit energy research agency New Energy and Industrial Technology Development Organisation (NEDO) has awarded a JPY 4 billion grant to Japanese semiconductor company EdgeCortix to develop next-generation energy-efficient AI chiplets, aimed at powering AI processing and advanced RAN communications. Current systems rely on single-purpose servers for AI deployment and RAN processing, which are costly, energy-intensive and difficult to scale. While AI-integrated RAN

(AI-RAN) presents a promising alternative, it still faces significant energy consumption and cost barriers.

With this grant, EdgeCortix will develop the advanced chiplet-based platform, Sakura-X, designed to integrate high-performance AI processing with RAN acceleration – focused on distributed units. Sakura-X is expected to reduce energy consumption and improve computational efficiency by more than five times compared to current solutions. This platform, built using TSMC's technology nodes, is targeted for future mass production at Japan's advanced semiconductor manufacturing facility in Kumamoto.

The project builds upon EdgeCortix's proven Dynamic Neural Accelerator (DNA) next-generation processor, DNA-X, which features a unique programmable architecture optimised for both AI and non-AI computations in real time, meeting low power requirements. With up to 90 percent utilisation and surpassing traditional GPUs, DNA-X combines with EdgeCortix's innovative RAN accelerator IP to deliver optimised performance and minimal power consumption through advanced power management and co-design strategies.

Once deployed in next-generation Open RAN and AI-RAN systems, Sakura-X will support generative AI applications and low-power Distributed Unit (DU) acceleration on a unified hardware platform.

