brainchip

ASX Announcement

Frontgrade Gaisler Licenses Brainchip's Akida IP
to Deploy AI chips into Space

- Frontgrade Gaisler acquires licence from BrainChip for Akida 1.0 Neuromorphic AI IP

Sydney – 16 December 2024 – BrainChip Holdings Ltd (ASX: **BRN**, OTCQX: **BRCHF, BCHPY**) (**"BrainChip"**, or the **"Company"**), the world's first commercial producer of ultra-low power, fully digital, event-based, neuromorphic artificial intelligence, today announced that Frontgrade Gaisler, a leading provider of radiation-hardened microprocessors for space applications, has licensed BrainChip's Akida™ 1.0 Neuromorphic AI IP for incorporation into its space-grade, fault-tolerant, system-on-chip solutions for hardware AI acceleration across multiple product generations. This builds on their collaboration announced on 5 May 2024, to evaluate Brainchip Akida silicon devices. This commercial licence agreement paves the path forward for AI chips to be deployed in space.   The Akida neuromorphic computing solution was selected based upon providing real time data stream processing with resiliency, autonomy and accuracy at the lowest power, mass and volume.

The European Space Agency (ESA) has been leading in the efforts to deploy neuromorphic computing to the furthest edge of AI. "While many fields no doubt can benefit from neuromorphic computing, one essential area is computer vision applications where current FPGA or GPU technologies do not bring satisfactory results for edge deployments when considering mass, volume and power constraints," said Laurent Hili, microelectronics and data handling engineer at the ESA. "This program has demonstrated the superiority of neuromorphic technology through several on-going activities with satellites, IP and component suppliers such as Frontgrade Gaisler and BrainChip." BrainChip's neuromorphic AI will boost space-borne On-Board-Computers with superior power efficiency and inference performance while maintaining compatibility with existing Convolutional Neural Networks (CNNs).

This licence agreement progressed after a successful evaluation engagement with Frontgrade Gaisler (Frontgrade) where BrainChip, Frontgrade and ESA collaborated to evaluate BrainChip's Akida neuromorphic processor silicon on insulator samples and software. The evaluation also measured execution performance and power for potential integration into Frontgrade's next generation fault tolerant, radiation-hardened microprocessors. The evaluation project was driven by the European Space Agency (ESA) under a program known as the ESA Discovery Open Space Innovation Platform. BrainChip will receive €150,000 for its role in this project.

Under this new commercial Akida IP licence agreement, BrainChip is entitled to receive a 10% royalty on the Net Sale Price of Frontgrade's first licensed product in exchange for providing Akida 1.0 IP that includes one hundred hours of integration support and twenty-four months of software maintenance. After twenty-four months Frontgrade has the option to purchase additional software maintenance for $125,000 per year. Frontgrade also has the option to obtain an additional Akida 1.0 IP licence for one more licensed product for a fee of €150,000 or a royalty of 15% of the Net Sale Price of the second licensed product. BrainChip is currently unable to estimate potential future royalty revenues. This licence for the product(s) is perpetual and no other material conditions must be satisfied to execute the agreement.

"This collaboration with Frontgrade Gaisler to licence Akida IP for implementation into space SoCs represents an important step in space-based AI deployments, turning into reality what once was considered unattainable", says Sean Hehir, CEO of BrainChip "We are pleased to expand on our trusted relationship with Frontgrade as they push the boundaries of space computing."

This announcement is authorised for release by the BRN Board of Directors.

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About Frontgrade Gaisler

Frontgrade Gaisler, a Frontgrade company, is a leading provider of radiation-hardened microprocessors and IP cores for critical applications, particularly in the space industry. The company's processors are known for their reliability, fault tolerance, and radiation tolerance, making them ideal for any space mission or other high-reliability application.

About Frontgrade

Frontgrade Technologies is the leading provider of high reliability and radiation-assured solutions for defense, space, intelligence, commercial, and civil applications. The company's product portfolio is designed to perform in the harshest of environments and includes a complementary and integrated suite of mission-matched electronics ranging from radio frequency (RF) systems and microelectronics to motion control and power solutions. For more information, visit frontgrade.com

About BrainChip Holdings Ltd (ASX: BRN)

BrainChip is the worldwide leader in edge AI on-chip processing and learning. The Company's first-to-market neuromorphic processor, Akida^{TM}, mimics the human brain to analyse only essential sensor inputs at the point of acquisition, processing data with unparalleled efficiency, precision, and economy of energy. Keeping machine learning local to the chip, independent of the cloud, also dramatically reduces latency while improving privacy and data security. In enabling effective edge compute to be universally deployable across real world applications such as connected cars, consumer electronics, and industrial IoT, BrainChip is proving that on-chip AI, close to the sensor, is the future for its customers' products as well as the planet. Explore the benefits of Essential AI at www.brainchip.com.

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