



BrainChip Product Development and Business Update

Akida Product Development is Company's Primary Focus

- **Heightened focus on Akida™ Product Development**
 - Engineering and marketing resources are focused on the Akida integrated circuit (IC) design
 - Field Programmable Gate Array has been completed for in-house circuit verification of the Neural Processor Core (NPC)
 - Company is nearing completion of vendor selection for Application Specific Integrated Circuit (ASIC) manufacturing
 - **Company Restructuring**
 - Reduction in planned spending of US\$1.3mm to US\$1.5mm annually
 - Sales and marketing of BrainChip Studio shifted exclusively to select original equipment manufacturers (OEMs)
 - Elimination of sales and marketing headcount for end-user sales
 - Voluntary temporary reduction in certain Executive Compensation
 - **Gaming Partners International (GPI)**
 - Commercial product development continues, including enhancements and performance benchmarking
 - Demonstrations to major gaming operators is ongoing for Blackjack and Baccarat
 - Commercial Agreement remains delayed while GPI is in diligence with Angel Kodo, Kyoto Japan and performance benchmarking and integration is completed
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Sydney, Australia – 28 February, 2019: BrainChip Holdings Ltd (**ASX: BRN**), the leading neuromorphic computing company, today provided a product development and business update.

Akida product development

Since inception BrainChip has been committed to providing an artificial intelligence solution as an integrated circuit.

The Company's acquisition of Spikenet Technologies in September of 2016 has provided software validation of a spiking neural network (SNN) specific to image processing. The Spikenet research and engineering team have proved invaluable in the area of image processing and have provided significant insight for the development of Akida.



The Company announced the Akida Development Environment (ADE) and Architecture in the fourth quarter of 2018. The ADE allows users to fully simulate the implementation of the Akida IC and determine benchmark performance in terms of accuracy and power consumption in AI Edge applications. Importantly, this allows OEM equipment design prior to the IC introduction.

The development of Akida is proceeding well, with refinements from inputs of early access potential customers. The Company has implemented the Akida NPC in a Field Programmable Gate Array (FPGA) for internal use in evaluation. This is an important step in the process of developing a complex IC as it provides verification of the logic design, thereby improving prospects for a successful implementation prior to incurring manufacturing expenses.

The Company has determined that an Application Specific Integrated Circuit (ASIC) vendor that provides full services, from the layout of the design through all subsequent manufacturing processes, will be most cost effective, reduce risk and accelerate time-to-market for Akida in AI Edge applications. The Company expects to select an ASIC vendor in the first quarter of 2019 and commence logic circuit design in the first quarter of 2019.

BrainChip has made great strides in the Akida design, creating a device that is very compact, flexible, provides low-latency and is low-power for AI Edge applications. The device can be user-configured for both convolutional and fully-connected networks applicable to a broad range of visual, data, and sensor applications. Akida will deliver up to 1.2 million neurons and over 10 billion synapses in a low-power chip, expandable to a far greater capacity by utilizing off-chip memory. The details of the design are proprietary and are described in the Company's currently pending provisional patent. The Company is working on a series of patents covering all aspects of the unique Akida design in detail.

Restructuring and Expense Control

The Company is implementing a restructuring and series of expense controls to focus resources primarily on the Akida product development.

With regard to BrainChip Studio, end-user engagement has provided the Company deep knowledge of customer expectations and insight regarding the human capital and sales process required to be successful. However, the Company underestimated the time and effort to support end-users and the time to achieve revenue from the ongoing trials.

The insights gained from end-user engagement has reinforced the Company's view that focusing on OEM customers provides many benefits including a significant reduction in



direct cost and opportunity cost savings. Taking these valuable learnings into account, the Company has shifted its focus from end-user sales, to OEM relationships. This allows the primary focus of the the organisation to be on the completion of the Akida IC. Because the Company's success with OEM partners is highly dependent on their own success in marketing their platform, the Company intends to partner with those OEMs best able to bring the innovation of a low-power, high-accuracy spiking neural network to its customer base. The business model for BrainChip Studio includes license and revenue sharing while Akida includes product, license and royalty revenue.

With regard to restructuring and reduction in expenses, BrainChip Studio end-user sales and marketing roles will be eliminated, and discretionary spending will be reduced. In total, the changes implemented in this restructuring are expected to result in a decrease of 10% to 15% of overall planned spending.

The restructuring will not affect research or engineering development resources.

In addition, certain key management personnel have agreed to accept a temporary reduction in their salaries until such time as the board considers the Company to be in a position to revert to their current market based remuneration.

Gaming Partners International (GPI)

Following the delivery of the prototype video analytic system to GPI in 2018, the Company has continued to work with GPI on enhancements to the system and GPI's integration of Brainchip's system with its Advanced Table Solutions (ATS™). This work is directed at the commercialisation of the complete solution, with production release to follow completion of the these activities.

Brainchip is also working towards execution of a Commercial Agreement with GPI in accordance with the current Joint Development and License Agreement. The existing arrangement provides for the signing of a commercial agreement with the following key terms:

- Minimum term of at least 5 years;
- Revenue sharing on sale of systems – 75% GPI; 25% Brainchip;
- Brainchip will provide site integration, installation support and software maintenance services

The Commercial Agreement has been delayed partly as a result of the diligence process associated with GPI's board and shareholders agreeing to be acquired by Angel Kodo, of



Kyoto Japan and partly pending the completion of system integration and acceptance of performance.

About BrainChip Holdings Ltd (ASX: BRN)

BrainChip Holdings Ltd is a leading provider of neuromorphic computing solutions, a type of artificial intelligence that is inspired by the biology of the human neuron. The Company's revolutionary new spiking neural network technology can learn autonomously, evolve and associate information just like the human brain. The proprietary technology is fast, completely digital and consumes very low power. The Company provides hardware focused solutions that address the high-performance requirements in civil surveillance, gaming, financial technology, cybersecurity, ADAS, autonomous vehicles, and other advanced vision systems.

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