



ASX Announcement

BrainChip Market and Product Development Update

Sydney – 26 March 2020: BrainChip Holdings Ltd (ASX:BRN), in conjunction with the Webinar scheduled for today, provides a copy of the Market and Product Development Update.

This presentation does not include the links or slides for the Marketing Update articles or videos, or the product demonstrations. These will be available on the Company's website.

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

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 software and hardware solutions that address the high-performance requirements in civil surveillance, gaming, financial technology, cybersecurity, ADAS, autonomous vehicles, and other advanced vision systems. www.brainchip.com

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BrainChip Holdings Ltd

Market and Product Development Update

25 March 2020 6:00 p.m. USPDT

26 March 12:00 p.m. 2020 AEDT

26 March 9:00 a.m. AWST

Louis DiNardo, President and CEO

Peter AJ van der Made Founder and CTO

Anil Mankar Founder and CDO

Disclaimer

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Agenda

- Health, Safety, Communication and Productivity Update
- Sales and Market Update
- Financial Update
- Product Development Update
- Research Update
- Questions

Health Safety Communication and Productivity

- Company is adhering to government restrictions and the World Health Organization guidelines:
 - Employees were instructed to work from home prior to California, New York, New Jersey and Illinois mandate as well as international travel restrictions
- Communication within the Company is unaffected
- Communication with partners is unaffected
- Communication with target customers is challenged and varies by region
- Currently no indication of supply chain interruption
- Productivity is unaffected

Akida™ Update Sales and Markets

- AI Edge
 - Automotive – Tier 1 automobile manufacturers
 - Automotive – Tier 1 module suppliers
 - Smart Home – Tier 1 global manufacturers
 - Smart City – Tier 1 global manufacturers

Akida™ Update Sales and Markets

- Socionext to offer BrainChip Akida™ device with SynQuacer™ multi-core processor
 - Reference design for OEM/ODM edge server requirements
- Exploring further commercial cooperation
 - IP offering
 - IC offering

Financial Update

- 4C and Update Scheduled for 30 April 2020
- Continuous expense control including:
 - Headcount
 - Multi-project wafer
 - Travel
 - Discretionary legal and advisory

Financial Update

- The Company will require revenue and/or investment to fulfill its mission of commercializing its groundbreaking technology
- The Company is evaluating multiple instruments to determine the lowest cost of capital:
 - Strategic Investment
 - Debt
 - Convertible Debt
 - Structured Finance
 - Equity
- The Company's primary goal is to secure capital to support the commercialization of its technology and increase shareholder value

Financial Update

- Silicon Valley, California – sales, marketing and executive office
- Southern California – hardware, software and research center
- Toulouse, France – software and research center
- Hyderabad, India – software development
- Perth, Western Australia – innovation center
- Shanghai, China – innovation center
- Headcount – 34 fulltime, 6 contractors



Akida™ Competition

- CPU – Inefficient use of critical resources
- GPU – Inefficient use of power
- DLA – Inefficient system design
- SoC – Inefficient use case coverage
- Akida – Efficient Ultra-low power, flexible and complete network

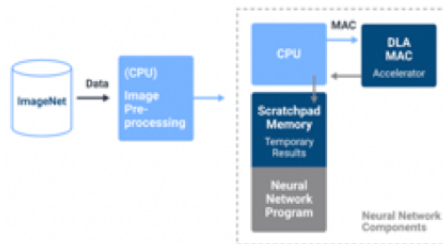
Product Development Update

- Akida integrated circuit development
 - GDSII delivery to TSMC 31 March 2020
 - Wafer fabrication 8 April 2020
 - Expedited schedule with shuttle for Multi-Project Wafer
 - Scheduling back-end resources for assembly
 - Engineering samples Q3 2020

Akida™

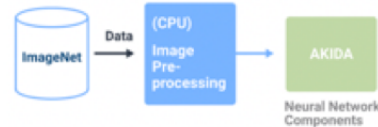
- **Data-Based Convolutional**

- Discrete Solution – CPU, Memory and Accelerator
- Deep Layers – 20 to 50
- Math Intensive – MACS
- Inefficient Power – 40 Watts to 100 Watts



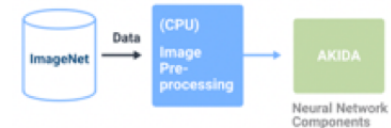
- **Event-Based Convolutional**

- Integrated Solution – No CPU, External Memory or Accelerator
- Deep Layers – 20 to 50
- Sparsity of Data – Less Operations
- Efficient Power – 500 micro Watts to 4 Watts



- **Spiking**

- Integrated Solution – No CPU, External Memory or Accelerator
- Shallow Layers – 2 to 5
- Sparsity of Data – Less Operations
- Efficient Power – 50 micro Watts to 2 Watts
- Continuous Learning – Add classifiers without re-training the entire network



Product Development Update

- Akida Development Environment (ADE)
- Akida Field Programmable Gate Array (FPGA)
- Akida Engineering Samples

Research Update

- WA Research Center
 - Advanced Research
 - Application Solutions
 - Next-Generation Learning
 - Recurrent layer capability
 - Transformer network capability

Marketing Update

- Global Photonic Neuromorphic Chip Market 2020 By Top Key Companies, Types, Application, Business Trends, Regional Analysis and Forecast to 2025, 3/20/2020
- EDA Café 3/15/2020
- Actual Tech Media 3/15/2020

Marketing Update

- Semiconductor Engineering, The Challenges of Building Inferencing Chips,2/29/2020
- Edge and AI Vision Alliance, Develop and Deploy on Akida Deeply Learned Neural Networks in a standard TensorFlow/Keras Environment
- Forbes, 2/27/20
- Artificial Intelligence (AI), Hardware And Software: History Does Rhyme
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Marketing Update

- Micronews, Neuromorphic computing, a better solution for Artificial Intelligence? – An interview with BrainChip, 2/27/20
- Eye on AI, BrainChip to look at US and European innovation centers in commercialization push, 2/22/20
- The Market Herald, BrainChip Holdings (ASX:BRN) receives U.S. export approval, 2/18/20

Marketing Update

- Small Caps, BrainChip receives Akida export approval from US government, 2/17/20
- Biometric Update, BrainChip showcases Akida neural processing capabilities, opens developer environment, 2/13/20
- HPC Wire, BrainChip's Akida Development Environment Now Freely Available for Use, 2/12/20

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Marketing Update

- MarketWatch, Neuromorphic Chip Market Size, Status, Demand and Global Outlook 2020: aiCTX AG, BrainChip Holdings Ltd., General Vision Inc, HP, 2/5/20
- Galus Australis, Artificial Brain Market Trends, Business Outlook 2020, Expanding Current Industry Status by Top Most Players: Tencent, IBM, Gartner, BrainChip Inc, iFlytek, 2/5/20
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Marketing Update

- Tech Mag, Self-Learning Neuromorphic Chip Market Size, Share, Trend & Growth Forecast to 2025, 2/4/20
- The Next Platform, NEUROMORPHIC CHIP MAKER TAKES AIM AT THE EDGE, 1/30/20

Summary

- Akida integrated circuit scheduled for manufacturing
- Akida intellectual property currently marketing
- Akida advanced research

Questions