

BrainChip Holdings Ltd

Market and Product Development Update

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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

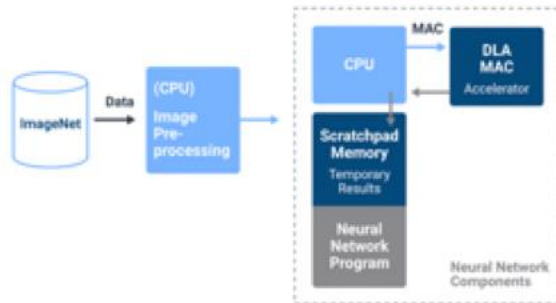
- CPU – Inefficient use of critical resources
- GPU – Inefficient use of power
- DLA – Inefficient system design
- SoC – Inefficient use case coverage
- Akida – Efficient Ultra-low power, flexible and complete network

Product Development Update

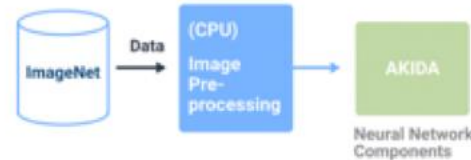
- Akida integrated circuit development
 - GDSII delivery to TSMC 31 March 2020
 - Wafer fabrication 8 April 2020
 - Expedited schedule with shuttle for Multi-Project Wafer
 - Scheduling back-end resources for assembly
 - Engineering samples Q3 2020

Akida™

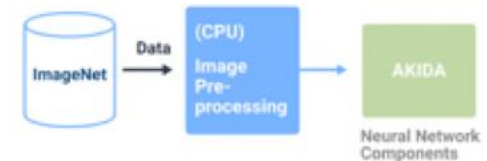
- **Data-Based Convolutional**
 - Discrete Solution – CPU, Memory and Accelerator
 - Deep Layers – 20 to 50
 - Math Intensive – MACS
 - Inefficient Power – 40 Watts to 100 Watts



- **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



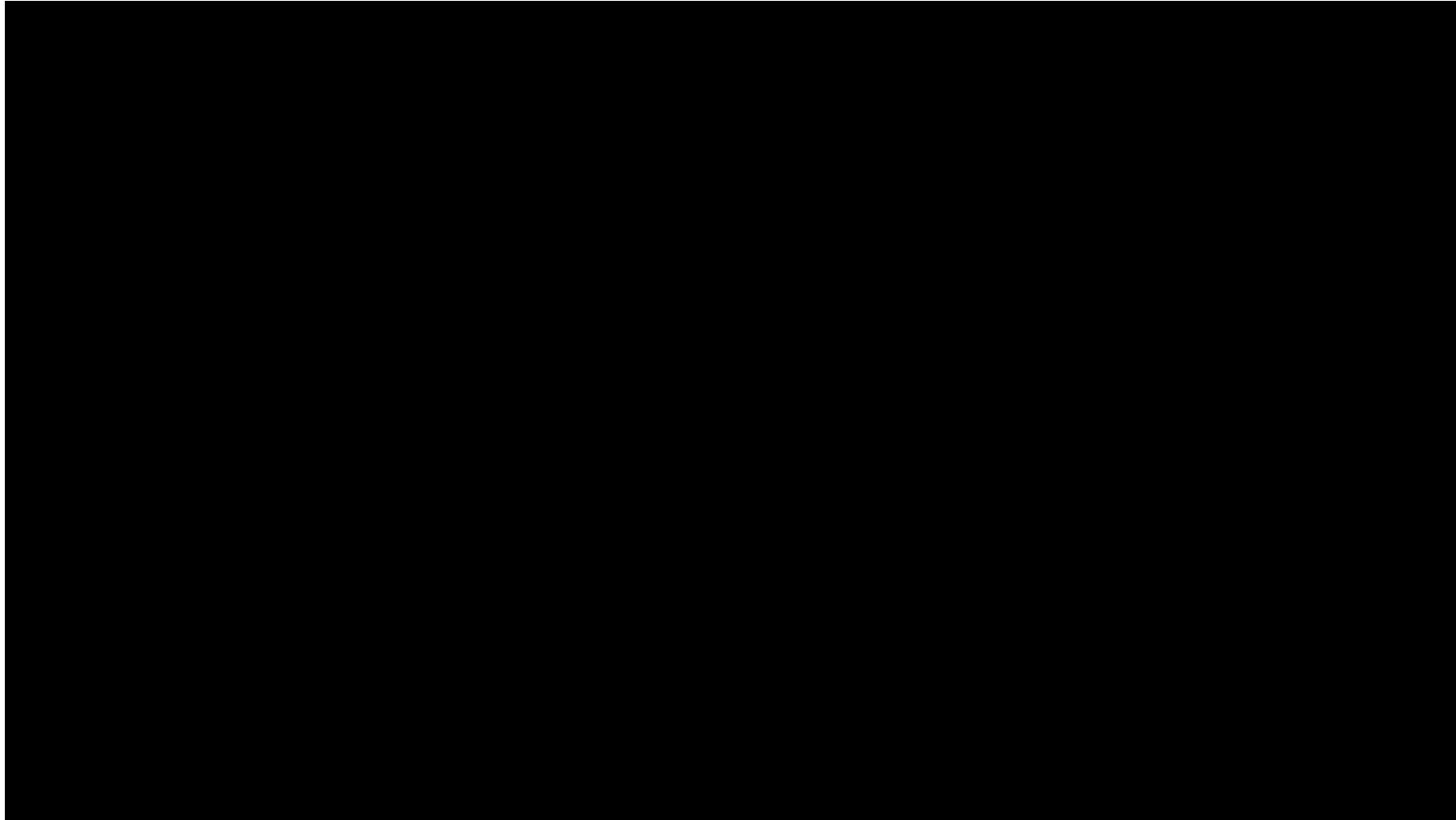
Product Development Update

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

Akida™ One Shot Incremental Learning



Akida™ Event-Based Learning



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
 - https://www.marketwatch.com/press-release/photonic-neuromorphic-chip-market-research-report-2020-by-key-players-types-application-industry-developments-growth-insight-and-global-forecast-to-2025-2020-03-20?mod=mw_quote_news
- EDA Café 3/15/2020
 - <https://www.edacafe.com/video/BrainChip-Roger-Levinson-COO/1065674/media.html>
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Marketing Update

- Semiconductor Engineering, The Challenges of Building Inferencing Chips, 2/29/2020
 - <https://semiengineering.com/the-challenges-of-building-inferencing-chips/>
- Edge and AI Vision Alliance, Develop and Deploy on Akida Deeply Learned Neural Networks in a standard TensorFlow/Keras Environment
 - <https://www.edge-ai-vision.com/2020/02/brainchips-akida-development-environment-now-freely-available-for-use/>
- Forbes, 2/27/20
- Artificial Intelligence (AI), Hardware And Software: History Does Rhyme
 - <https://www.forbes.com/sites/davidteich/2020/02/27/artificial-intelligence-ai-hardware-and-software-history-does-rhyme/#7a25c00b32d2>

Marketing Update

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 - <https://www.i-micronews.com/neuromorphic-computing-a-better-solution-for-artificial-intelligence>
- Eye on AI, BrainChip to look at US and European innovation centers in commercialization push, 2/22/20
 - <https://www.eye-on.ai/ai-articles/2020/02/22/brainchip>
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 - <https://themarketherald.com.au/brainchip-holdings-asxbrn-receives-u-s-export-approval-2020-02-17/>

Marketing Update

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 - <https://smallcaps.com.au/brainchip-receives-akida-export-approval-us-government/>
- Biometric Update, BrainChip showcases Akida neural processing capabilities, opens developer environment, 2/13/20
 - <https://www.biometricupdate.com/202002/brainchip-showcases-akida-neural-processing-capabilities-opens-developer-environment>
- HPC Wire, BrainChip's Akida Development Environment Now Freely Available for Use, 2/12/20
 - <https://www.hpcwire.com/off-the-wire/brainchips-akida-development-environment-now-freely-available-for-use/>

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
 - <https://www.marketwatch.com/press-release/neuromorphic-chip-market-size-status-demand-and-global-outlook-2020-aictx-ag-brainchip-holdings-ltd-general-vision-inc-hp-2020-02-05>
- 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
 - <https://galusaustralis.com/2020/02/414582/artificial-brain-market-trends-business-outlook-2020-expanding-current-industry-status-by-top-most-players-tencent-ibm-gartner-brainchip-inc-iflytek/>

Marketing Update

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 - <http://technologymagazine.org/self-learning-neuromorphic-chip-market-size-share-trend-growth-forecast-2025/>
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 - <https://www.nextplatform.com/2020/01/30/neuromorphic-chip-maker-takes-aim-at-the-edge/>

Summary

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

Questions