BrainChip Introduction

OTCQX: BCHPY | ASX:BRN

Sean Hehir, CEO
Ken Scarince, CFO

January 26, 2022

OTC Markets Group Small Cap Growth Virtual Investor Conference

Forward Looking Statements

Certain views expressed here contain information derived from third parties or publicly available sources that have not been independently verified. This presentation includes certain statements, projections and estimates of the anticipated future financial performance of **BrainChip Holdings Ltd.** and the size, growth and nature of future markets for the company's products.

Such statements, projections and estimates reflect various assumptions made by the directors concerning anticipated results, which assumptions may or may not prove to be correct. **BrainChip Holdings Ltd.** and its subsidiaries have not sought independent verification of information in this presentation.

While the directors believe that they have reasonable grounds for each of the assumptions, statements, projections and estimates and all care has been taken in the preparation of this presentation, no warranty of representation, express or implied is given as to the accuracy, correctness, likelihood of achievement, or reasonableness of assumptions, estimates, statements and projections that are contained in this presentation. Such assumptions, estimates, statements and projections are intrinsically subject to significant uncertainties.

To the maximum extent allowed by law, none of **BrainChip Holdings Ltd**, its directors, employees nor any other person accepts any liability arising out of any error, negligence or fault for any loss, without limitation, arising from the use of information contained in this presentation.

BrainChip Overview

BrainChip is revolutionizing the future of in-device Artificial Intelligence (AI) and is the worlds first commercial producer of neuromorphic semiconductor chips and IP.

BrainChip deploys AI at the edge in a way that existing technologies cannot. The company's technology is both high-performance and ultra-low power, enabling a range of capabilities including on-chip, in-device one-shot learning. BrainChip's IP can be used in a wide range of applications from industrial IoT, cybersecurity, and autonomous vehicles to smart sensors that can detect and act on visual features, odors, taste, touch, and sound.

- Founded in 2013
- Headquartered in Sydney, Australia
- North America team in Laguna Hills, California (BrainChip Inc)
- Development teams located in Toulouse, France and Hyderabad, India BrainChip
- Research Institute located in Perth, Western Australia
- Listed on the ASX (BRN) September 2015, upgraded to OTCQX(BRCHF) in June 2021

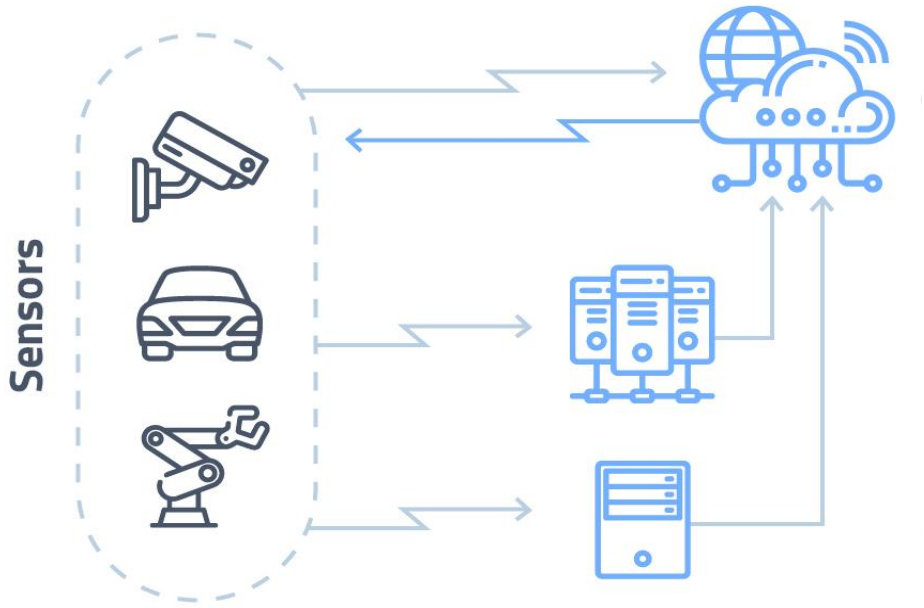
Recent Activities

- Chip design completed and delivered to Socionext in early 2020
- Engineering samples delivered in late 2020
- Delivery of development kits to Early Access Customers in Q4 2020
- Full commercialization of Akida™ AKD 1000 (IP, chip, PCIe board)
- Rapidly scaling sales and marketing to focus on strategic markets

BrainChip Holdings OTCQX: BRCHF | ASX: BRN	
U.S. Share Price [1]	$1.11
Market Cap [2]	$1.8B
FD Shares Outstanding	$1.7B
Float	$1.4B
Insider Holdings	17%
Employees	50+
Headquarters	Sydney, Australia

1) As of August 25, 2021 2) At June 30, 2020

What is Edge AI Computing?



Conventional AI captures data from sensors and sends it to the cloud for processing.

- Large data sets
- Bandwidth intensive
- Computationally inefficient

Edge AI brings intelligence to the sensor in the device.

- Samples data attributes
- Computes in-chip, on-device
- Order of magnitude less data and computation
- Fractional power

Why Neuromorphic Computing

- Modeled after the way a human brain learns and processes information
- Only processes information when an event takes place
- Can learn new data after detecting it as few as only one time
- A neuromorphic chip performs AI very efficiently on the device at very low power and can learn in real time.
- Low power equals low heat, requiring no cooling

IoT is Here to Stay...

The IoT Problem

The explosion of IoT and AI (AIoT) is creating infrastructure and sustainability issues.

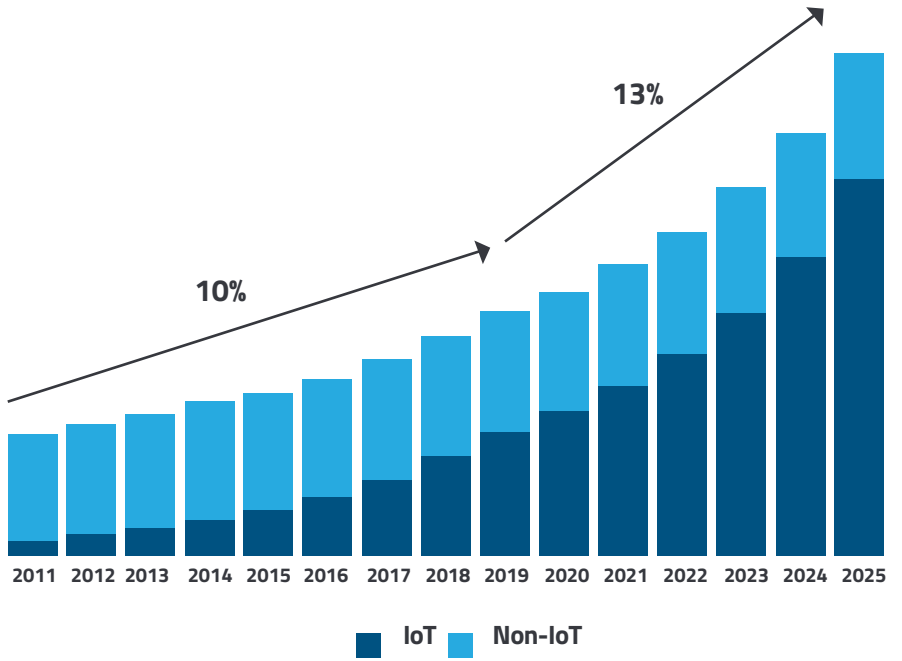
By 2025, over 41 billion IoT devices will be competing for internet bandwidth.

Typical IoT device data is pushed to the cloud for processing resulting in internet bandwidth constraints, higher latency, increased data security risks and device power issues.

Data centers storing information from IoT devices and processing AI training and inference are forecast to consume 30% of global electricity by 2030.

Total Number of Device Connections Including Non-IoT [1]

Number of Global Active Connections (installed base) in Billions



Note: Non-IoT includes all mobile phones, tablets, PCs, laptops and fixed phone lines. IoT includes all consumer and B2B devices connected.

1) IoT Analytics – Cellular IoT & LPWA Connectivity Market Tracker 2010-25

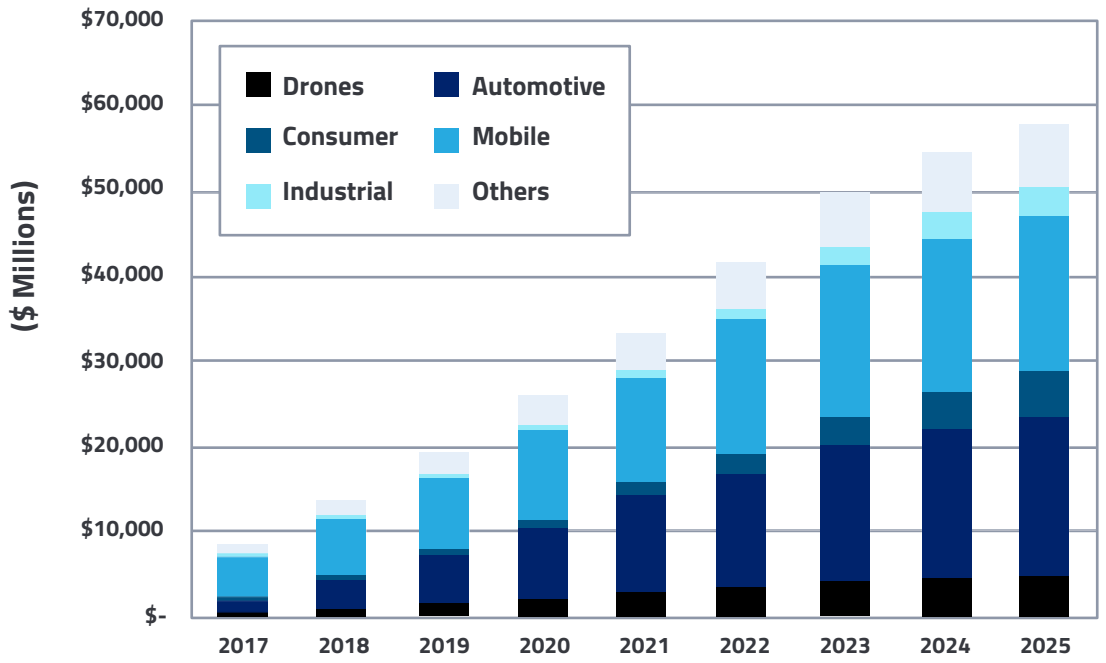
Edge Device Market Outlook

Market Outlook

BUSINESS WIRE--In the last 6 years, the data centre industry has experienced a 300,000X growth in compute requirements, with graphics processing units (GPUs) providing most of that horsepower.
According to a new report from Tractica, however, as the diversity of AI applications grows, an increasing amount of AI processing will be handled within edge devices rather than in a centralized, cloud-based environment.

Tractica forecasts that AI edge device shipments will increase from 161 million units in 2018 to 2,600 million units worldwide annually by 2025.

Edge Based Devices requiring AI - $60B by 2025



Source: Tractica

Akida Neuromorphic Processor

Data Input Interfaces

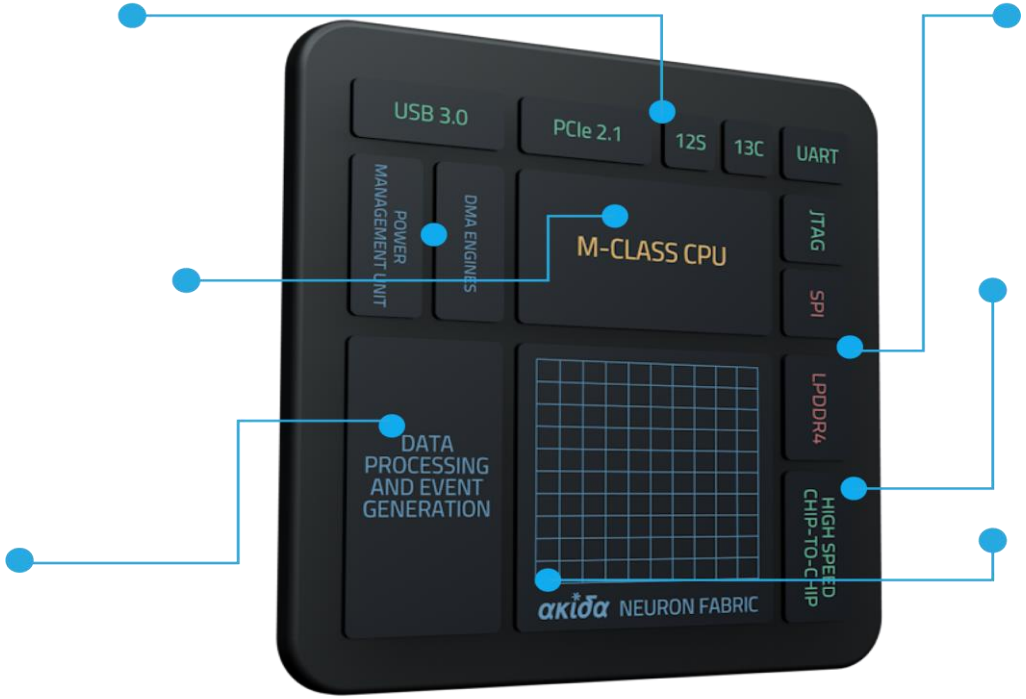
- PCI Express 2.1 x2 Lane Endpoint
- USB 3.0 Endpoint
- I3S, I2C, UART, JTAG

On-Chip Processor

- M-Class CPU with FPU & DSP
- System Management
- Akida Configuration

Data Processing

- Pixel-Event Converter
- SW Data-Event Encoder
- Any multivariable digital data
- Sound, pressure, temp., others



External Memory Interfaces

- SPI FLASH for boot/storage
- LPDDR4 Program/Weights

Multi-Chip Expansion

- PCIe 2.1 2 lane root complex
- Connects up to 64 devices

Flexible Akida Neuron Fabric

- Implements 80 NPUs
- All Digital logic with SRAM (8MB)
- Also Available as Licensed IP Core
- First Implementation: TSMC 28nm

Akida Differentiation

Spans the Edge AI Spectrum of Devices

- Fully scalable from microwatt levels addressing the needs of Industrial IoT to milliwatt levels of functional applications

Software Automates Conversion

- MetaTF software converts existing neural network (CNN) into a “spiking” neural network (SNN)

Small and Light Weight

- Can be designed into wearable devices

Ultra Low Power Consumption

- Up to an order of Magnitude savings vs alternatives
- AAA battery will provide enough power to keep an Akida™ chip running at maximum capacity for over 6 months
- Low power consumption means Akida doesn’t require cooling vs alternatives

On-chip Convolution

- Enables data to be used in context more effectively and efficiently, in a process that mimics the function of the human brain

Internet connection not required

- No latency issues and enables AI on the device where there is no internet

On-Chip Fast Learning & Inference

- Akida is taught how to function and then learns and keeps learning
- One shot learning on the device
- Device Personalization

Competitive Analysis

	Micro to MW Power Use	Real-Time On-Chip Learning & Training	TensorFlow Compatible	Stand-Alone Possible (No CPU Required)	On-Chip Convolution
BrainChip Akida™ AKD1000	✓	✓	✓	✓	✓
IBM TrueNorth	✓	None	Learn Corel	✗	✗
Intel Loihi	✓	Programmable	Learn NEF	✗	✗
Google Coral TPU	2-5W	Math Chip	✓	✗	✗
Deep Learning Accelerator (Nvidia, Others)	✗	Math Chip	✓	✗	✗

BrainChip estimates it has a 2-3 year lead over its competitors

BrainChip is currently developing the next generation of Akida products

Revenue Model

Early Access Program

Program provides customers with engineering samples and development systems boards for early evaluation. Most EAP customers cannot be identified due to Non-Disclosure Agreements.

15 EAP customers including:

- Ford Motor Company is evaluating Akida for Advanced Driver Assistance Systems (ADAS) and Autonomous Vehicle (AV) applications
- Joint development agreement with Valeo Corporation, a Tier-1 European automotive supplier of sensors and systems, for ADAS and AV applications
- Collaboration with a VORAGO Technologies to support a Phase I of a NASA program for a neuromorphic processor that meets spaceflight requirements

IP Licensing Customers

First IP Licensing agreement with Renesas, a tier-one semiconductor manufacturer specializing in microcontroller for consumer electronics and automotive products, for a single-use, royalty-bearing, worldwide IP design license, allowing Renesas to use Akida in its system-on-chip products.

MegaChips, a pioneer in the ASIC industry, has licensed BrainChip Akida™ IP to enhance and grow its technology positioning for next-generation, Edge-based AI solutions.

BrainChip in the News

Mercedes-Benz
Media Newsroom USA

Neuromorphic computing – a car that thinks like you

Another key efficiency feature of the VISION EQXX that takes its cue from nature is the way it thinks. It uses an innovative form of information processing called **neuromorphic computing.** The hardware runs spiking neural networks. Information is coded in discrete spikes and energy is only consumed when a spike occurs, which reduces energy consumption by orders of magnitude. **Working with California-based artificial intelligence experts BrainChip, Mercedes-Benz engineers developed systems based on BrainChip's Akida hardware and software.** The example in the VISION EQXX is the "Hey Mercedes" key-word detection. **Structured along neuromorphic principles, it is five to ten times more efficient than conventional voice control.**

Although neuromorphic computing is still in its infancy, systems like these will be available on the market in just a few years. When applied on scale throughout a vehicle, they have the potential to **radically reduce the energy needed to run the latest AI technologies.**

VentureBeat

EE Times

Design & Reuse

Investment Opportunity

- **Demand for AI enabled Edge and Internet of things (IOT)** devices forecasted to grow at double-digit annual growth rates for the foreseeable future.
- Due to bandwidth, data security, latency and power constraints on edge devices, product **demand will shift from cloud-dependent AI devices to solutions where data is captured on the device**.
- **Massive power consumption and emissions resulting from AI data centers** will force a shift in AI processing from traditional cloud data centers to processing on the device. Akida's cloud independence capabilities are uniquely suited to address these AI related infrastructure and sustainability issues. The Akida chip is high performance, small, ultra-low power and enables a wide array of edge capabilities beyond competing products, including training, learning, and inference all on the chip. No other edge AI device on the market today enables these features and capabilities.
- The **Akida architecture is both scalable and flexible to and addresses the requirements for the vast and growing number of IoT and edge devices** in consumer and industrial applications.
- **MetaTF software makes adoption easy**, automating conversion from traditional networks into immediately usable and efficient "spiking" networks.
- **15 Early Access Partners (EAP) include Ford, Valeo, Vorago and NASA,** as well as a commercial IP license with Renesas, a tier-one, Japanese, consumer electronics and automotive semiconductor supplier.
- **Announced Licenses** with Renasas and MegaChips.
- **Commercial availability** of semiconductor chips, IP, tools, and boards.
- **Revenue model includes IP licensing, product sales & support, and high-margin royalty streams**.

Contacts

Company Contacts

North & South America

Ken Scarince, Chief Financial Officer

kscarince@brainchip.com

Europe, Asia & Australia

Tony Dawe, Investor Relations Manager

tdawe@brainchip.com

External Communications

Mark Komonoski

Integrous Communications

mkomonoski@integcom.us

BrainChip Holdings Ltd

Australia

225 George Street, Level 12

Sydney, NSW 2000

U.S.

23041 Avenida De La Carlota

Suite 250

Laguna Hills, CA 92653

brainchip.com

Thank You

Questions?