BrainChip

Essential AI
OTCQX: BCHPY  ASX: BRN
Approved by Board of Directors
Forward Looking Statements

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Before we begin… Brainchip Exhibits at CES 2024

Here's a glimpse into our first CES:

• **Dozens of New Prospects:** We connected with dozens of new prospects.

• **Ecosystem Partner Collaborations:** We connected with many existing and initiated conversations with several ecosystem partners.

• **Industry Analyst Conversations:** Our innovative solutions caught the eye of leading industry analysts, setting the stage for in-depth conversations about the future of technology and Brainchip’s role in it.

• **Strategic Awareness Campaign:** At CES 2024, we launched a series of 12 captivating podcasts, paired with insightful newsletters, offering a deep dive into the AI solutions that are changing the world.

**CES 2024 Social Stats:**

150K Views

12K Engagement

Across Brainchip’s profiles on LinkedIn and X during CES 2024
Leading the Generational Shift to Edge AI

Real-time AI inference needs Edge Compute. The cloud is no longer the only environment for AI.

- First to commercialize neuromorphic technology.
- Targeting robust and flexible business model.
- Growing ecosystem, partnerships, and commercial momentum.
- World-class board & executive team.
- Strong patent protections.
### Beliefs

1. AI will be the great economic driver over the next decades
2. Significant inference outside of the data center, on the edge
3. Edge AI market is fragmented and rapidly growing
4. A novel compute approach will prevail

### Strategy

1. Enable the entire edge
2. Rich customer experience
3. Hire the best talent
4. Neuromorphic matters

### Execution

- **Research**
- **Product Management**
- **Product Engineering**
- **Akida Customer Solution**
Brainchip’s Edge AI Platform

<table>
<thead>
<tr>
<th>Extensive Model Support</th>
<th>Image Classification</th>
<th>Object Detection</th>
<th>Face Recognition</th>
<th>Keyword Spotting</th>
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<tbody>
<tr>
<td></td>
<td>CNN</td>
<td>Transformer</td>
<td>Image segmentation</td>
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<thead>
<tr>
<th>Software</th>
<th>TENNS</th>
<th>Meta TF</th>
<th>Akida Runtime</th>
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<thead>
<tr>
<th>Hardware</th>
<th>Edge Box</th>
<th>PCIe Card</th>
<th>Shuttle PC</th>
<th>Raspberry Pi</th>
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<tr>
<th>Integrated Circuits</th>
<th>Customer SoC</th>
<th>Brainchip SoC</th>
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<tbody>
<tr>
<td></td>
<td>Custom</td>
<td>AKD1000</td>
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<td></td>
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<thead>
<tr>
<th>Brainchip Silicon IP</th>
<th>1 Node</th>
<th>2 Node</th>
<th>4 Node</th>
<th>...</th>
<th>256 Node</th>
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</thead>
</table>

Brainchip’s Edge AI platform redefines intelligence at the edge, combining innovative IP, software, and ML models to accelerate customer use cases.

This integrated and powerful solution ensures immediate data analysis and decision-making on-device, improving efficiency, reducing latency, and ensuring privacy.

Unlocking real-time, ML and AI without the cloud.
Brainchip’s Edge AI Platform

- **Extensive Model Support**: Enables wide variety of workloads.
- **Hardware & Integrated Circuits**: Proven, flexible platform for development.
- **Integrated Circuits**:
  - Customer SoC: Custom
  - Brainchip SoC:
    - AKD1000
    - AKD1500
- **Brainchip Silicon IP**:
  - 1 Node
  - 2 Node
  - 4 Node
  - ...
  - 256 Node
- **Software**:
  - TENNS
  - Meta TF
  - Akida Runtime
- **Hardware**:
  - Edge Box
  - PCIe Card
  - Shuttle PC
  - Raspberry Pi
- **Image Classification**
  - CNN
- **Object Detection**
  - Transformer
- **Face Recognition**
  - Image segmentation
- **Keyword Spotting**

Software: easy to emulate, size, and implement.
Silicon IP: addresses entire edge market.
Leading the Generational Shift to Edge AI

- Participating in high-growth markets
- Competitive advantages
- Robust and flexible IP business model
- Strong leadership and culture
- Working closely with partners
Large Opportunity for Edge AI

100 Billion IoT Devices  $1.2 Trillion AIoT Revenue

13% CAGR Market Growth


Gartner Names Edge AI and Neuromorphic “Near-term” and “High Mass”
Brainchip’s End Markets

**Industrial**
Market Size $3.1B

Use Cases:
- Predictive Maintenance
- Manufacturing Management
- Robotics and automation
- Security Management

**Automotive**
Market Size $3.8B

Use Cases:
- In-Cabin Experience
- Real-time Sensing
- ECU Control
- Intuitive HMI

**Home & Consumer**
Market Size $2B

Use Cases:
- Security & surveillance
- Intelligent Home Automation
- Personalization & Privacy
- Proactive maintenance

**Health & Wellness**
Market Size $0.8B

Use Cases:
- Audio denoising
- Vital-signs Prediction
- Sensory Augmentation
- Chronic Disease Monitoring

Source: Various analyst sources, compiled by Tirias Research.
Traditional Options Don’t Fit the Edge

For most common customer use case: AI Inference at Edge

Cloud

- **Power**: Streaming data quickly drains device battery.
- **Latency**: Unacceptable.
- **Cost**: Adds chipset cost and cloud cost.
- **Reliability**: Risk of lost connection.
- **Security**: Private data sent, risk of exposure.

Local Mini Server

- **Power**: Requires electrical outlet.
- **Cost**: Adds hundreds of dollars in hardware cost.
- **Size**: Not embedded in device.
- **Heat**: High operating temp.

Embedded CPU / MCU

- **ML & AI Workload**: Not optimal for neural networks nor transformers.
- **Power**: Requires a lot of power, quickly draining device battery.

Neural Accelerator

- **ML & AI Workload Optimal**
- **Power Efficient**
- **Compute Efficient**
- **Low Latency**
- **Tiny Physical Size**
- **Secure**
- **Low Cost**
## Market Leader in Edge AI

<table>
<thead>
<tr>
<th></th>
<th>Microwatt Power</th>
<th>Configurable IP</th>
<th>On-chip learning</th>
<th>Standalone¹</th>
<th>Minimal data movement</th>
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<tr>
<td>Competitor 4</td>
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Note: 1. Standalone without requiring partner processor
## Market Leader in Neuromorphic

BrainChip is the **FIRST** commercial producer of neuromorphic AI IP solutions.

### Competitive advantages

<table>
<thead>
<tr>
<th></th>
<th>Micro to milliwatt</th>
<th>On-Chip Learning</th>
<th>Standard ML Workflow</th>
<th>Stand-alone possible</th>
<th>On-chip Convolution</th>
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<td>IBM True North&lt;sup&gt;1&lt;/sup&gt;</td>
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<td>Learn Corel</td>
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<td>Programmable</td>
<td>Learn NEF</td>
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**Note:** 1. Intel Loihi & IBM True North are research chips and not commercially available.

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**BrainChip is the FIRST commercial producer of neuromorphic AI IP solutions.**
Competitive Advantages

Product Advantages

- Compelling Performance
- Extreme Efficiency
- On-chip Learning
- Broad Model Support

Company Advantages

- Customer Focus
- Intense Innovation Cycle
- Today and Tomorrow’s Models
- Strong IP Protections
Robust and flexible IP business model

- Focus on High-Margin IP Business Model
- Partner with Systems Integrators
- Additional Packaging
Focus on High-Margin IP Business Model

1. Upfront license fee
2. Annuity streams from royalties
3. Agile development process
Partner with Systems Integrators

1. Demand for workloads on Akida
2. Stimulates demand for IP purchases
3. Additional revenue streams & new business models
# Additional Packaging

## Additional Packaging

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<tbody>
<tr>
<td>1</td>
<td>Customer led innovation</td>
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<tr>
<td>2</td>
<td>Pre- and post- processing with neural accelerator</td>
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<tr>
<td>3</td>
<td>Open new markets</td>
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Strong Leadership and Culture

Seasoned Executive Team

80% Engineers of BRN headcount

17 Patents Granted

15% PhDs From leading AI research programs

30 Patents Pending

Prior Industry Expertise
Working Closely With Industry Leaders

**Licenses**
- MegaChips
- Renesas

**Early Adopters**
- Mercedes-Benz
- NASA
- Vorago Technologies
- Valeo

**Growing Ecosystem & Partnerships**
- ARM
- Intel Foundry Services
- TEKSUN Cultivating Technology
- Prophesee
- Emotion3D
- NVISO
- SiFive
- VVDN Technologies
- G
- Unigen
- Circle8

**University Partnerships**
- Arizona State University
- RIT
- Carnegie Mellon
- The University of Oklahoma
- University of Virginia
Leading the Generational Shift to Edge AI

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Thank you

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