



PITT STREET SEMICONDUCTOR CONFERENCE  
SYDNEY, MAY 2025

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## BrainChip Overview



Pervasive  
Adoption

Rapid Model  
Innovation

Natural  
Language  
Emergence  
(NLP & LLM)

Importance of  
Inference

Silicon is the Foundation for AI

# brainchip<sup>TM</sup> Shift from Cloud to the Edge



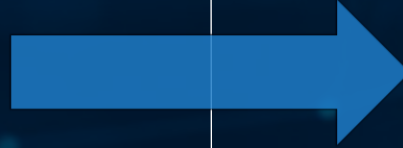
DataCenter

+ Key for training complex models

+ Driven by GenAI / LLM Training

- High energy consumption/cost

- Large infrastructure investment to scale



Edge

+ Model Inference

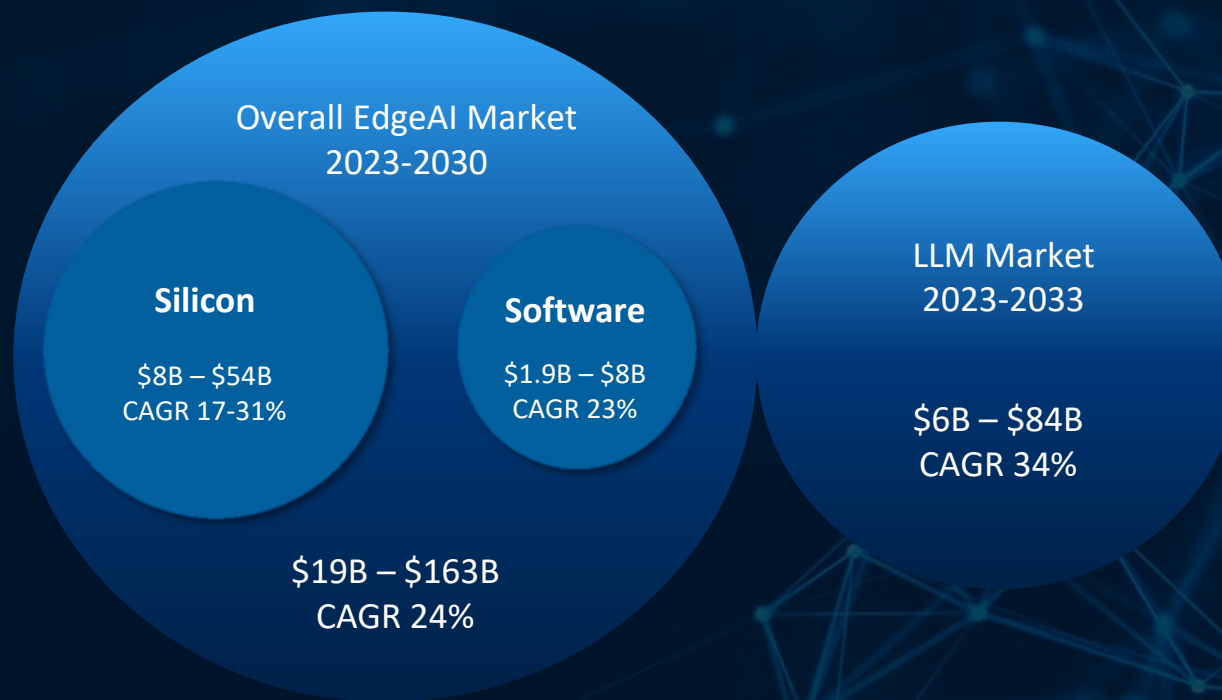
+ Operating cost efficiency

- Model size limitations

- Less mature toolchain ecosystem



# Strong Growth for both EdgeAI & Edge LLM





# brainchip<sup>TM</sup> Edge Dedicated Accelerators

Edge AI requires specialized hardware for efficient computation  
Tight constraints:

- Power
- Performance
- Area



Dedicated AI chips unlock faster, more efficient, and powerful AI

## Delivering AI IP & Silicon for ultra low-power Edge AI devices



IP

### Silicon IP

- Purpose built neural processing unit
- Extremely power-efficient (mW)
- Fully scalable, programmable, re-configurable
- Digital



tools

### Software - MetaTF

- Complete SW development tools and programming environment



models

### Models



Hear



See



Sense

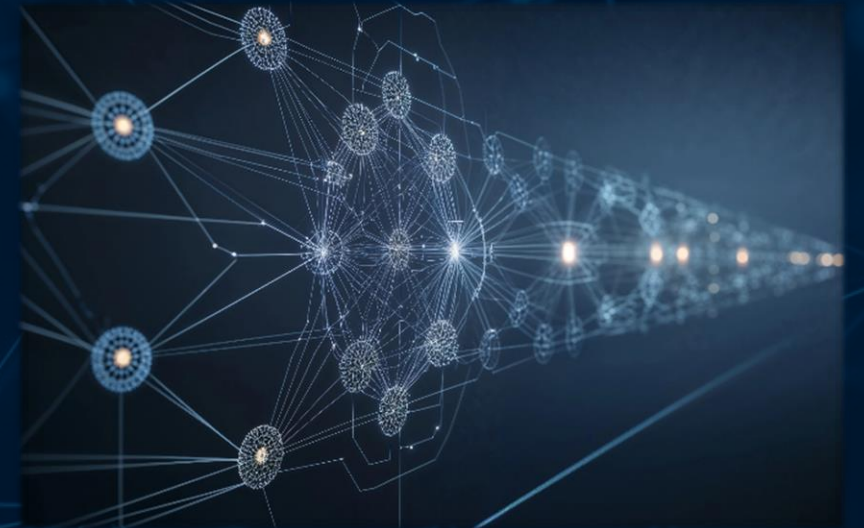
Coming Soon



Edge LLM



Edge VLM



	Akida 1	Akida 2	Akida GenAI	Akida 3
Hardware	<ul style="list-style-type: none"> <li>• 1, 4-bit integer</li> <li>• Neuromorphic State Machine</li> </ul>	<ul style="list-style-type: none"> <li>• 1, 4 , 8-bit integer</li> <li>• Neuromorphic State Machine</li> </ul>	<ul style="list-style-type: none"> <li>• 16, 32-bit Floating point</li> <li>• Neuromorphic (ISA)</li> </ul>	<ul style="list-style-type: none"> <li>• 1, 4, 8 ,16-bit integer</li> <li>• 16, 32-bit Floating point</li> <li>• Neuromorphic (ISA)</li> </ul>
Software	<ul style="list-style-type: none"> <li>• MetaTF model conversion</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced MetaTF model conversion</li> <li>• 3rd Party Model Providers</li> </ul>	<ul style="list-style-type: none"> <li>• Akida SDK for TENNs LLM</li> <li>• Direct use of open source SSMs, no conversion necessary</li> <li>• Distillation of very large models</li> </ul>	<ul style="list-style-type: none"> <li>• Akida SDK for diverse models (TENNs and user's models)</li> <li>• 3rd Party Model Provider ecosystem</li> </ul>
Models	<ul style="list-style-type: none"> <li>• Simple convolutional neural networks (CNNs)</li> </ul>	<ul style="list-style-type: none"> <li>• CNNs, TENNs, branching and recurrent topologies</li> </ul>	<ul style="list-style-type: none"> <li>• TENNs and SSM open-source Large Language Models</li> </ul>	<ul style="list-style-type: none"> <li>• CNNs, TENNs, SSMs, LLMs</li> <li>• Branching, recurrent and arbitrary topologies</li> </ul>

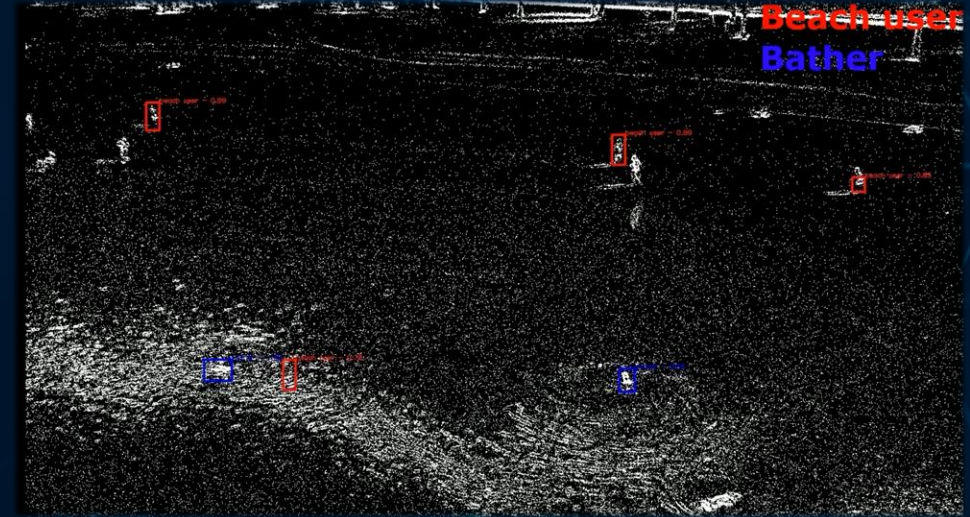


**Objective:** Deploy a drone which can detect distressed swimmers and surfers in the ocean, helping lifeguards scale their coverage to large beach areas

Solution:



Real World View



Detecting swimmers and beachgoers using Akida event-based computation



- **Breakthrough AI-Powered Wearable**



## **Proactive Health Management**

Anticipate seizures before they happen



## **On-Device AI Processing**

Ultra-low-power, real-time analysis



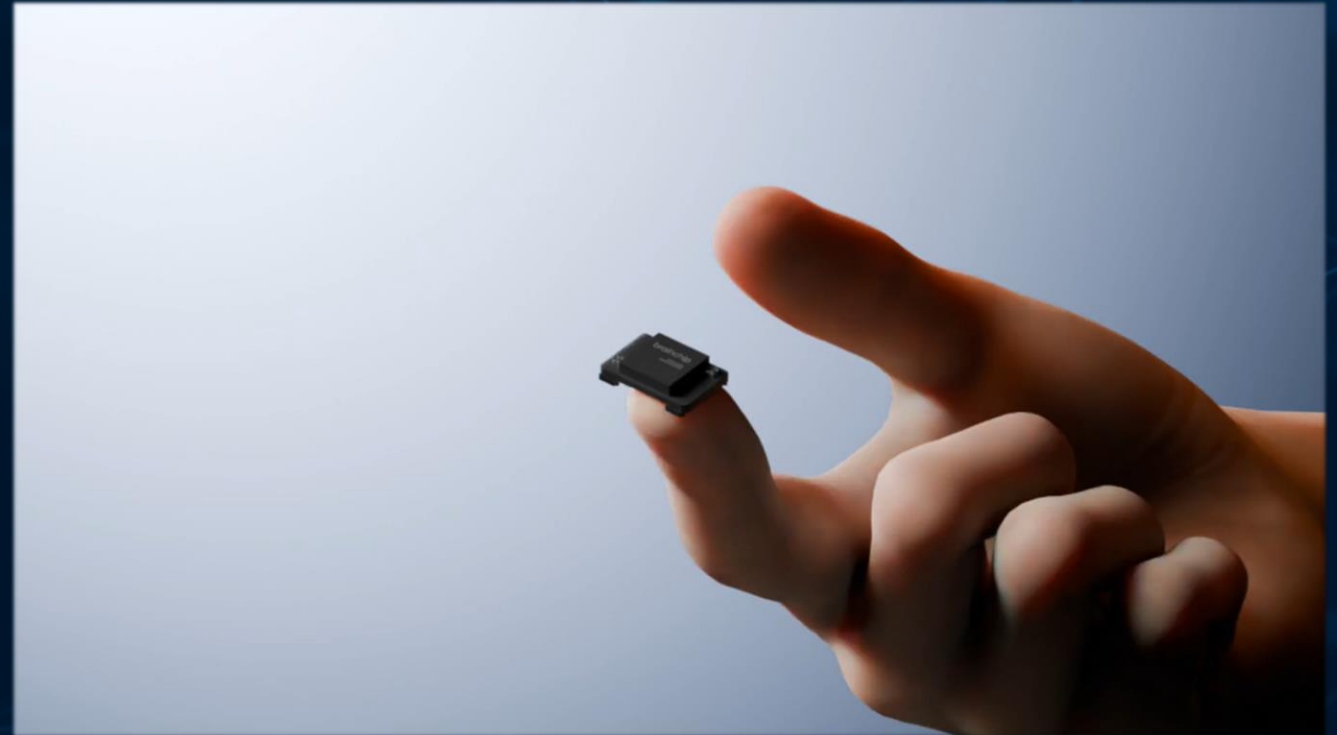
## **Freedom & Independence**

Engage in daily activities with greater confidence and security.

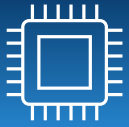


## **Scalable for Future Applications**

Expanding into other medical conditions



# brainchip<sup>™</sup> Business Model



License Fee



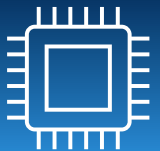
Royalties



Implementation Services



AI Shift from Cloud to Edge is under way



Dedicated optimized hardware is the enabler



Hardware market will consolidate to key leaders

# Q&A

