High Performance Memory Technology for for Leading-Edge Applications

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Safe Harbor

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GSI Technology
Overview

LEVERAGING OVER 25 YEARS OF MEMORY CHIP DESIGN AND DEVELOPMENT TO BRING REVOLUTIONARY CHANGE TO COMPUTING

- **Founded 1995** in Silicon Valley; IPO in 2007
- **Fabless** memory chip company
- Leading provider of **"Very Fast" SRAM**[1]
- **Largest portfolio** of high-performance memory
- Launching **Gemini** Associative Processing Unit (APU)
- **35% insider** ownership
- **$175 million** market cap[2]

$43M
FY 2020 Annual Revenue

177
Employees Worldwide

119
Engineers

103
Patents Grated

$62M
Cash and cash equivalents[3]

$113M
Enterprise value

1. Static Random Access Memory (SRAM) operates at speeds less than 10 nanoseconds, as defined by Gartner Dataquest
2. Based on closing share price as of February 02, 2021 and shares outstanding of 23,797,963 as of January 31, 2021.
3. Includes cash and cash equivalents, short-term investments, and long-term investments as of December 31, 2020.

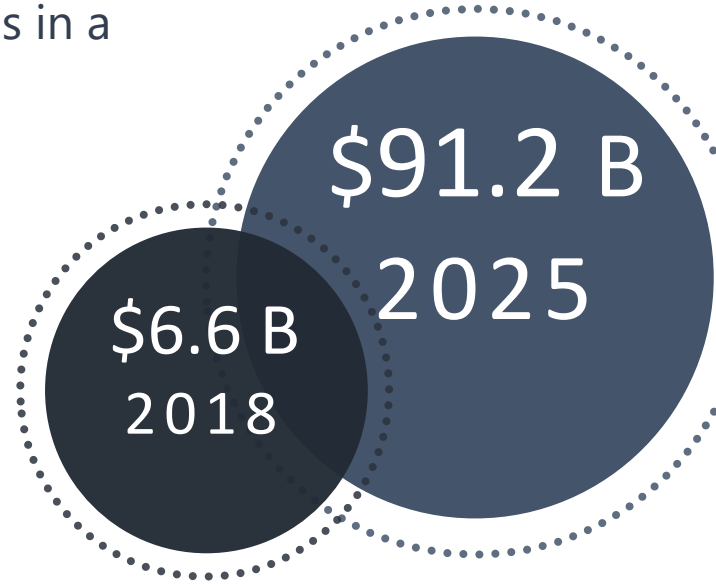
Capital Efficient
Core Business Funds Growth

- Cap-ex light semiconductor business model – manufacture with TSMC using master die production process
- Strong cash generation historically
- 100% of R&D budget focused on new AI solution
    - $5+ million quarterly R&D spend to develop Gemini APU and the software and algorithm libraries
- Core business and strong balance sheet provide funding for Gemini APU development and marketing

Launching New Products

- **Radiation Hardened** and **Radiation Tolerant** chips for aerospace and defense leverage our core SRAM platform
- **Gemini**, GSI's patented **associative processing unit** (**APU**), ties AI innovation with core memory capabilities in a unique, memory-centric processor

The global **AI chip market** is projected to grow at a **CAGR of 45%**



Source: Allied Market Research, Global Artificial Intelligence Chip Market by Chip type, Application, Technology, and Industry vertical; Global Forecast, 2019–2025.

Leveraging Expertise
Into New Product Categories

Higher ASP, Higher Margin Products with Larger TAMs

Legacy SRAM Memory

- **Industry leading,** largest portfolio of **high-performance memory** products
- **SigmaQuad™ and SigmaDDR™** core business growth drivers
- **SigmaQuad™ SRAMs** recognized for industry-leading density and speeds
- **3rd and 4th Generation SRAM** fastest off-the-shelf SRAM on market

Radiation Hardened SRAM

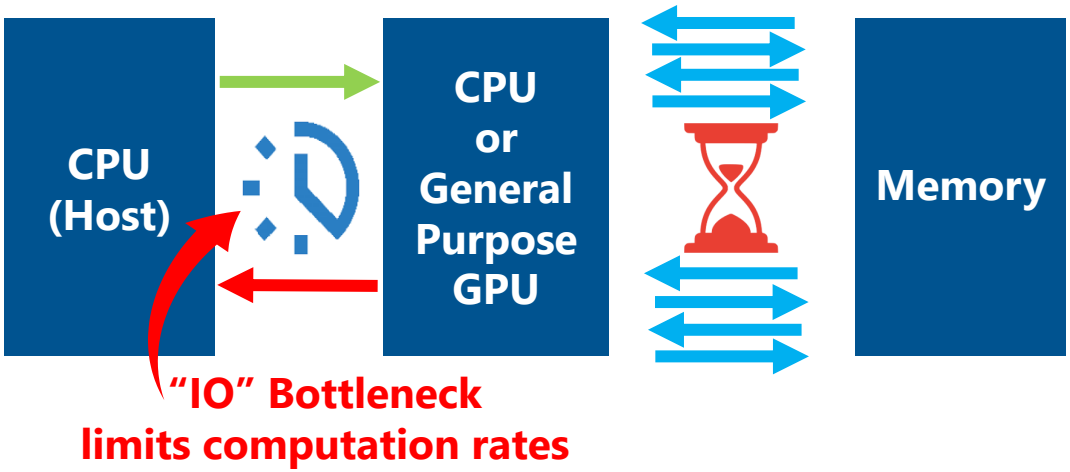
- **85%+ gross margin**, **~$30K ASP**
- **Satellites, missiles, high altitude flights**

Gemini Associative Processing Unit (APU)

- **Memory-centric** parallel processing
- **Speed and accuracy** for **extremely large data sets**
- **Scalable** and **customizable**

AI Processing Limitations

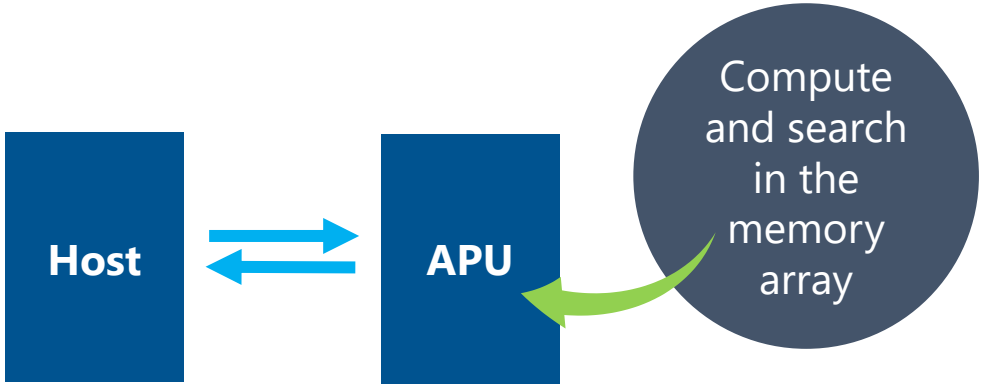
Von Neumann Architecture Creates a Massive IO Bottleneck



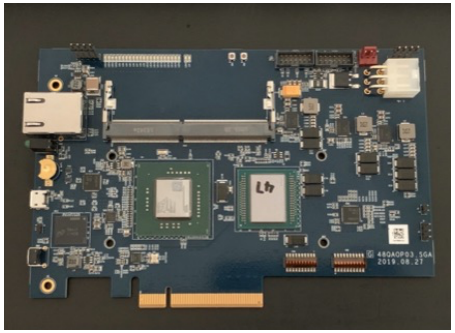
- CPU/GPU limited by "von Neumann" bottleneck with large datasets
- Slower computation rates due to throughput limitations
- Significant power consumption
- Not a scalable system

APU Removes Bottleneck

Revolutionary Computing Model



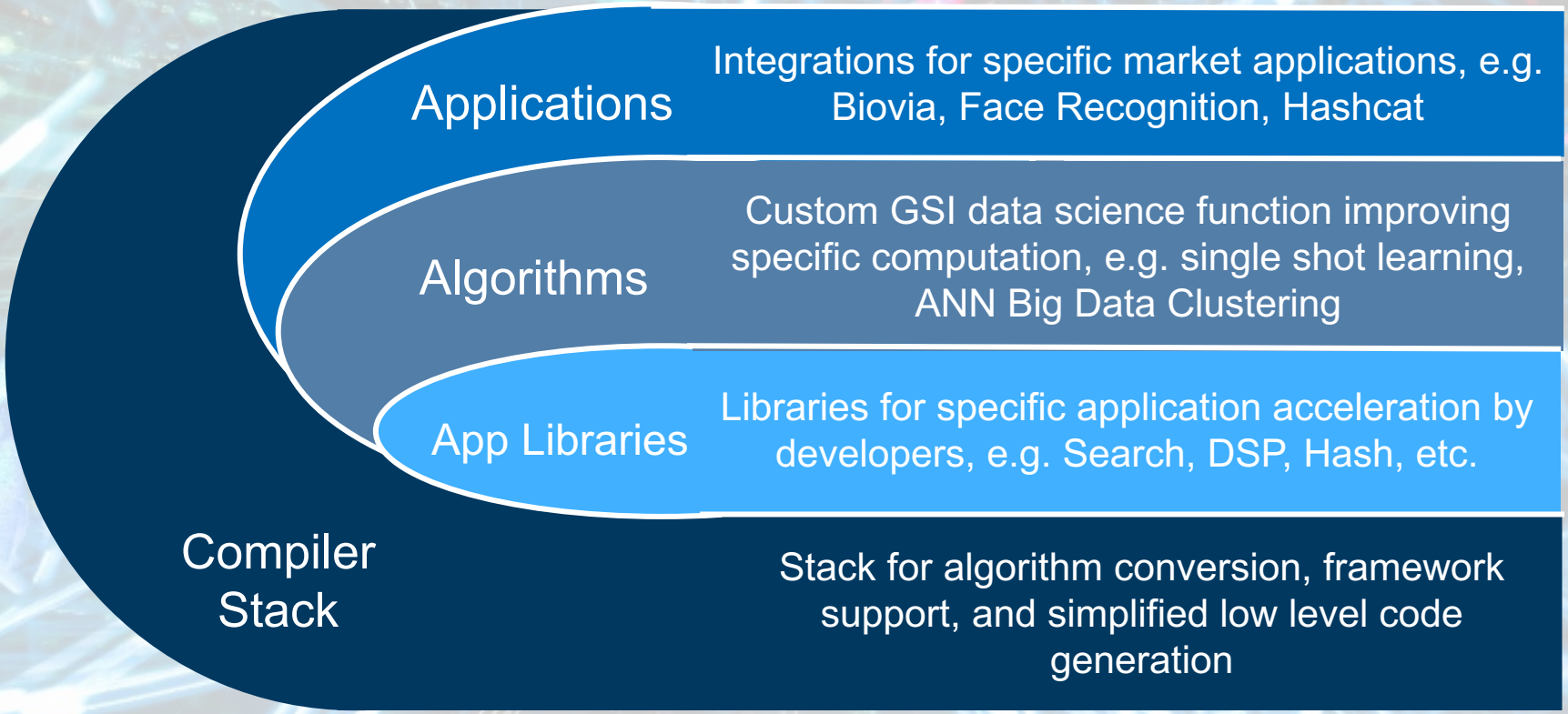
CPU or FPGA



APU on Leda-G Board

- In-memory processing **reduces computation time** from minutes to seconds, milliseconds, or nanoseconds
- Significantly **reduced power consumption** and total cost of ownership
- Massive parallel data processing with **2 million-bit processors** per chip versus 1,000's in a GPU
- **Scalable -** unique feature to Gemini

APU Software and Algorithms



Software Capability

Adaptable for Complex, Novel Solutions

GSI's software development team is developing sophisticated software to address diverse applications

Recent MAFAT Challenge* win showcases GSI's software capabilities

- GSI landed first place in the MAFAT Challenge to distinguish humans from animals in radar signal segments
- The competitions for accuracy fielded 1,000 competitors with over 4,300 entries (GSI was one of the last entrants in contest)
- GSI's software expertise, combined with the high-performance APU hardware solution, is a competitive advantage versus AI solutions typically siloed in either software or hardware

* See Company's press release dated January 6, 2021 "GSI Technology Takes Home First Prize in MAFAT Radar Challenge" for further details.

Target Applications

Gemini-I Excels in Similarity Search

Search Markets for Gemini-I	Nvidia GPU Google TPU Intel HABANA Graphcore IPU	CPU	FPGA	Gemini-I
Facial Recognition Drug Discovery & Toxicity Genomics Signal Classification Object Detection Cryptography Visual & Video Search Elasticsearch	✗	✗	✗	✓

Gemini outperforms all current search solutions

Benchmark Performance
Highlights Unique Capabilities

- GSI published* Gemini-I performance results for query-by-query similarity search on datasets up to one billion items
- This marks the first published record of ~1-millisecond latency with over 92% accuracy on a billion-item dataset
- Proves Gemini's lower latency (speed) versus CPU/FPGA architectures

Gemini-I provides superior total cost of ownership results with the **smallest system footprint** and **lowest power usage**

**Published in the Company's press release issued April 6, 2020*

Facial Recognition

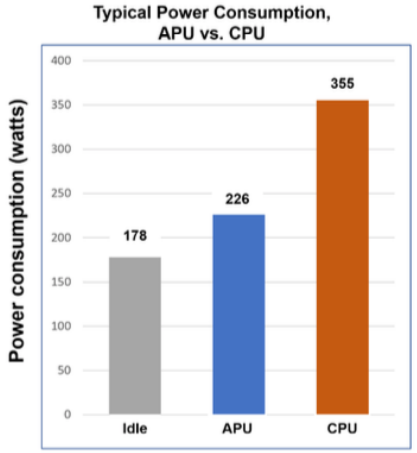
Meet performance expectations with low TCO (Total Cost of Ownership)

Challenge

- Effective facial recognition systems need highly accurate results with near real-time responses of positive identification and to handle multiple queries simultaneously
- Current solutions require large numbers of costly GPUs and CPUs to deliver performance at scale

Gemini-I Solution

- Gemini-I delivers accurate results, reducing search times from many minutes to fractions of a second, with significantly lower power consumption



Gemini-I power consumption is 70% lower than CPU systems.

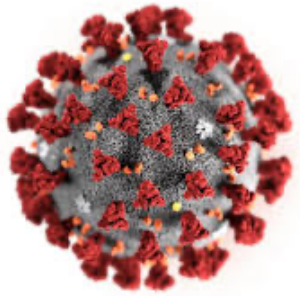
Cheminformatic
Faster, Lower-Cost Drug Development

Challenge

- Drug discovery requires searching extensive molecular databases for molecules with similar properties to a known drug
- CPU-based systems require several minutes to complete only one molecule similarity search

Gemini-I Solution

- Gemini-I's hyper-scale computational search is many orders of magnitude faster and can perform multiple searches simultaneously, with more frequent exact matches



In the fight against COVID-19, the Weizmann Institute is using Gemini-I and a database of 40 million molecules in their search for an antiviral medications.

Gemini APU in Space

Radiation Tolerant Onboard Processing

Challenge

Sensor-intensive satellites processing massive datasets

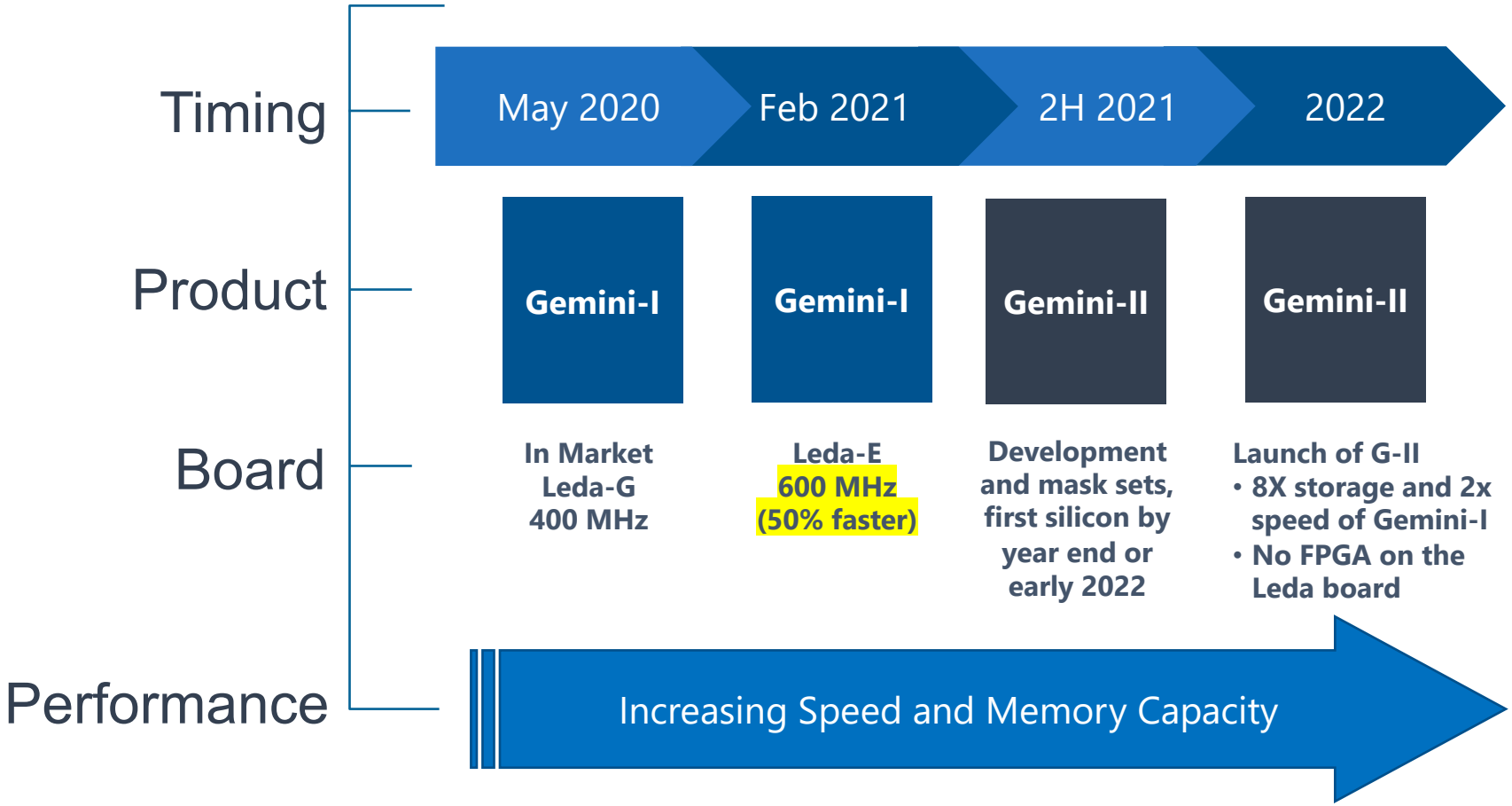
- Insufficient satellite bandwidth for exchanging large amounts of data with ground stations
- Safe satellite constellation navigation requires rapid response

Rad Tolerant Gemini-I Solution

- Onboard AI, multiple data source integration, automatic target recognition, and weather analysis
- Crash avoidance and improved communications

Thousands of satellites in are in space with little traffic control. Gemini can avoid costly collisions with near real time responses.

APU Roadmap


Timing
May 2020
Feb 2021
2H 2021
2022
Product
Gemini-I
Gemini-I
Gemini-II
Gemini-II
Board
In Market
Leda-G
400 MHz
Leda-E
600 MHz
(50% faster)
Development and mask sets, first silicon by year end or early 2022
Launch of G-II
• 8X storage and 2x speed of Gemini-I
• No FPGA on the Leda board
Performance
Increasing Speed and Memory Capacity

Why Invest Now?

- **Timing -** increasing awareness that memory-centric processors can solve the limitations of current AI processors
- **Trends –** Gemini's advantages as more AI computing and search happens at the edge:
  - Smaller footprint, lower power usage, and lower total cost of ownership
- **Validated –** published benchmarks validate APU's processing-in-memory delivers significant performance gains versus existing solutions
- **Go-to-market process –** building industry awareness with customers testing boards
- **GSI Technology is the leading public company play for in-memory computing**
- **Attractive risk/reward profile:**
  - Limited downside given almost half the company's market cap is in cash with a low cash burn rate
  - Significant upside given the AI opportunity over three-to-five-year horizon

Thank you!

GSI Technology

High Performance Components
for Leading-Edge Technology

GSITechnology.com / *IR Contact: GSIT@HaydenIR.com*

Key Takeaways

- **Gemini-I targeting multiple applications in similarity search**
  - Facial Recognition
  - Drug Discovery and Toxicity
  - Elasticsearch
  - Signal Classification and Object Detection
  - Cryptography
- **Executing on building sales pipeline for Gemini-I**
  - Anticipate sales ramp in second half of CY 2021
- **Trading below comparable valuations at 3.9X EV/TTM Sales and 2.8X market cap/total cash**
  - Gemini-I potential not reflected in current valuation

Appendix

AI Processor Overview

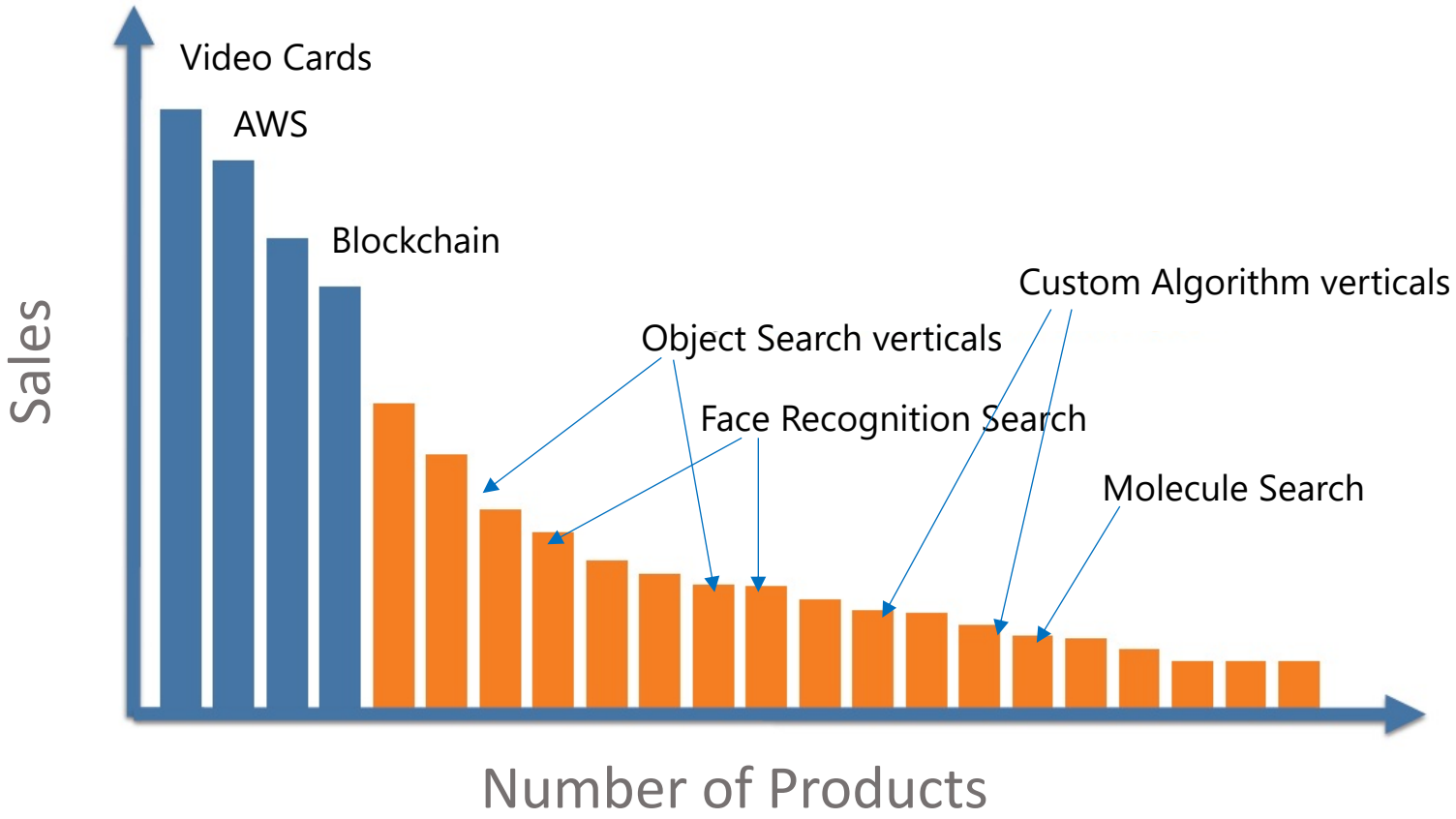
Gemini-I Excels in Similarity Search

- Visual search requires high processing speeds and accuracy
- Gemini-I speed and accuracy is ideal for visual search
- Gemini-II targeting inference and training (2022)

Application	Nvidia GPU Google TPU Intel NERVANA NPP Graphcore IPU	ASIC	FPGA	Gemini-I
Similarity search	✗	✗	✗	✓+
Training	✓	✗	~	✗
Inference	~	✓	✓	✓

Diverse Markets

Long Tail Market for AI Search



NOTE: vertical height is for illustration and not indicative of scaled volume.

Income Statement

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)
(Unaudited)

	Three Months Ended			Nine Months Ended	
	Dec. 31, 2020	Sept. 30, 2020	Dec. 31, 2019	Dec. 31, 2020	Dec. 31, 2019
Net revenues	$ 6,763	$ 6,659	$ 10,049	$ 20,043	$ 34,808
Cost of goods sold	3,566	3,547	4,000	10,684	13,948
Gross profit	3,197	3,112	6,049	9,359	20,860
Operating expenses:					
Research & development	5,736	5,659	8,208	17,220	19,636
Selling, general and administrative	2,612	2,606	2,584	8,138	8,119
Total operating expenses	8,348	8,265	10,792	25,358	27,755
Operating loss	(5,151)	(5,153)	(4,743)	(15,999)	(6,895)
Interest and other income, net	25	(16)	207	115	564
Loss before income taxes	(5,126)	(5,169)	(4,536)	(15,884)	(6,331)
Provision for income taxes	90	62	84	639	182
Net loss	$ (5,216)	$ (5,231)	$ (4,620)	$ (16,523)	$ (6,513)
Net loss per share, basic	$ (0.22)	$ (0.22)	$ (0.20)	$ (0.70)	$ (0.28)
Net loss per share, diluted	$ (0.22)	$ (0.22)	$ (0.20)	$ (0.70)	$ (0.28)
Weighted-average shares used in computing per share amounts:					
Basic	23,716	23,617	23,096	23,592	22,894
Diluted	23,716	23,617	23,096	23,592	22,894

Summary Balance Sheet

CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands)
(Unaudited)

	Dec. 31, 2020	March 31, 2020
Cash and cash equivalents	$43,064	$51,506
Short-term investments	9,196	15,061
Accounts receivable	4,012	6,330
Inventory	4,523	4,282
Other current assets	1,979	1,934
Net property and equipment	7,444	8,119
Long-term investments	10,126	4,117
Other assets	11,248	11,212
Total assets	$91,592	$102,561
Current liabilities	$8,404	$8,260
Long-term liabilities	4,709	4,660
Stockholders' equity	78,479	89,641
Total liabilities and stockholders' equity	$91,592	$102,561

Experienced Management Team

Name	Title	Years of Experience	Years with GSI	Prior Companies
Lee-Lean Shu	President and CEO,	42	25	Sony, AMD
Doug Schirle	Chief Financial Officer	42	21	Cypress, Pericom
Didier Lasserre	VP Sales and IR	32	23	Cypress, Solectron
Avidan Akerib	VP of Associative Computing	40	5	MikaMonu, NeoMagic
Patrick Chaung	SR VP of Memory Design	44	11	Sony, AMD
Robert Yau	VP of Engineering	43	25	Sony, Mosel Vitelic
Bor-Tay Wu	VP of Taiwan Operations	40	24	Atalent, AMD