



KIOXIA

Unlocking AI Potential with Next-Generation SSDs

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Handling Restriction	Transfer only allowed as PDF

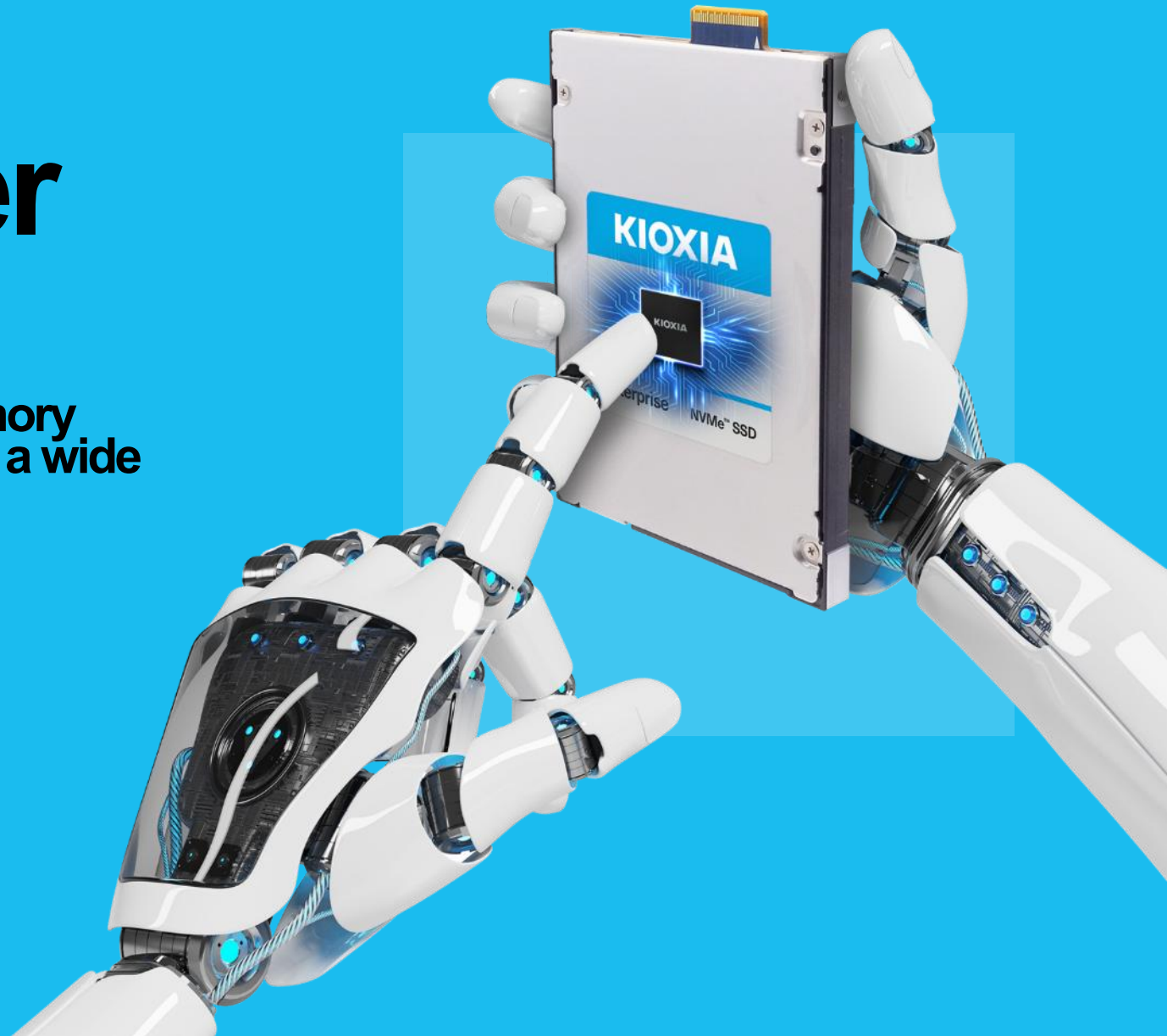
KIOXIA Memory Maker

A leading worldwide supplier of flash memory and solid-state drives (SSDs) that address a wide range of applications.

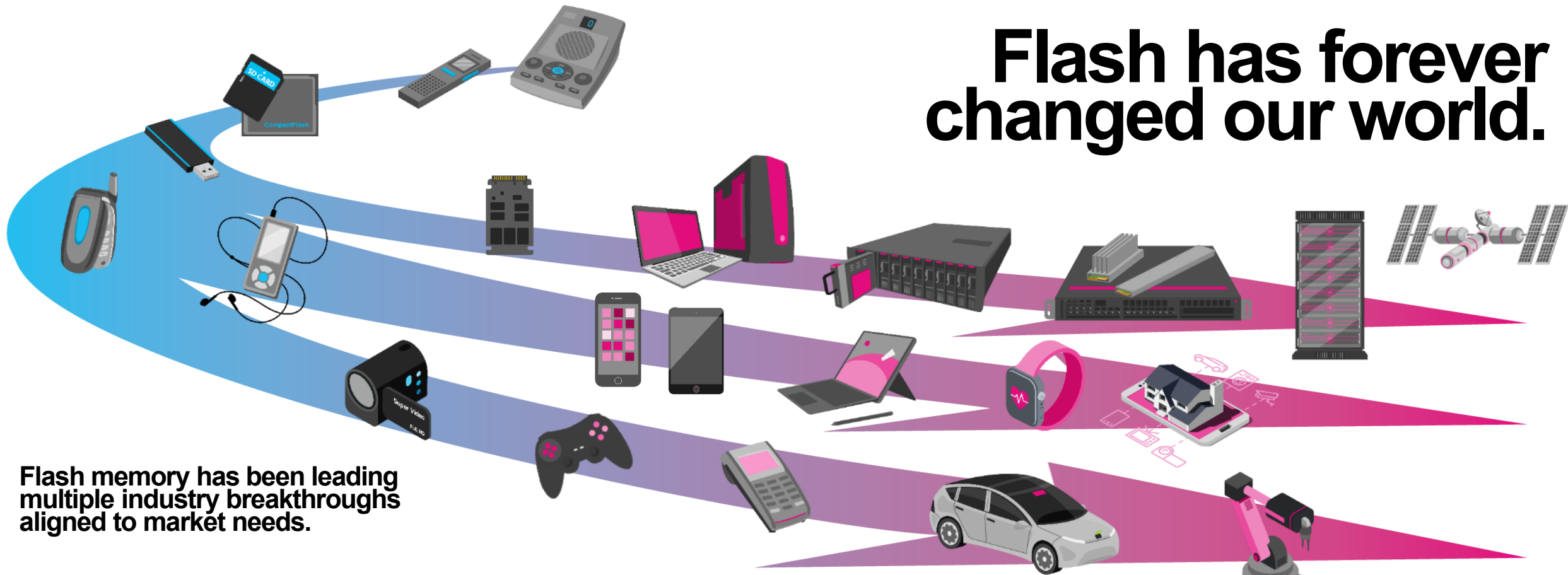
Owner and operator world-class flash memory plants.

Inventor of flash memory & technologies.

Trusted by leading server, storage & hyperscale vendors.



Flash has forever changed our world.



Flash memory has been leading multiple industry breakthroughs aligned to market needs.

NAND flash memory invention

1987

Mass production

1991

Announced world's 1st 3D flash memory

2007

Production increase and cost reduction

BiCS FLASH™ commercialized

2015

2024 37 years of NAND Flash

NAND flash started with KIOXIA's technology

3D NAND flash started with KIOXIA's technology

BiCS FLASH™

Expanding Flash Memory Usages

Phase 1

Consumer Products



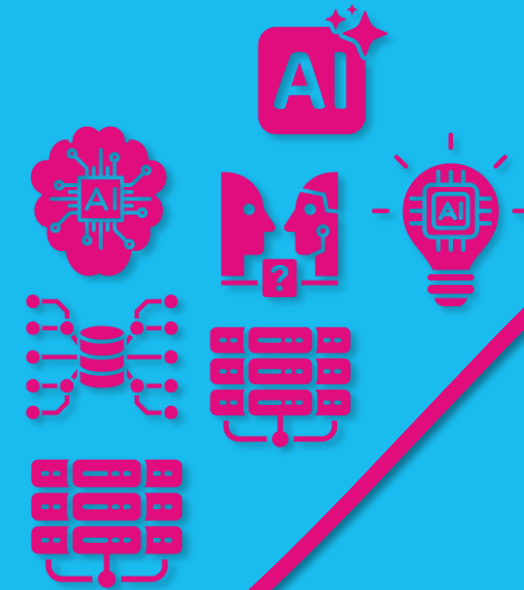
Phase 2

Networking / Cloud Computing

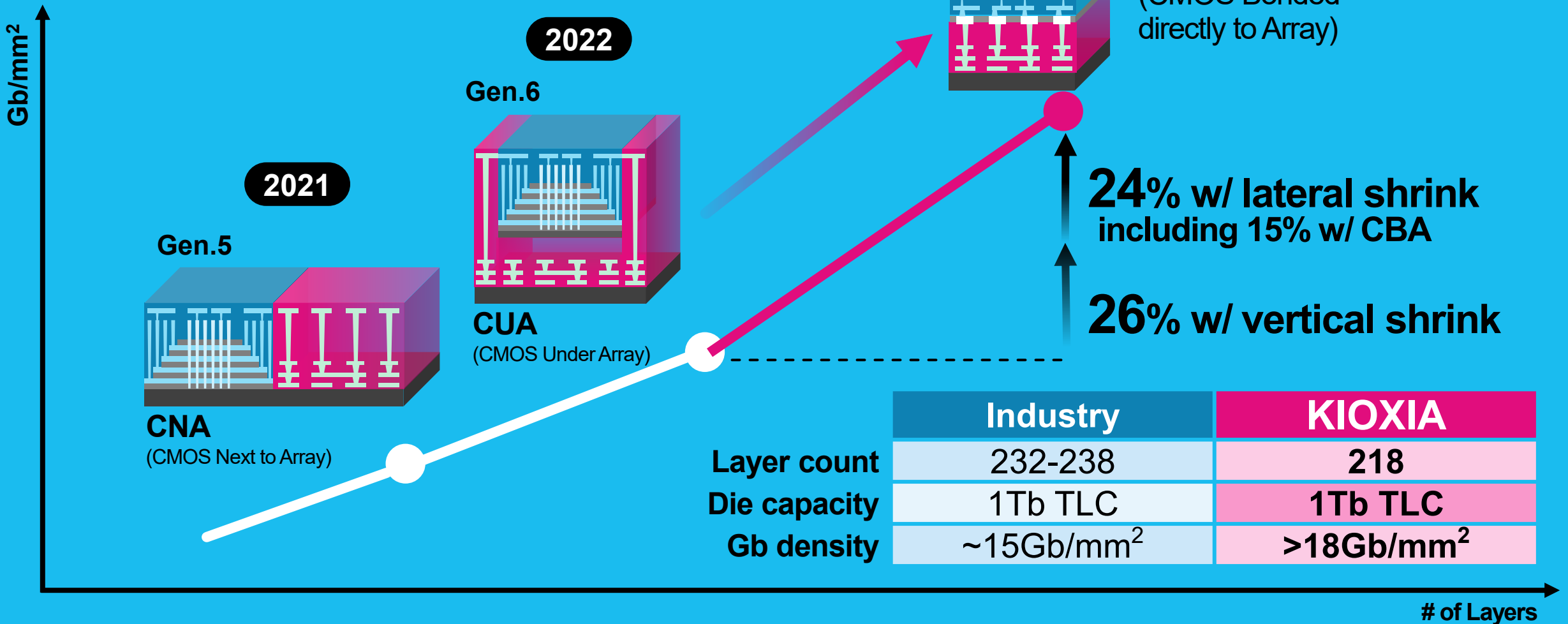


Phase 3

AI & AI NEXT



Gen8 CBA best-in-class capex for superior cost efficiency and bit output



KIOXIA SSD Solutions for AI



SSDs	XD8 Series	CD8 Series	CD8P Series	CM7 Series	CD9P Series	CM9 Series	LC9 Series
Key Features/ Specifications	<ul style="list-style-type: none"> ·PCIe 5.0 ·NVMe 2.0 ·E1.S form factor ·1 DWPD endurance ·Capacities up to 7,68 TB 	<ul style="list-style-type: none"> ·PCIe 4.0 ·NVMe 1.4 ·2.5-inch form factor ·1,3 DWPD endurance ·Capacities up to 15,36 TB 	<ul style="list-style-type: none"> ·PCIe 5.0 ·NVMe 2.0 ·E3.S, 2.5-inch form factors ·1,3 DWPD endurance ·Capacities up to 30,72 TB 	<ul style="list-style-type: none"> ·PCIe 5.0 ·NVMe 2.0 ·E3.S, 2.5-inch form factors ·1,3 DWPD endurance ·Capacities up to 30,72 TB ·Dual Port 	<ul style="list-style-type: none"> ·PCIe 5.0 ·NVMe 2.0 ·E3.S, 2.5-inch form factors ·1,3 DWPD endurance ·Capacities up to 61,440 TB 	<ul style="list-style-type: none"> ·PCIe 5.0 ·NVMe 2.0 ·E3.S, 2.5-inch form factors ·1,3 DWPD endurance ·Capacities up to 61,440 TB ·Dual Port 	<ul style="list-style-type: none"> ·PCIe 5.0 ·NVMe 2.0 ·Dual Port ·2.5-inch form factors ·0,3 DWPD endurance ·Capacities up to 122,88 TB

Coming in 2026 – A Major Performance Leap vs Previous Generation



- ❑ BiCS FLASH™ TLC 3D flash memory
- ❑ Rand. Write: Up to 450 KIOPs
(+125%)
- ❑ Rand. Read: Up to 2.6 MIOPs
(+30%)
- ❑ Seq. Write: Up to 7 GBs
(27%)
- ❑ Seq. Read: Up to 14.8 GB/s
(23%)



- ❑ BiCS FLASH™ TLC 3D flash memory
- ❑ Rand. Write: Up to 600 KIOPs
(+100%)
- ❑ Rand. Read: Up to 3.4 MIOPs
(+38%)
- ❑ Seq. Write: Up to 10 GBs
(48%)
- ❑ Seq. Read: Up to 14.8 GB/s
(5%)
(Limite teorico PCIe Gen5 x4 15.7 GB/s).



- ❑ BiCS FLASH™ QLC 3D flash memory.
- ❑ Form Factor: E3.S, ES.L and 2.5-inch.
- ❑ Dual-port optimized for high availability applications

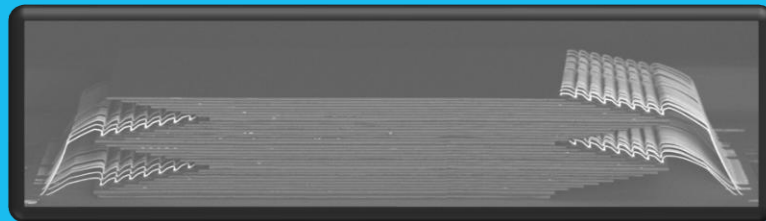
- ❑ Extending the portfolio with high-capacity, cost-optimized storage for AI data growth

Gen8 scales factory bit supply to meet AI-driven demand



Gen. = Generation

8 TB per package
by 32-die stack 154BGA



8 TB



KIOXIA announced Industry's Highest Capacity 2Tb QLC on July 3, 2024
KIOXIA LC9 received the "Best of Show" award at Future of Memory and Storage 2025

KIOXIA Highest Capacity SSD

- Dual Port
- E3.L & 2.5-inch



- QLC
- 245.76 TB

KIOXIA BiCS FLASH™ Gen. 8

200%

Higher Interface Speed

3.6 Gb/s



439%

Higher Write Speed

>200 MB/s



Better Bit Density

>23 Gb/mm²*



Greater Power Efficiency

>1.5 GB/s per W

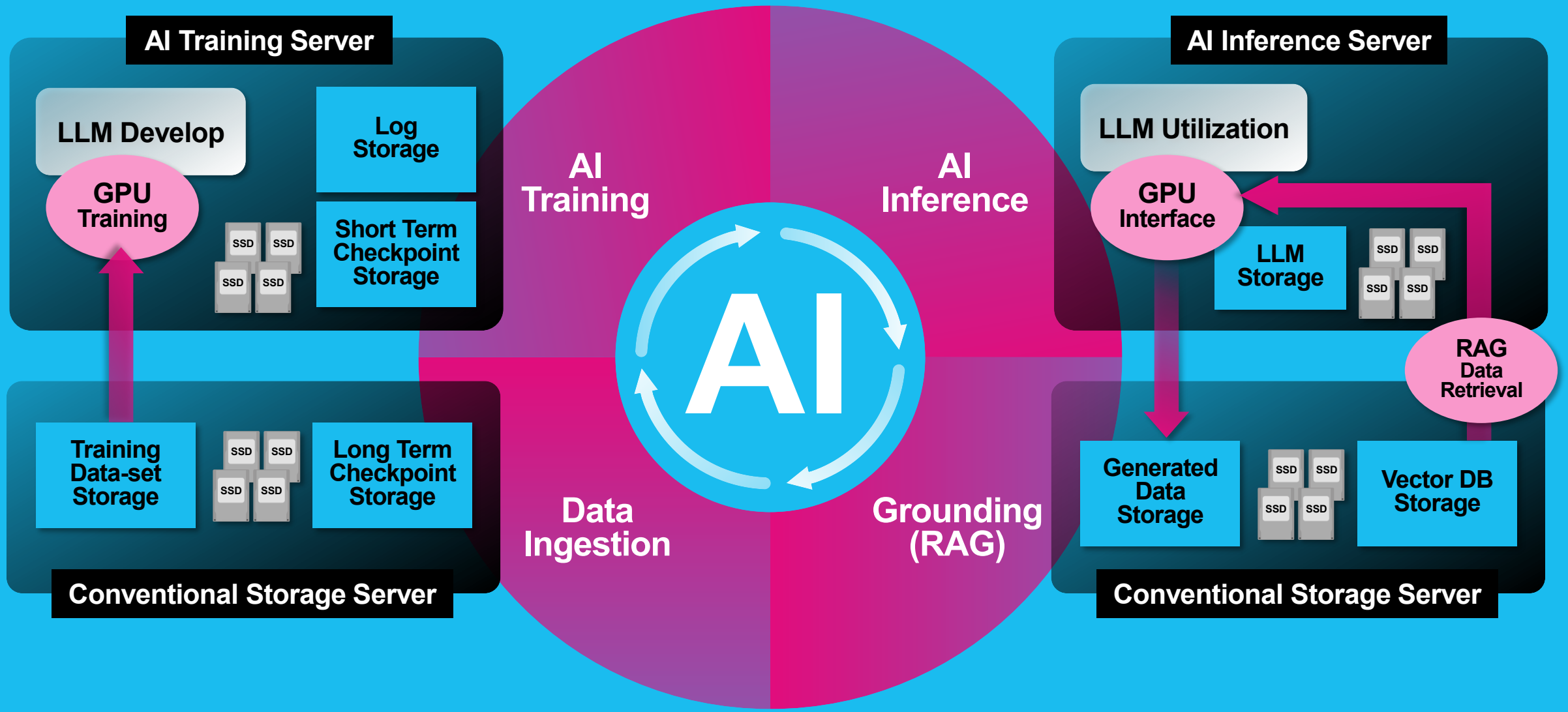


123%

179%

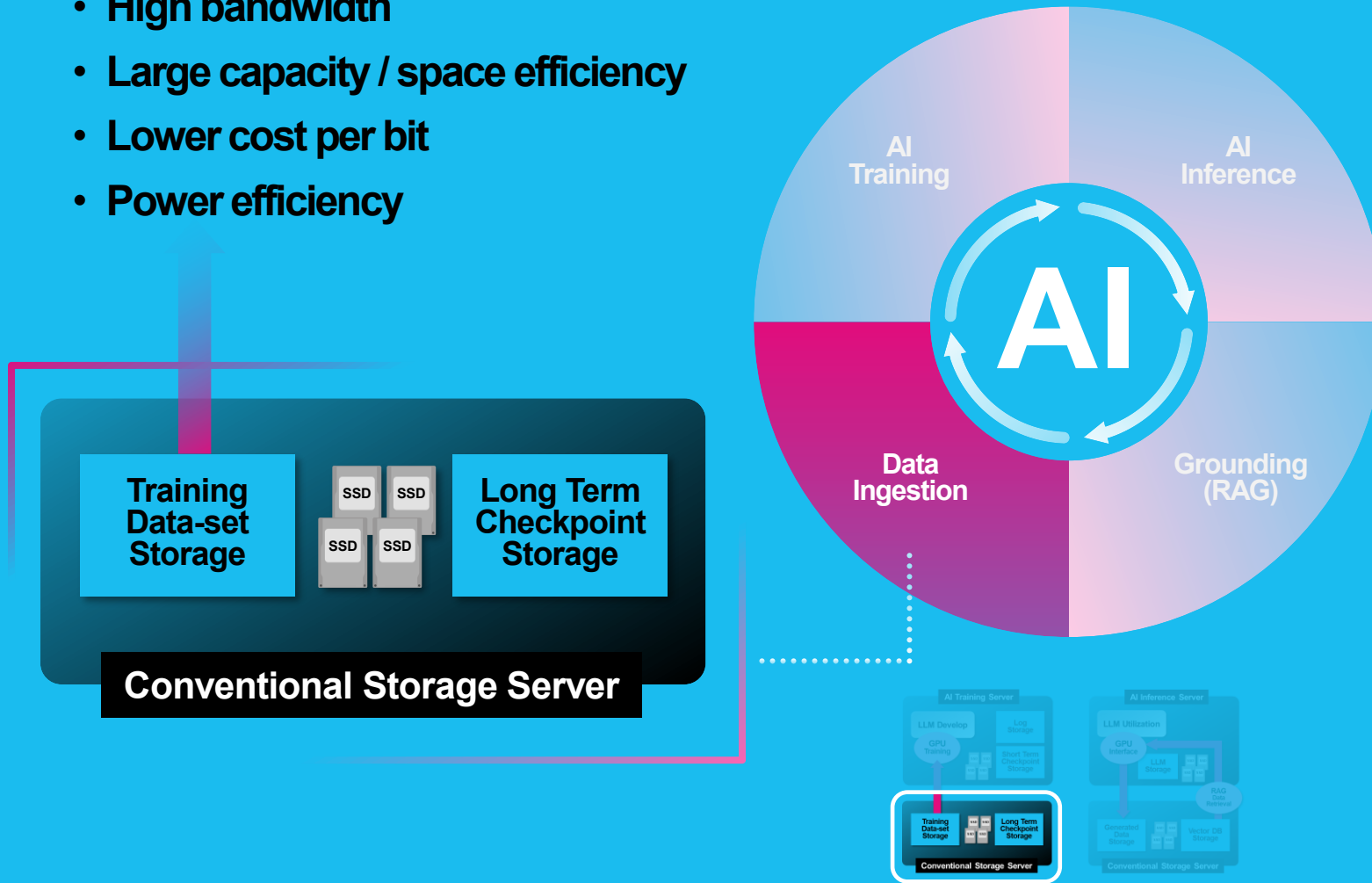
Percentage improvements compared to BiCS FLASH™ Gen. 5

* Based on 2 Tb QLC



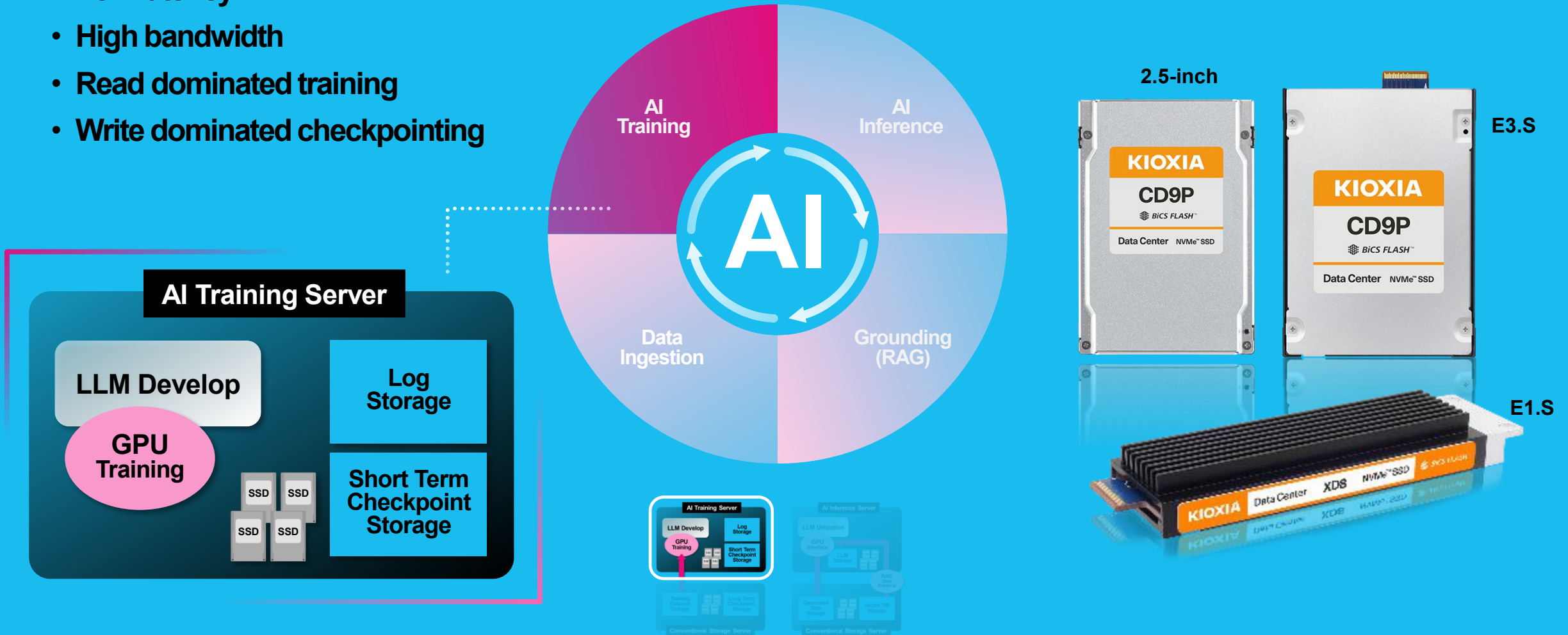
Data Ingestion

- High bandwidth
- Large capacity / space efficiency
- Lower cost per bit
- Power efficiency



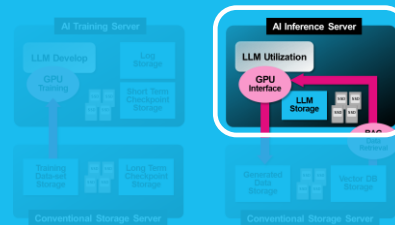
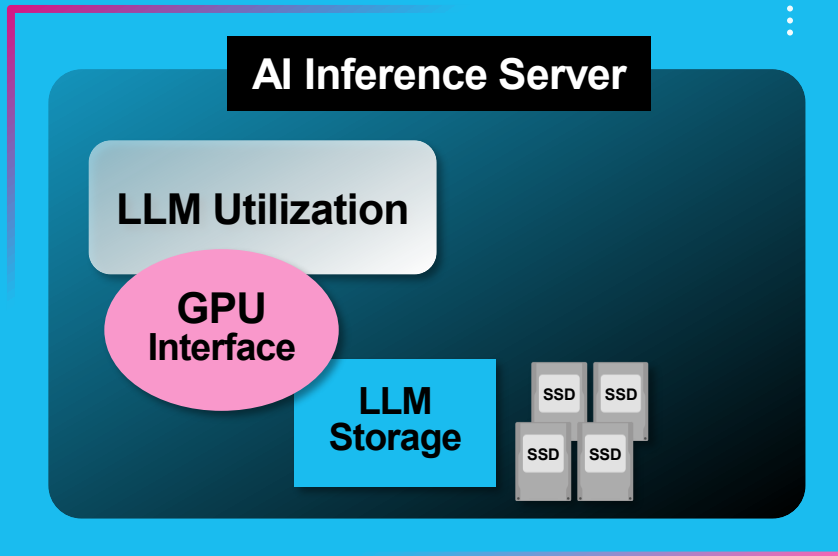
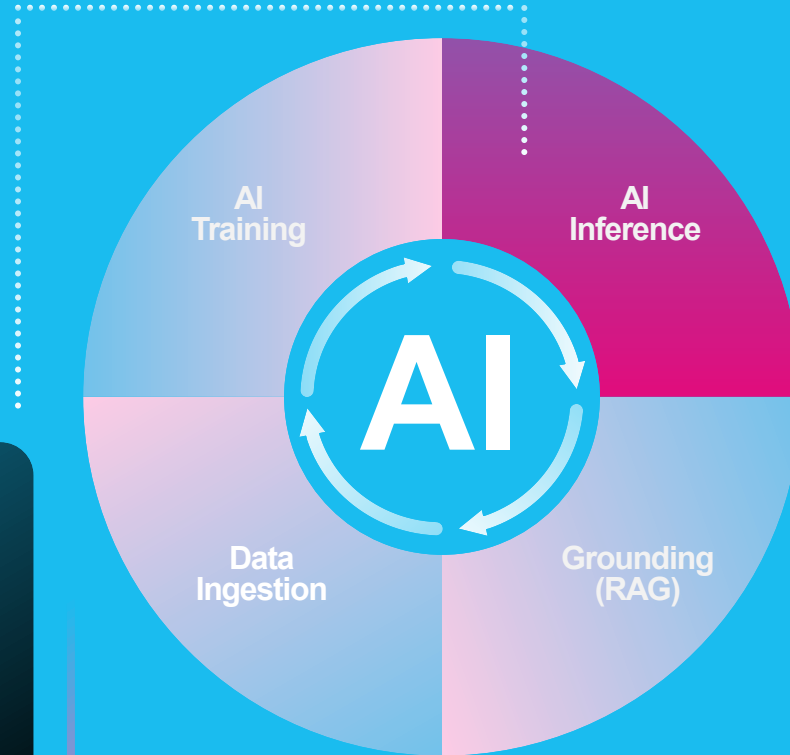
Training, Tuning, and Distillation

- Low latency
- High bandwidth
- Read dominated training
- Write dominated checkpointing



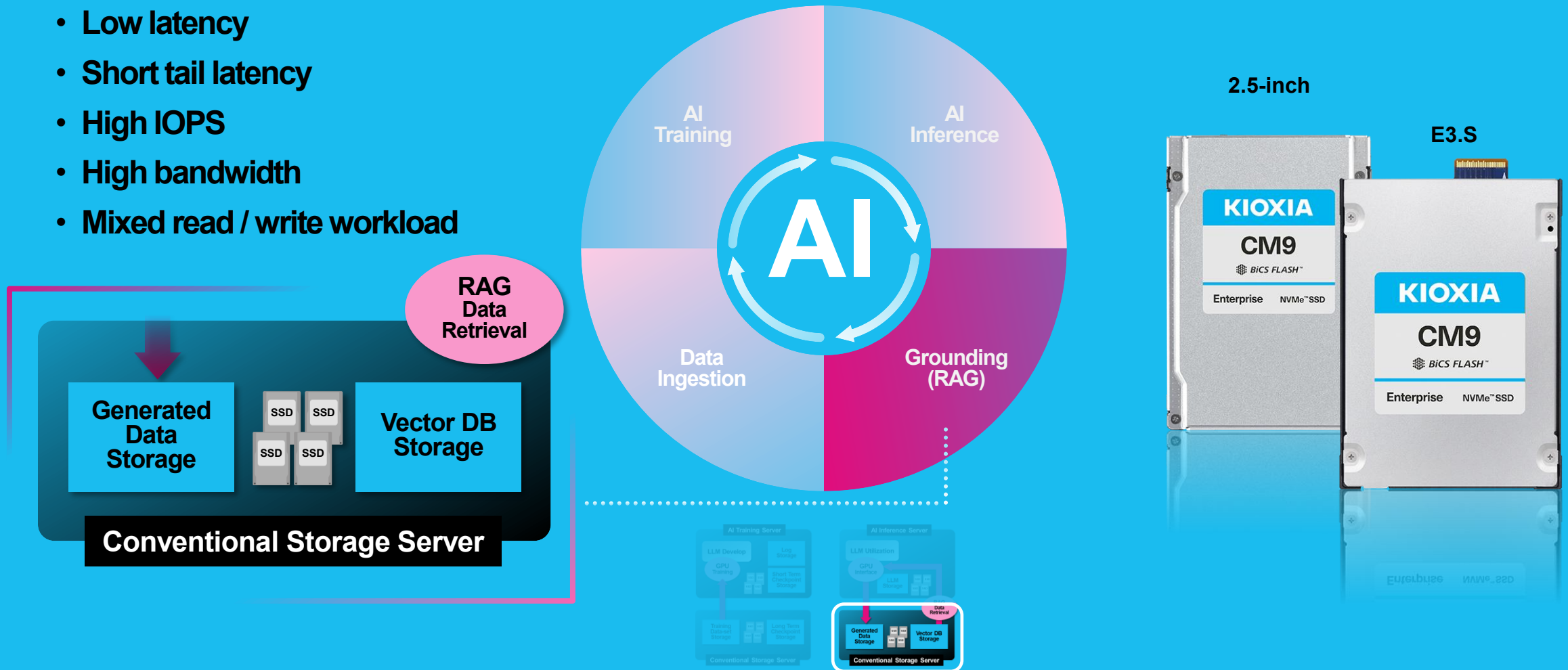
Inference

- Low latency (Interactive, mixture of experts, multi-tenancy)
- High bandwidth
- Read dominated



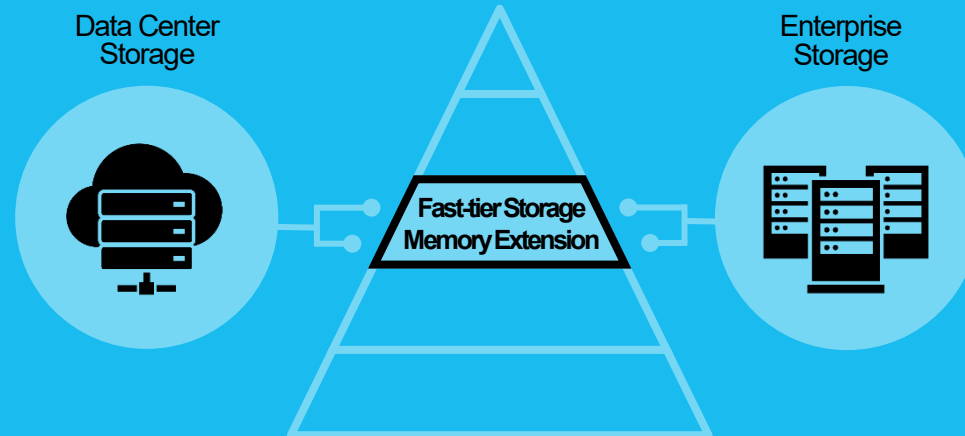
Retrieval Augmented Generation

- Low latency
- Short tail latency
- High IOPS
- High bandwidth
- Mixed read / write workload



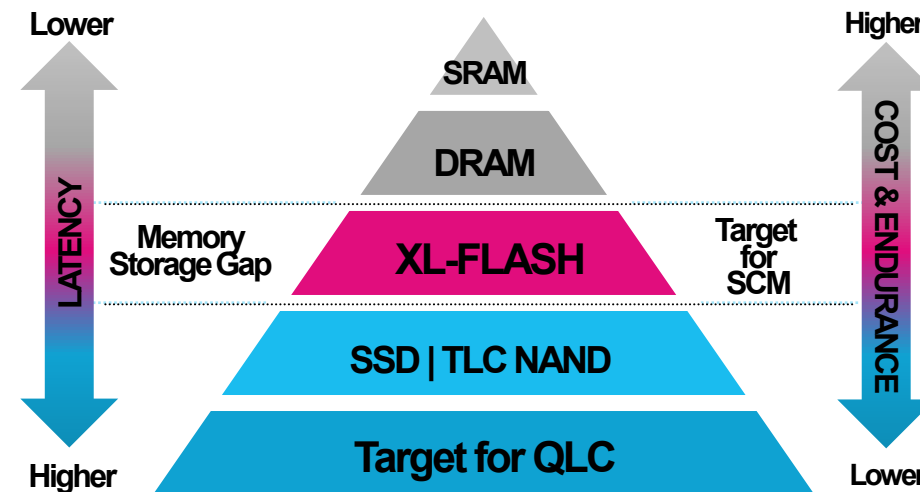


KIOXIA XL-FLASH Storage Class Memory



Addressing the performance gap between existing volatile memories & NAND flash, XL-FLASH is extremely low-latency, high-performance flash memory based on BiCS FLASH™ technology.

- Based on BiCS FLASH™ 3D flash memory technology
- Lower cost compared to DRAM and cross point type SCM
- Fast page read and program time
- Compatible flash protocol / package
- 128Gb die (SLC) / 256 Gb die (MLC) – 2-die, 4-die, 8-die packages available now
- 4KB page size for more efficient operating system reads and writes
- 16-plane architecture for improved latency
- High cell reliability



KIOXIA develops NVIDIA Storage-Next™ Product Super High IOPS SSD – KIOXIA GP Series

Announced by a Kioxia press release on March 16, 2026



Enabled by XL-FLASH™

2026

10M

<25W

512B Random Read IOPS
XL-FLASH™ generation 2
PCIe® 6.0

Evaluation samples
by the end of 2026

2027
~100M

512B Random Read IOPS
XL-FLASH™ generation 3
PCIe® 7.0



Today

Super High IOPS Emulator

Up to 100+ MIOPS

GPU Initiated I/O (w/ NVIDIA SCADA™)

GP series Performance Emulation

(Latency histogram setting & IOPS clipping)



Liquid Cooling

- Subject to change without notice
- Product image may be different

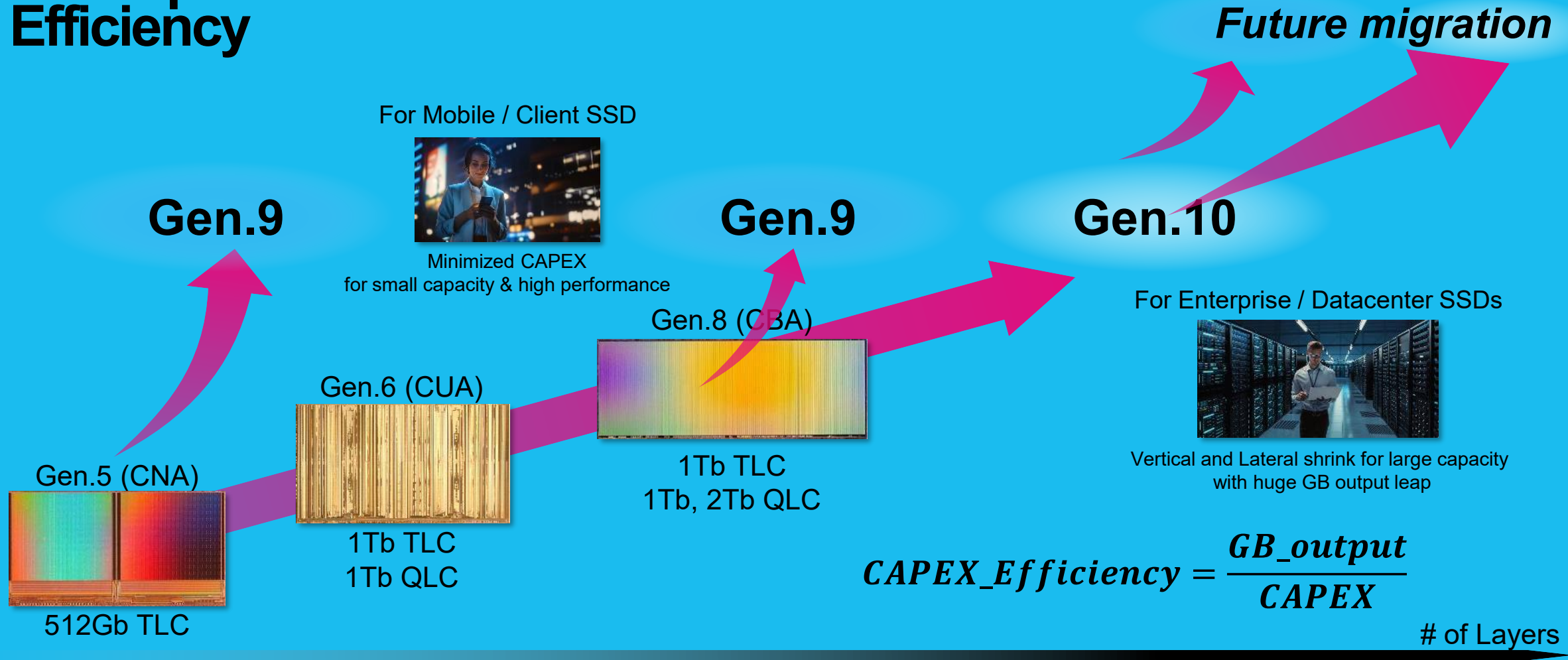
Super High IOPS Emulator Testing (Up to 100+ MIOPS)

Software Stack Enablement

System Study with GP series Performance

Dual-Pronged Migration Strategy with Optimized CAPEX Efficiency

Performance

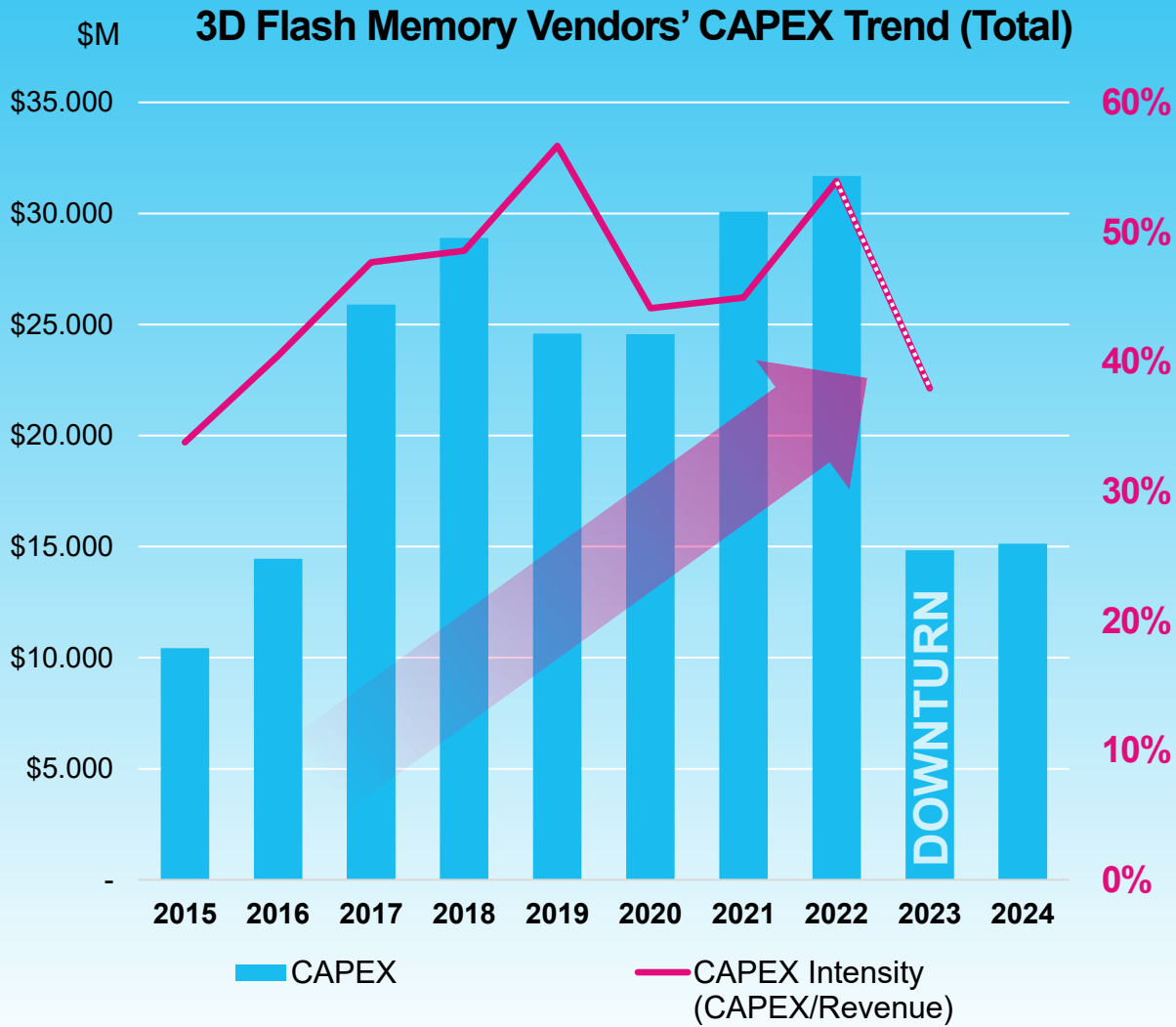


Best use of CAPEX and Dual-Pronged Migration for more GB output and performance for wide variety of applications

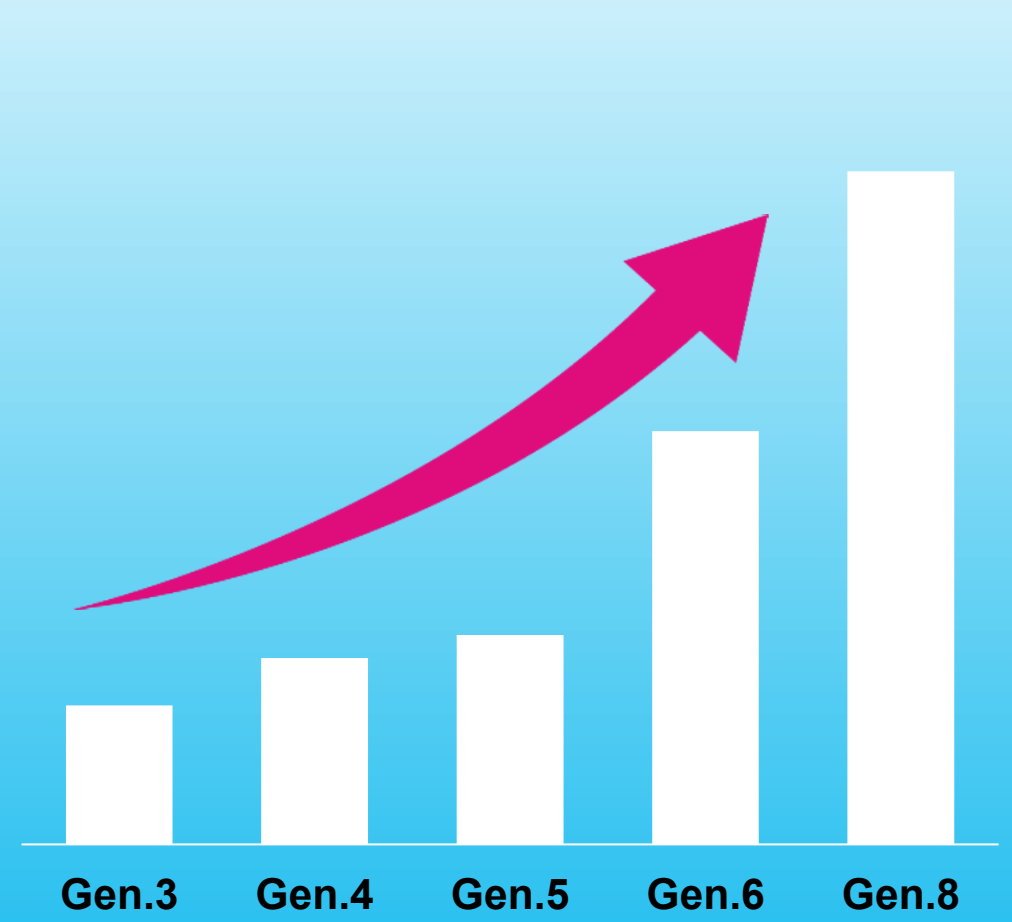
Market Outlook



CAPEX Trend & Structure of 3D Flash Memory



CAPEX Related to Stacking of Layers and Forming of Memory Holes



Source: KIOXIA

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