

Press Release

New 3D Flash Memory Technology from KIOXIA and Sandisk Achieves Industry's Highest Bit Density for QLC NAND

10th-generation QLC 3D flash memory represents a major leap forward for AI storage architectures, cloud platforms, and data-intensive innovations

Germany, Düsseldorf, 12 August 2026 – KIOXIA Europe GmbH, announced that KIOXIA Corporation, a subsidiary of KIOXIA Holdings Corporation (TOKYO: 285A) and Sandisk Corporation (Nasdaq: SNDK) unveiled their next-generation Quad-Level-Cell (QLC) 3D flash memory technology, which delivers up to 60% increase in bit density compared to their 8th-generation, surpassing 37 Gb/mm² and setting the industry benchmark^[1] for bit density, performance and power efficiency.

Leveraging the companies' revolutionary CMOS directly Bonded to Array (CBA) technology^[2] which fabricates CMOS logic and the memory array on separate wafers before bonding them together with high-precision wafer-to-wafer alignment, the new generation improves read and write bandwidth compared to the 8th-generation 3D flash memory and becomes the industry's first QLC 3D flash memory technology to reach a 4.8 Gb/s ^[3] interface.

Additional interface enhancements improve I/O data-out transfer power efficiency. These large power efficiency upgrades directly address the power and cooling challenges of modern AI and cloud infrastructure.

"As AI becomes increasingly embedded across society, its applications are evolving beyond generative AI into agentic and physical systems, creating new demands for how data is stored and managed," said Axel Störmann, Vice President & Chief Technology Officer at KIOXIA Europe GmbH. "KIOXIA 10-generation QLC 3D flash memory will play an important role in addressing the rapid growth of data by enabling greater storage efficiency, capacity and scalability for next-generation AI infrastructure."

Chief Technology Officer at Sandisk, Alper Ilkbahar, said, "As AI training, inference, and hyperscale datacenter workloads drive unprecedented growth in data generation, the storage industry faces increasing pressure to deliver greater capacity, higher performance, and improved energy efficiency. By redefining the performance and efficiency envelope of QLC NAND, our 10th-generation QLC 3D flash memory delivers simultaneous gains in density, bandwidth, and energy efficiency and establishes a new paradigm for high-capacity flash storage to provide a scalable foundation for next-generation infrastructure applications."

Key 10th-generation QLC 3D flash memory technology highlights include:

- 332-layer architecture and optimised floorplan design deliver up to 60% increase in bit density, achieving >37 Gb/mm² compared to the 8th-generation.
- 4.8 Gb/s^[3] NAND interface enabled by Toggle DDR6.0 and the Separate Command Address (SCA) protocol to unlock the full potential of fast interface.
- CMOS directly Bonded to Array (CBA) architecture enhances density scaling, performance, and manufacturing efficiency.
- Power-Isolated Low-Tapped Termination (PI-LTT) improves I/O data-out transfer power efficiency.

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Notes:

1. As of August 4, 2026, based on KIOXIA and Sandisk survey.
2. Technology wherein each CMOS wafer and cell array wafer are manufactured separately in their optimised condition and then bonded together.
3. 1Gb/s is calculated as 1,000,000,000 bits/second. This value is obtained under our specific test environment, and may vary depending on use conditions.

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About KIOXIA Europe GmbH

KIOXIA Europe GmbH is the European-based subsidiary of KIOXIA Corporation, a leading worldwide supplier of flash memory and solid-state drives (SSDs). From the invention of NAND flash memory to today's renowned BiCS FLASH™ 3D



flash memory KIOXIA continues to pioneer innovative memory solutions and services that enrich people's lives and expand society's horizons. The company's innovative BiCS FLASH™ 3D flash memory technology is shaping the future of storage in high-density applications, including advanced smartphones, PCs, automotive systems, data centres and generative AI systems.

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