



## Press Release

### **KIOXIA and Sandisk Unveil Next-Generation 3D Flash Memory Technology Achieving 4.8Gb/s NAND Interface Speed**

*Companies Preview 10<sup>th</sup> Generation 3D Flash Memory Technology Setting a New Benchmark for Performance, Power Efficiency and Bit Density*

**Germany, Düsseldorf, 20 February 2025** – [KIOXIA Corporation](#) and Sandisk Corporation have pioneered a state-of-the-art 3D flash memory technology, setting the industry benchmark with a 4.8Gb/s NAND interface speed, superior power efficiency, and heightened density.

Unveiled at ISSCC 2025, the new 3D flash memory innovation, together with the companies' revolutionary CBA (CMOS directly Bonded to Array) technology<sup>1</sup>, incorporates one of the latest interface standards, Toggle DDR6.0 for NAND flash memory, and leverages the SCA (Separate Command Address) protocol<sup>2</sup>, a novel command address input method of its interface, and PI-LTT (Power Isolated Low-Tapped Termination) technology<sup>3</sup>, which is instrumental in further reducing power consumption.

Leveraging this unique high-speed technology, the companies expect the new 3D flash memory to achieve a 33 percent improvement in NAND interface speed compared with their 8<sup>th</sup> generation 3D flash memory currently in mass production, reaching a 4.8Gb/s interface speed. The technology can also deliver enhanced power efficiency of data input/output, reducing power consumption by 10 percent for input and 34 percent for output, thereby achieving a balance of high performance and low power consumption. Previewing the 10<sup>th</sup> generation 3D flash memory, the companies detailed that by increasing the number of memory layers to 332 and optimizing the floor plan for increased planar density, the technology improves bit density by 59 percent.



“Next to the demand for increased power efficiency in data centres, data generation is set to vastly increase, driven by new AI technology-driven applications, with sophisticated operations such as inference at the edge and the application of transfer learning techniques further compounding storage requirements.” reflects Axel Stoermann, Vice President and Chief Technology Officer, KIOXIA Europe GmbH. “KIOXIA continues to lay the groundwork supporting these storage requirements of the future: higher speeds, larger capacity and lower power consumption.”

SVP of Global Strategy and Technology at Sandisk, Alper Ilkbahar, said, "As AI advances, customer needs for memory are becoming increasingly diverse. Through our CBA technology innovation, we aim to launch products that deliver the best mix in terms of capacity, speed, performance, and capital efficiency to cater to our customers across market segments."

KIOXIA and Sandisk also shared plans for the upcoming 9<sup>th</sup> generation 3D flash memory. Enabled by their unique CBA technology, the companies can combine the new CMOS technology with an existing memory cell technology to deliver capital-efficient, high-performance, low-power products. Both companies remain committed to developing cutting-edge flash memory technologies, offering tailored solutions to meet customer needs, and contributing to the advancement of the digital society.

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**Notes:**

- 1: Technology wherein each CMOS wafer and cell array wafer are manufactured separately in their optimized condition and then bonded together.
- 2: Technology wherein the bus for Command/Address input and the bus for data transfer are completely separated into different buses and are used in parallel. This reduces data input/output time.
- 3: Technology wherein power sources for existing 1.2V and additional lower voltage are utilized for the NAND interface power source. This reduces power consumption during data input/output.

\*1Gbps is calculated as 1,000,000,000bits/second. This value is obtained under specific our test environment, and may vary depending on use conditions.

\* Company names, product names and service names may be trademarks of third-party companies.



## **Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of federal securities laws, including statements regarding expectations for the availability, capabilities and impacts of Sandisk's technology and products. These forward-looking statements are based on management's current expectations and are subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied in the forward-looking statements.

Key risks and uncertainties that could cause actual results to differ materially from those expressed or implied in the forward-looking statements include: operational, financial and legal challenges and difficulties inherent in implementing the spin-off of Western Digital Corporation's Flash business to Sandisk; the future operating results of the stand-alone flash business; whether the spin-off will be completed on the expected terms and on the anticipated timeline or at all, including the possibility that the conditions to the spin-off may not be satisfied, including that a governmental entity may prohibit, delay or refuse to grant a necessary approval; the expected benefits and costs of the spin-off, including that the expected benefits will not be realized within the expected time frame, in full or at all; potential adverse reactions or changes to relationships with customers, suppliers or other partners resulting from the announcement and completion of the spin-off; competitive responses to the announcement or completion of the spin-off; unexpected costs, liabilities, charges or expenses resulting from the spin-off; litigation relating to the spin-off; the inability to retain key personnel as a result of the spin-off, disruption of management time from ongoing business operations due to the spin-off; business impact of geopolitical conflicts; and any changes in general economic and/or industry-specific conditions; other economic, competitive, legal, governmental, technological and other factors that may affect the spin-off and other risks and uncertainties set forth in the final information statement attached as Exhibit 99.1 to the Sandisk Corporation's Form 10 Registration Statement filed with the SEC on January 27, 2025, which is available on the SEC's website at [www.sec.gov](http://www.sec.gov). You should not place undue reliance on these forward-looking statements, which speak only as of the date hereof, and Sandisk undertakes no obligation to update or revise these forward-looking statements to reflect new information or events, except as required by law.

## **About KIOXIA**

KIOXIA is a world leader in memory solutions, dedicated to the development, production and sale of flash memory and solid-state drives (SSDs). In April 2017, its predecessor Toshiba Memory was spun off from Toshiba Corporation, the company that invented NAND flash memory in 1987.



KIOXIA is committed to uplifting the world with “memory” by offering products, services and systems that create choice for customers and memory-based value for society. KIOXIA's innovative 3D flash memory technology, BiCS FLASH™, is shaping the future of storage in high-density applications, including advanced smartphones, PCs, automotive systems, data centers and generative AI systems. Visit our [KIOXIA website](#)

### **About Sandisk**

Sandisk delivers innovative Flash solutions and advanced memory technologies that meet people and businesses at the intersection of their aspirations and the moment, enabling them to keep moving and pushing possibility forward. Sandisk Corporation is a wholly owned subsidiary of Western Digital (Nasdaq: WDC). Follow Sandisk on [Instagram](#), [Facebook](#), [X](#), [LinkedIn](#), [Youtube](#). Join [TeamSandisk](#) on Instagram.

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