

Our Leadership in Flash Memory R&D and Manufacturing

Kioxia Holdings Corporation
September 30th , 2025

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In this presentation, we will explain not only the structure of the joint venture between Kioxia and Sandisk, but also Kioxia's leadership in research & development and manufacturing capabilities that drive the joint venture, as well as our factory vision for the future.

1. Start of Operation at Kitakami Plant Fab2 (K2)



Started operation in September, 2025

Outline

- **Mass production of 8th gen. BiCS FLASH™**
- **Manufacturing of large-capacity flash memory with cutting-edge equipment**
- 7-story building
- Integrated production with Fab1 via inter-building wafer transportation
- Employs AI for enhanced production efficiency
- Continued commitment to environmental sustainability following K1
- Portion of investment subsidized by Japanese government

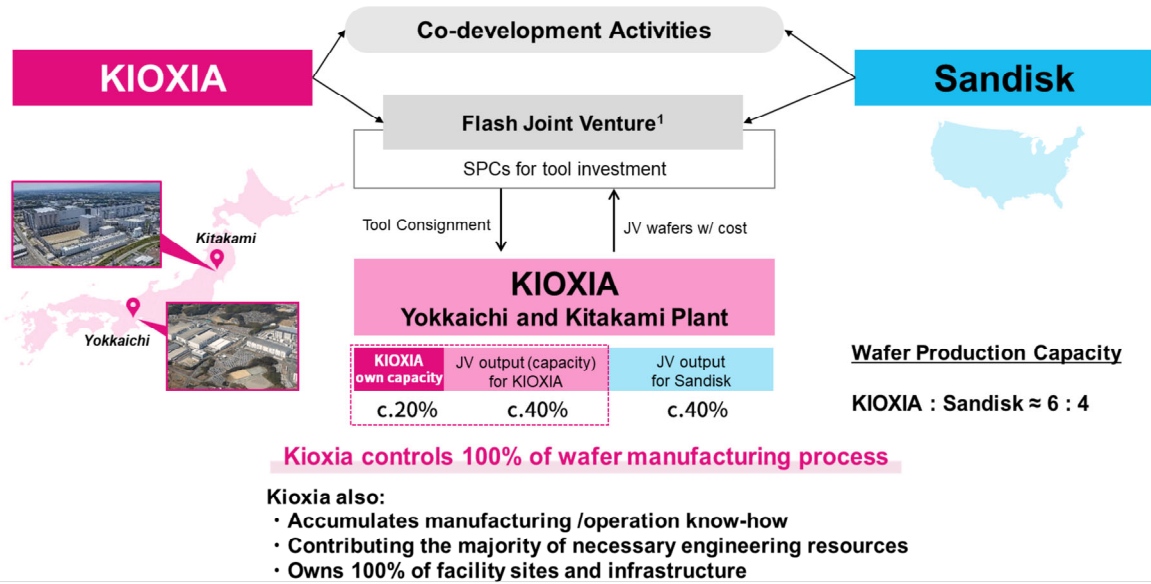
Related news release (9/30/2025) <https://www.kioxia.com/en-jp/about/news/2025/20250930-1.html>

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Here is a summary of Fab2 at the Kitakami Plant. Fab2, called K2, will first focus on mass production for the eighth generation of BiCS FLASH™, and we plan to incorporate advanced equipment to produce the next generation of high-capacity products. Similar to the Yokkaichi Plant, K2 is connected with inter-building wafer transportation with K1, enabling high-efficiency production utilizing AI. Additionally, a portion of the capital investment is supported by subsidies from the Japanese government.

2-1. Scope of Collaboration : Kioxia and Sandisk



KIOXIA ¹ Kioxia has a 50.1% equity interest in each of the three Flash JV Companies while certain Sandisk entities hold the remaining 49.9% interest © 2025 KIOXIA Holdings Corporation. All Rights Reserved. 3

Similarly to our previous manufacturing facilities, Kioxia is making investments into K2 in collaboration with Sandisk. This chart serves as a summary of the structure of the joint venture that we have explained previously.

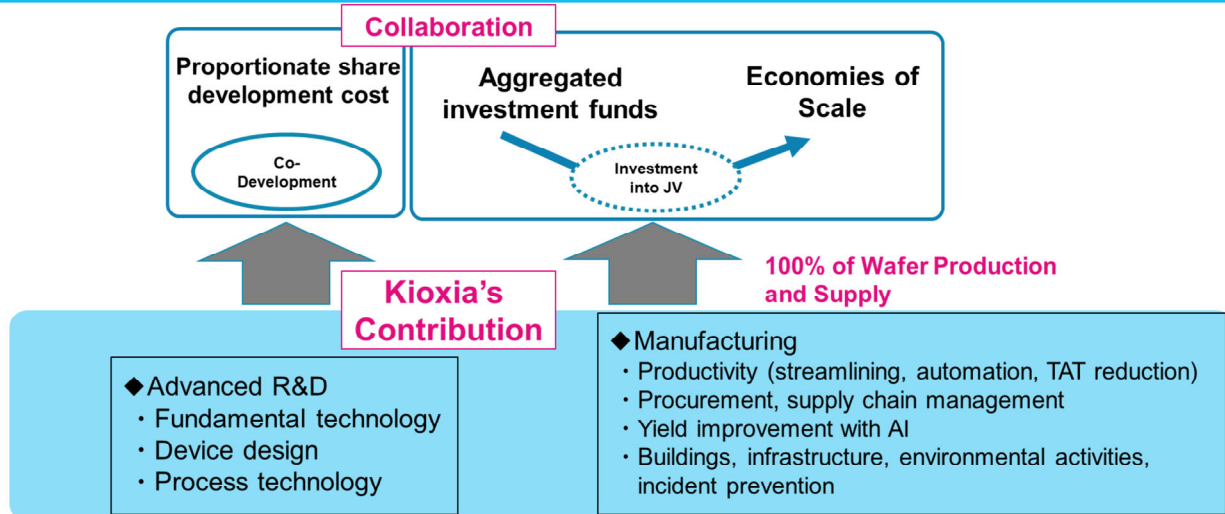
Our collaboration with Sandisk consists of two components: joint development and capital investment for the joint venture. The JV leases production equipment and contracts manufacturing to our Yokkaichi and Kitakami plants, and Kioxia sells wafers with allocated costs.

Kioxia as a standalone holds 20% of the total production capacity of the Yokkaichi and Kitakami plants, while the remaining 80% is shared equally between Kioxia and Sandisk. As a result, we have 60% of capacity and Sandisk has 40%.

We have explained before that Kioxia controls 100% of wafer manufacturing at the Yokkaichi and Kitakami plants, so now for the next part of the presentation will dive deeper into Kioxia's own research and development capabilities and manufacturing power that are essential to the joint venture.

2-2. Our Contribution to the Joint Venture

Our Leadership in R&D and Manufacturing are Essential to the JV



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First, as shown in the top half of this page, our collaboration with Sandisk is a vehicle to consolidate the investments of both companies to achieve economies of scale, as well as a means to share development costs through joint development.

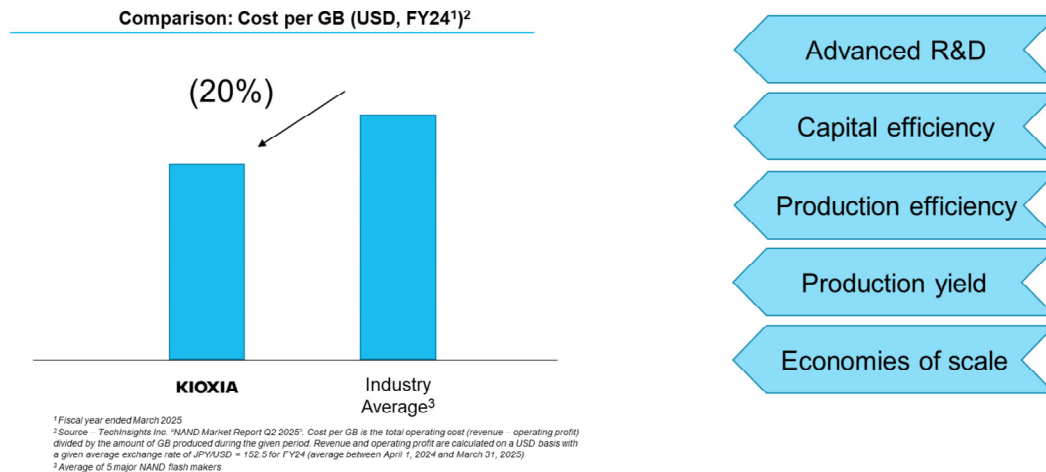
However, as indicated in the bottom half, Kioxia conducts advanced semiconductor research independently. For cutting-edge research, we lead the way in developing fundamental technologies related to materials and their use, process technologies, and device design technologies, and we incorporate these results into joint development. This approach allows us to achieve high investment efficiency and leads to mass production of competitive products.

Regarding manufacturing, as mentioned earlier, Kioxia controls 100% of wafer manufacturing at the Yokkaichi and Kitakami plants. We independently control all elements necessary for the operation and production management of both manufacturing sites. For instance, we manage the procurement of tens of thousands of components, materials, and equipment, optimize and streamline automation systems, and work on shortening wafer processing times and production lead times. We also utilize big data and AI for detailed production management and yield management, along with various environmental measures to enhance sustainability.

Kioxia's advanced research and manufacturing capabilities are essential for the development of competitive BiCS FLASH™ technology, and we are determined to continue strengthening these areas in the future.

3-1. Our Cost Competitiveness

Advanced research, capital efficiency, production efficiency, and economies of scale are driving our competitive cost per GB



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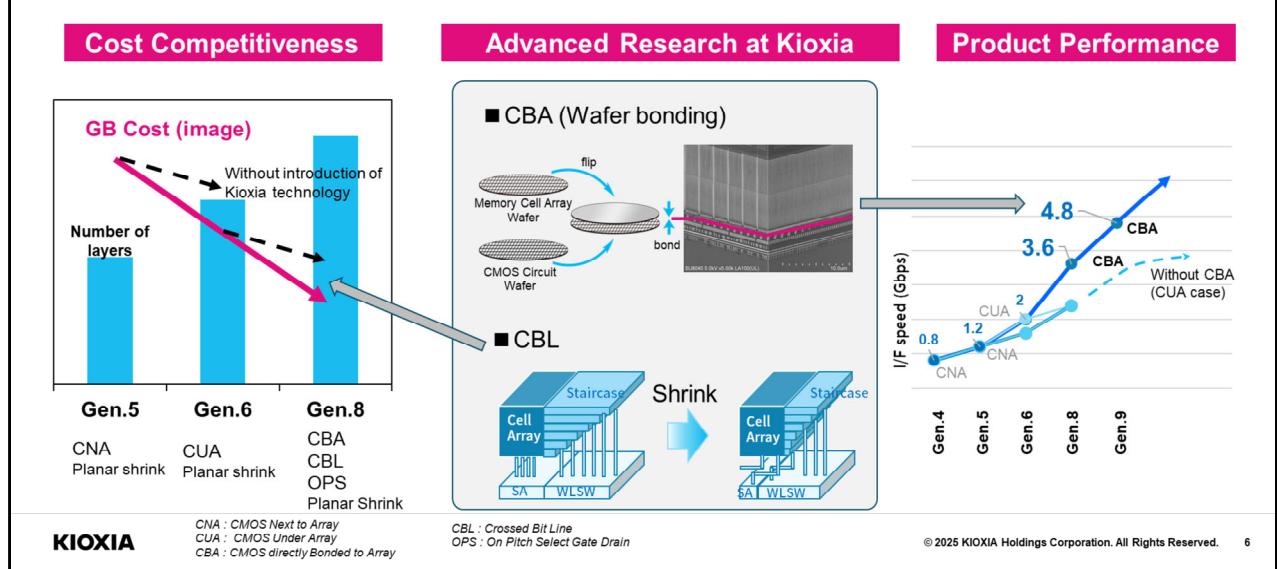
According to a report by the research firm TechInsights, for cost per GB for the fiscal year 2024, Kioxia achieved a cost approximately 20% lower than the industry average.

Kioxia's advanced research capabilities and manufacturing strength contribute to the medium to long-term cost competitiveness of its products. The main factors enabling us to achieve this high cost competitiveness are high investment efficiency based on advanced research and technologies, as well as sound judgment in assessing market conditions. Our production efficiency and yield management leverage the experience, know-how, and innovations Kioxia has developed over time, combined with the economies of scale derived from our collaborations.

Following pages will discuss the elements shown on the right that contribute to our high cost competitiveness, and outline Kioxia's advantages in each area.

3-2. Our leadership in Research and Development

Kioxia's technology, derived from its R&D activities, is core to the competitiveness of BiCS FLASH™



First, this page discusses Kioxia's cutting-edge research.

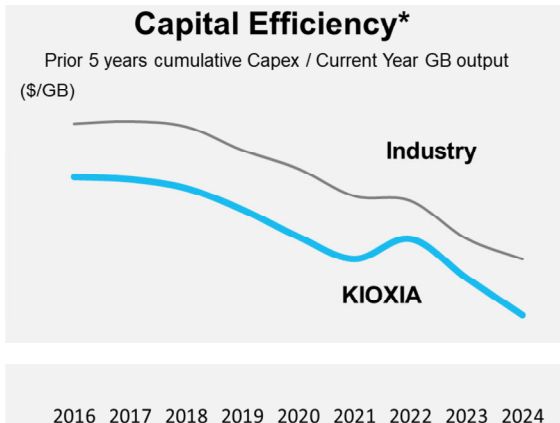
The three-dimensional flash memory technology, "BiCS FLASH™" was developed by Kioxia and presented for the first time at a conference in 2007. Since then, Kioxia has continued to independently pioneer technology for both higher layer stacking and planar scaling, which we proposed for joint development, thus enhancing the competitiveness of BiCS FLASH™ products.

For BiCS FLASH™, as the number of layers increases, wafer costs rise. However, by incorporating various technologies to improve bit density, Kioxia has been able to reduce costs per GB. For example, in the eighth generation of BiCS FLASH™, we have achieved a reduction in GB costs that counteracts the cost increases associated with more layers by employing techniques like CBL, which reduces chip area on the planar level.

Furthermore, we have made the strategic decision to mass-produce CBA technology that Kioxia has built up through years of research, strengthening our competitive advantage in an era where high capacity, performance, and low power consumption are increasingly demanded, especially in the age of AI. Additionally, this CBA technology aligns with Kioxia's "dual-axis strategy" that we have discussed in the past, and we believe it will contribute to the expansion of the AI market in the future.

3-3. Our Manufacturing Leadership (Capital Efficiency)

Kioxia achieves more efficient investment compared to the industry average



Kioxia's manufacturing leadership yields high investment efficiency

- ✓ Integrated production with inter-building wafer lot transportation
- ✓ Device/process development allows for maximum use of existing production equipment
- ✓ Strategic procurement activities
- ✓ Factory streamlining

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* Source – TechInsights Inc. "NAND Market Report Q1 2025"

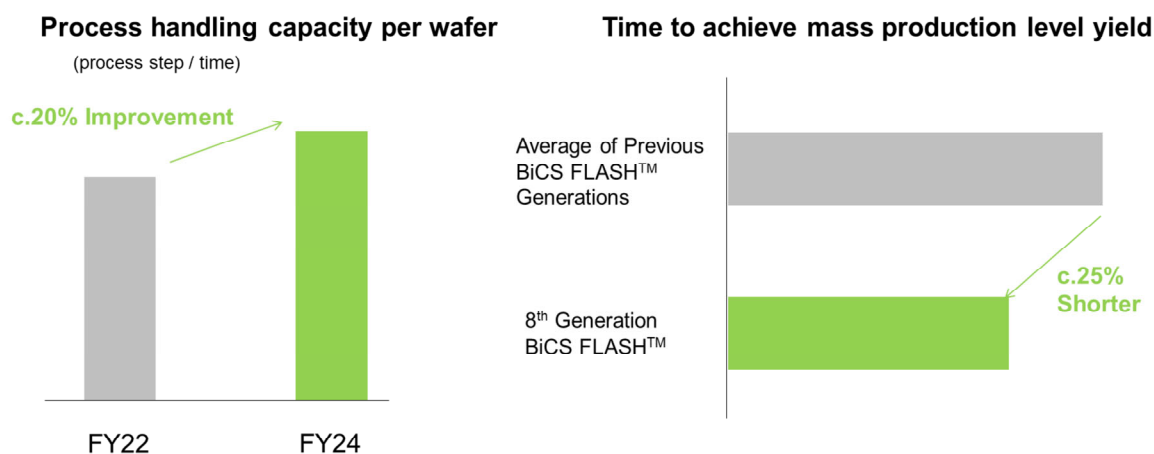
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Now, the next chart covers investment efficiency. Here is a graph Kioxia presented during the Corporate Strategy Meeting in June, which shows investment efficiency in the form of cumulative capital investment over the past five years relative to the annual increase in GB output. As indicated in the TechInsights report, Kioxia maintains the highest investment efficiency in the industry.

Kioxia's high investment efficiency is attributed to maximizing manufacturing equipment utilization through integrated production that leverages inter-building wafer transportation, the repurposing of existing equipment, and strategically planning device and process development with a focus on future equipment strategies. Kioxia's strategic procurement activities also contribute to this high level of investment efficiency.

3-4. Our Manufacturing Leadership (Production Efficiency and Yield)

Kioxia has been improving production efficiency and achieving greater yield even as BiCS FLASH™ production becomes more complicated



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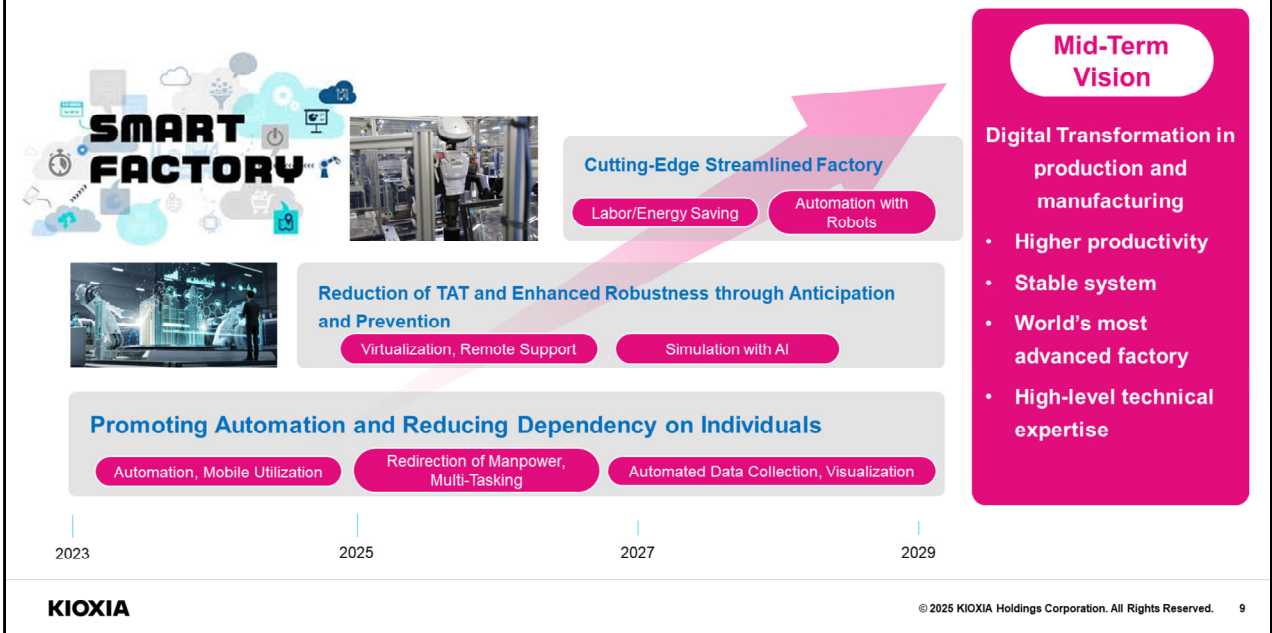
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This page discusses the results of our recent manufacturing activities.

First, the graph on the left shows that our process handling capacity per wafer has improved by approximately 20% over the two years from fiscal year 2022 to fiscal year 2024. This improvement is a result of reduced processing times, streamlined production lot transportation, and optimized inspection processes. Even as manufacturing processes become increasingly advanced and complex, Kioxia has achieved high production efficiency, contributing to the shortening of manufacturing lead times for the eighth generation of BiCS FLASH™.

The graph on the right illustrates yield improvements. Since the start of production for the eighth generation of BiCS FLASH™, Kioxia has shortened the time taken to reach a given yield level by about 25% compared to previous generations. Kioxia has also improved opportunity loss against past generation yield curves by more than 10%. This achievement is due in part to device designs considered for manufacturing, as well as extensive utilization of results data, causal data, change point data, and equipment setting data derived from manufacturing-specific big data. With the help of AI analysis on the production line, skilled workers who understand the source of the data are able to accumulate know-how through observations and improve the on-site processes, resulting in the successful implementation of yield monitoring and production improvements.

3-5. Our Future Factory Vision



Lastly, we would like to share Kioxia's vision for its plants.

At the Kitakami Plant, Kioxia aims to create an advanced smart factory by leveraging the know-how accumulated at the Yokkaichi Plant and incorporating and utilizing digital transformation. The Yokkaichi Plant has historically promoted automation while eliminating dependence on individual operators. As a result, Kioxia has worked to speed up decision-making to minimize losses while scaling up operations.

Kioxia extracts and digitizes necessary data and optimize the frequency of data acquisition through machine learning and AI, and we are in the process of using AI and efficiency improvement simulations to further refine our approaches.

Going forward, Kioxia will also focus on enhancing the technical expertise of its workforce to address more advanced tasks, promoting predictive and automated control, and achieving improvements in manufacturing efficiency and a stable production system. The Kitakami Plant is undergoing a transition with the introduction of the latest equipment, and Kioxia aims to integrate these manufacturing capabilities to create a world-leading, streamlined, and state-of-the-art factory operation.

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