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Digital Storage And Memory Projections For 2026, Part 2

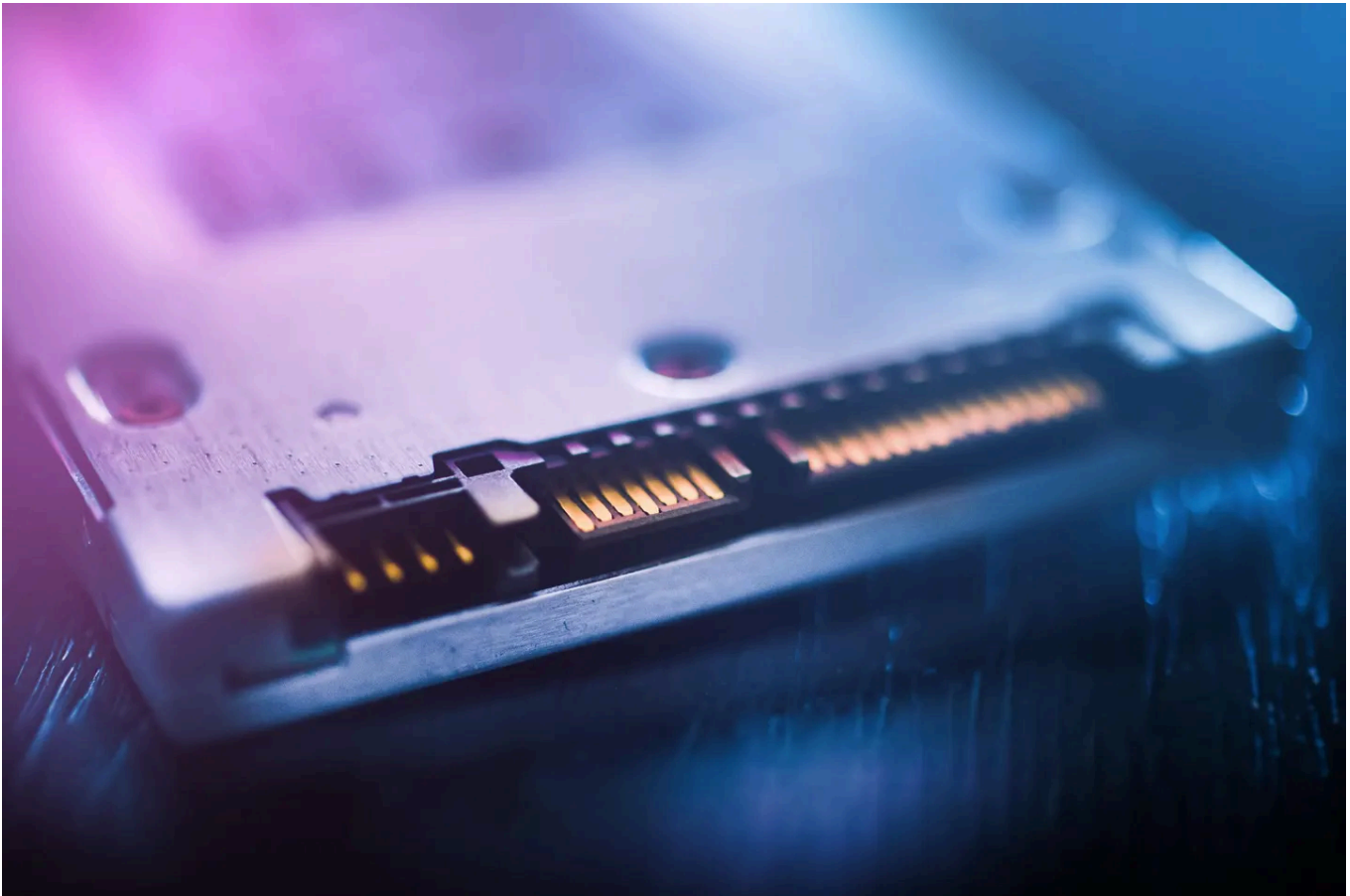
By **Thomas Coughlin**, Contributor. ⓘ Covering Digital Storage Technolog... ▼

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This is the second in a set of four blogs about projections for digital storage and memory for the following year that we have been doing for several years. Our first blog focused on the latest developments and projections for magnetic recording (HDDs and magnetic tape). This blog focuses on status and projections for various types of solid-state non-volatile memory and storage. We will talk about the latest developments in NAND flash memory, DRAM and non-volatile memories like MRAM, RRAM, FRAM and PCM.

Memory and storage technologies recovered from a severe recession in 2022 and 2023 and a significant recovery in 2024. 2025 has seen demand grow even more with shortages reported for all the major storage and memory technologies. Much of this growth is to support data for AI workflows and has particularly hit consumer and other solid-state memory and storage users with higher prices and low availability.

For instance, manufacturers have prioritized DRAM use in high-profit high bandwidth memory, HBM. This led to soaring prices for both consumer and server DRAM, despite growth in overall capacity shipments. As of [Q3 2025 DRAM contract](#)

[prices increased by about 172% year over year](#). Trendforce also estimated a 35% increase in average selling prices for 2025.

The same is true for NAND flash. [Kingston said that the price of NAND flash for them had increased by 246% in 2025](#). Overall, some reports indicate that some NAND prices more than doubled in under six months in late 2025.

Some solid-state memory manufacturers are planning on investments to increase production in 2026. For instance, [CXMT in China is planning on an IPO on the Shanghai market to increase their DRAM production capacity](#) to support Chinese DRAM demand. Micron has also reported on expanding its production capacities for DRAM and NAND flash in Boise, Japan and with partners, in Taiwan.

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Kioxia and its partner Sandisk as well as YMTC plan to increase their production capacity of NAND flash. But there are also reports that [NAND demand in 2026 will grow by 20-22% year over year while supply is projected to rise by 15-17%, leading to shortages in 2026.](#)

Solid state memory technologies such as DRAM and NAND flash are made in expensive fabrication facilities and expansion of production capacity takes a significant time to come online. As a consequence, with continuing demand growth and slower increases in production we expect increasing prices in 2026 for these memory and storage products.

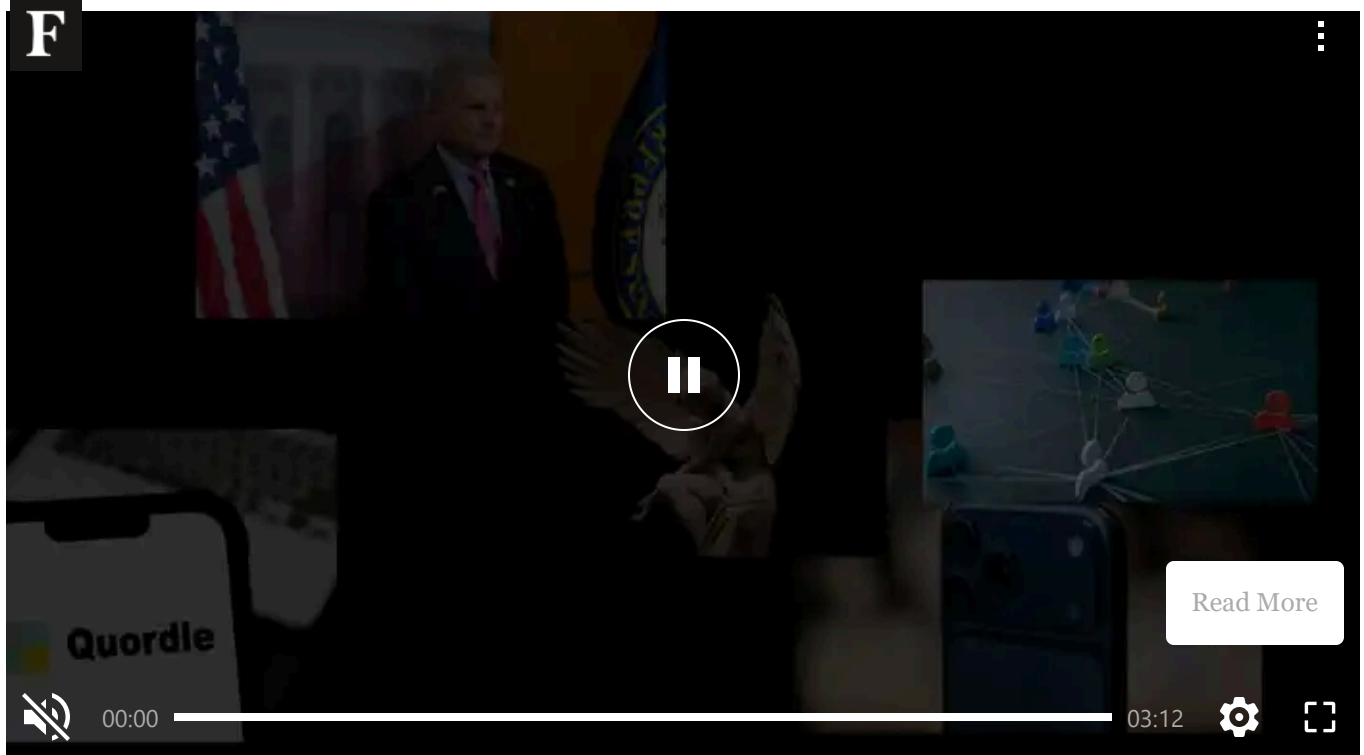
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TrendForce [projects 12.8% server growth from 2025 to 2026](#). This will continue to drive DRAM and NAND flash demand and likely higher prices in 2026. However, if there is any reduction in AI spending in 2026 these trends could quickly reverse.

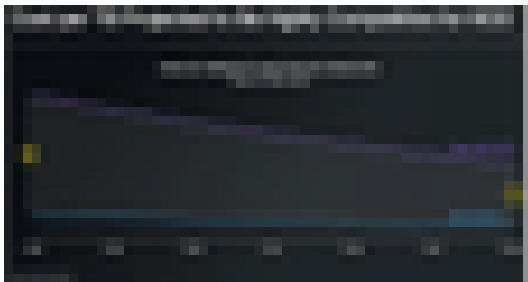


SSDs are primary storage for frequently used data in most data centers and in particular for AI workflows, and this is driving demand for these products. Active data lives on SSDs with colder data kept on hard disk drives, HDDs, and magnetic tape. The SSDs companies are also trying to introduce high-capacity QLC NAND storage products, with four bits per NAND memory cell, with capacities of over 200TB in 2026 to displace HDDs as secondary storage for less active data. [The images below show large QLC NAND eSSD announcements from the 2025 FMS last August.](#)



High capacity QLC eSSDs from the 2025 FMS conference
COMPOSITE IMAGE BY TOM COUGHLIN

Higher capacity SSDs can take less rack space than HDDs and they offer higher performance than HDDs offer. This can be an advantage for AI training and inference with RAG, but flash memory is currently about 6X more expensive per storage capacity than HDDs and is expected to remain so, for some time into the future, as shown in the image below from the WDC investor day in February 2025.



Western Digital history and projections for HDD versus SSD pricing
WDC

Recent NAND flash capacity increases have focused on smaller diameter memory cells, closer memory cells and particularly on using more bits per cell, rather than more NAND flash layers. 2025 saw the introduction of NAND flash products with more than 300 layers. We don't expect big increases in layer numbers in 2026 as the cost reductions with more layers are much less than in the past.

The higher capacity SSDs being offered do have somewhat lower operating power and allow considerably more storage in a given rack space, compared to HDDs, while providing higher performance, which can be an advantage in some applications. However, the QLC flash has lower endurance and thus is best used in write seldom applications. As a consequence, I don't believe they will displace too much of the demand for nearline storage using HDDs. I expect instead that they will create a new layer in the SSD storage hierarchy.

Another interesting development at the 2025 FMS in August 2025 was the announcement by Sandisk and SK hynix of an Memorandum of Understanding to create standards for high bandwidth flash, HBF, with NAND flash in similar packaging as DRAM in HBM to supplement HBM for AI applications. An image of a flash based, HBF module architecture is shown below.



High bandwidth flash architecture
SANDISK

In addition to providing more memory using NAND flash in HBM-like packages, NAND-flash is also a non-volatile memory while DRAM is a volatile memory. That means that DRAM requires regular refreshes of the data it contains and this consumes energy. By substituting some non-volatile memory for what otherwise would be volatile memory in GPUs and AI applications it may be possible to reduce the energy requirements for AI applications in data centers.

This could open up more AI opportunities for AI applications in energy constrained data centers, thus democratizing the development of AI applications. It could also help to reduce the projected power requirements for hyperscale and other data centers to support AI development.

The market for non-volatile memories such as magnetic random access memory, MRAM, resistive RAM, ReRAM, ferroelectric RAM, FRAM, and phase change memory, PCM, continues to develop, particularly for embedded memories. In our 2024 report on non-volatile memories, [A Deep Look at New Memories](#), we looked into developments and projections. The latest report will be available in January 2026.

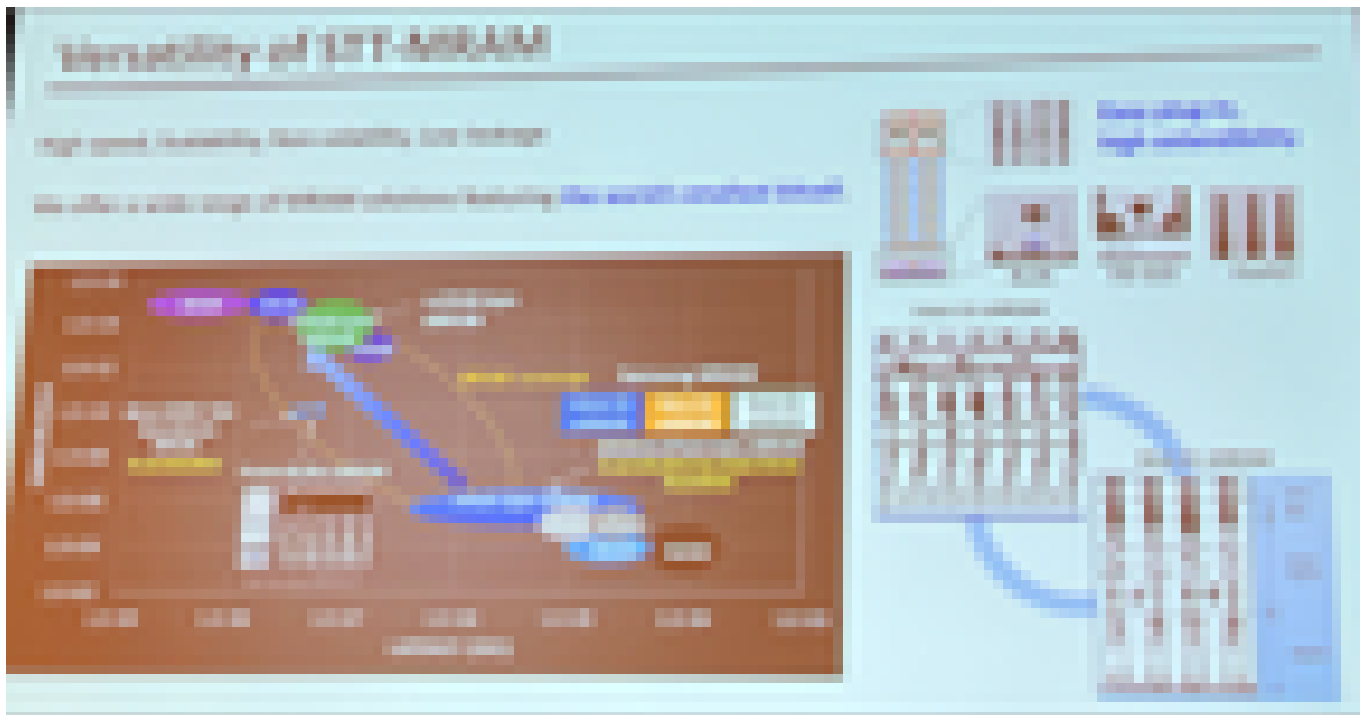
The first widespread use of emerging memories is for embedded memory on a CMOS logic chip, replacing NOR flash, which has reached its scaling limit at 28nm, and is today frequently being replaced with MRAM and ReRAM. Single-transistor MRAM cells are now competing with multi-transistor static random access memory, SRAM, to dramatically reduce the number of memory transistors in order to provide a lower-cost, higher-density solution. Several enterprise, industrial and consumer devices currently use MRAM as an embedded memory, and this trend is growing.

At the 2025 IEEE MRAM Forum, at the end of the 2025 IEDM conference in San Francisco, sponsored by Samsung and other companies and organized by the IEEE Magnetics Society and the IEEE Electron Devices Society, Masanori Hosami from Sony spoke on recent developments in Sony's use of eMRAM for image sensor applications. He pointed out that Sony spoke about STT-MRAM at the 2005 IEDM. He showed a slide, below, with examples of various embedded devices, MCUs and standalone devices that include MRAM memory.



Sony slide at MRAM Forum on STT-MRAM applications
TOM COUGHLIN

TSMC spoke about their 16nm MRAM technologies for automotive applications. NXP gave an update on their automotive products using MRAM technology. Jeong-Heon Park from Samsung addressed automotive MRAM as well as, and in particular 8nm eMRAM and a scheme for wafer level magnetic shielding (that was also shown in an MRAM session at the IEDM). The figure below, from the Samsung talk, shows various applications for eMRAM as a function of latency and endurance.



Samsung slide showing various eMRAM versus other common memories comparisons
TOM COUGHLIN

Everspin had a demo on magnetic field immunity for MRAM and there were presentations on when this could be an issue and how to mitigate it so customers can use MRAM in their products.

Based upon considerations of economy of scale, that is, the ability to drive up production volume over time, the upcoming New Memory report projects that total baseline new memory annual shipping capacity will rise from an estimated 1.4PTB in 2024 to 13.5EB in 2035. Total new memory baseline revenues are expected to increase from \$565M in 2024 to about \$171B by 2035. The bulk of this rapid revenue growth will be supported by new memory technologies' displacement of SRAM, NOR flash and some DRAM.

AI is driving demand and higher prices for DRAM and NAND into 2026. Products using non-volatile memories to replace NOR and SRAM in embedded applications are growing.

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