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Toshiba First in Industry to Verify 12-Disk Stacking Technology for Hard Drives



Targeting launch of next-generation 40TB-class HDDs in 2027

Düsseldorf, Germany, October 14, 2025 – Toshiba Electronics Europe GmbH announces that Toshiba Electronic Devices & Storage Corporation (Toshiba) is the first^[1] in the storage industry to verify 12-disk stacking technology for high-capacity hard disk drives (HDDs). By combining this achievement with Microwave-Assisted Magnetic Recording (MAMR) technology, the company aims to introduce 40TB^[2]-class 3.5-inch^[3] HDDs for data centers to the market in 2027.

This 12-disk stacking technology leverages advanced design and analysis technologies that Toshiba has developed in creating thin, compact products, and adds two disks to the standard 10-disk, 3.5-inch disk track used in the company's nearline HDDs. Key advances include the development of new dedicated parts in the stack and the replacement of the current aluminum substrate medium with a glass substrate that offers greater durability and allows thinner designs. These advances deliver improved mechanical stability and in-plane accuracy, higher density, and greater reliability.

Data generation and storage continue to explode as cloud services expand, streaming video services gain in popularity, and generative AI and data science enjoy rapid growth. Recognizing the need to increase storage capacities, Toshiba is also investigating the use of 12-disk stacking technology in conjunction with next-generation Heat Assisted Magnetic Recording (HAMR). The goal is to develop higher-capacity HDD solutions that keep pace with the ever-growing storage demands from data centers while achieving a lower total cost of ownership (TCO) for customers.

Toshiba's new 12-disk stacking technology will be featured at the IDEMA Symposium on October 17, 2025, in Kawasaki, Japan. For more information, please visit the IDEMA website:

<https://www.idema.gr.jp/forumseminar/Symposium/2025/OctoberSymposium2025.pdf>

For more information on Toshiba's full line of HDD storage products, visit <https://www.toshiba-storage.com/>.

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[1] Toshiba research, as of October 14, 2025

[2] Definition of capacity: One terabyte (TB) = one trillion bytes, but storage capacity actually available may vary, depending on operating environment and formatting. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

[3] "3.5-inch" mean the form factor of HDDs. They do not indicate drive's physical size.

* Information in this document, including product prices and specifications, content of services and contact information, is current and believed to be accurate as of the date of the announcement, but is subject to change without prior notice.

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About Toshiba Electronics Europe

Toshiba Electronics Europe GmbH (TEE) offers European consumers and businesses a wide variety of hard disk drive (HDD) products plus semiconductor solutions for automotive, industrial, IoT, motion control, telecoms, networking, consumer and white goods applications. Next to HDDs, the company's broad portfolio encompasses power semiconductors and other discrete devices ranging from diodes to logic ICs, optical semiconductors as well as microcontrollers and application specific standard products (ASSPs) amongst others. In addition, TEE offers SCiB™ battery cells and modules with lithium titanium oxide (LTO) for heavy-duty applications.

TEE has its headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing marketing, sales and logistics services.

Visit Toshiba's websites at www.toshiba-storage.com, www.toshiba.semicon-storage.com and www.scib.jp/en for further company and product information.

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