Storage Mechanisms: Solid State Storage Technologies

IDC's *Storage Mechanisms: Solid State Storage Technologies* service analyzes and forecasts the worldwide demand for solid state drives (SSDs). This service is designed to help clients understand the dynamics, trends, and opportunities for SSDs. SSD shipments are segmented and tracked by form factor, market application (e.g., client, enterprise, and commercial), technology type, and capacity range. In addition, worldwide industry revenue is tracked by the same metrics, which allows the calculation of average sales value (ASV) for various configurations. An annual long-term forecast and analysis, a midyear update, and a quarterly report (Excel spreadsheet and pivot table) are delivered to each SSD client delineating total market shipments broken out by segment and by form factor.

MARKETS AND SUBJECTS ANALYZED

- SSDs designed as a substitute for disk drives with similar interfaces, form factors, and embedded advanced controller functionality
- External consumer SSD storage devices connected via USB or any other external interface (Note that thumb drives, CF II, and SD cards are not included.)
- Storage class memory (SCM) and persistent memory (PM) solutions
- Quarterly worldwide industry revenue by segment, form factor, and technology
- Annual forecast and analysis — split by market application, form factor, technology type, interface (SATA, SAS, PCIe [NVMe], CXL, etc.), and capacity range
- Market application (or segments) including the client (PC and consumer electronics), enterprise (or datacenter), and commercial markets

CORE RESEARCH

- Worldwide SSD Forecast and Analysis
- Worldwide Quarterly SSD Analysis
- Worldwide SSD Vendor Market Share
- Worldwide SSD Forecast and Analysis — Midyear Update
- Worldwide SSD Pricing Dynamics
- Periodic Market Insights and Product Announcements

In addition to the insight provided in this service, IDC may conduct research on specific topics or emerging market segments via research offerings that require additional IDC funding and client investment. To learn more about the analysts and published research, please visit: Storage Mechanisms: Solid State Storage Technologies.

KEY QUESTIONS ANSWERED

1. What are the long- and near-term demand drivers for SSDs?
2. What applications are likely to adopt SSDs?
3. How competitive are SSDs with HDD trends?
4. What are the market inhibitors/accelerators of adoption?
5. What are the technology trends for SSDs, such as TLC and QLC?
6. How do NVMe PCIe SSDs evolve in the market?
7. What is the role of NAND flash in the datacenter for servers, storage systems (all-flash arrays [AFAs] and hybrid flash arrays [HFAs]), and hyperscale cloud datacenters?
8. Are there opportunities to capture additional value, or are there any unique performance requirements based on the applications that favor SSDs?
9. Where do storage class memory and persistent memory fit within the enterprise market and client devices?
10. What is the impact of next-generation nonvolatile memory technologies on the market such as Intel's 3D XPoint (Optane), phase-change RAM (PRAM, PCRAM, and PCM), magnetoresistive RAM (MRAM, T-MRAM, ST-MRAM, STT-MRAM, TAS-MRAM, and VMRAM), and resistive RAM (RRAM or ReRAM)?

COMPANIES ANALYZED

This service reviews the strategies, market positioning, and future direction of several providers in the SSD market, including:

ADATA, AMD, Apple, Crucial, Dell, Hewlett Packard Enterprise, Hitachi Vantara, Huawei, IBM, Intel, Kingston, KIOXIA Corp., Lenovo, Lite-On, Memblaze, Memoright, Micron, NetApp, Nimbus, PNY, Pure Storage, RITEK, Samsung, SanDisk, Seagate, Silicon Power, SK hynix, SMART Modular, Super Talent, TEAMGROUP, Viking, and Western Digital.