

TRENDFOCUS' analysts have more applied data storage industry experience than any other research firm.

Mark Geenen is the founder and president of TRENDFOCUS. Mr. Geenen brings extensive skill and knowledge of the data storage industry including 30 years researching and consulting in the HDD, SSD, component, and storage industry markets. He has presented at numerous conferences worldwide, is frequently cited in industry and business press, and has authored several articles. Mr. Geenen is a Founder and Executive Council member of the Advanced Storage Technology Consortium (ASTC).

John Chen, Vice President, is Lead Analyst for TRENDFOCUS' Cloud, Hyperscale, & Enterprise Storage Service and our client end market demand modeling. His experience in the data storage industry spans more than 25 years. With engineering degrees from both U.C. Davis and U.C. Berkeley, Mr. Chen was deeply involved in magnetic media and sputter process development throughout the 1990s, followed by years of senior managerial experience in program management and technical sales at Komag (later acquired by Western Digital). He also served in an enterprise commodity management role at NetApp and has provided key technical input in various M&A and intellectual property marketing activities.

Don Jeanette, Vice President, is leading our SSD research and is a major contributor to our Cloud, Hyperscale, & Enterprise and HDD programs. Prior to joining TRENDFOCUS, Don was Toshiba's Sr. Director of Marketing and was responsible for SSD and HDD strategy and business development in the Americas. He brings over 20 years in marketing and product management background, including marketing support for OEM, data center, and distribution sales, product planning and roadmap alignment. He started at Fujitsu in 1999 and also worked in various marketing and business development roles at Marvell and Infoseek. Don received a Bachelor's Degree from Central Connecticut State University and an MBA from San Jose State University. Don has also taught Management, Communication, and Ethics courses at the University of Phoenix.

John Kim, Vice President, is leading TRENDFOCUS' expertise in demand interconnects for personal computing, CE, and external storage and is heading up our NAND market model. Mr. Kim has over 25 years of storage industry experience, including nearly 20 years with TRENDFOCUS. Mr. Kim's experience in Asian markets anchors the company's profound exposure in that region. From 1991 to 1998 he was Director of Sales and Marketing for Kobe Precision and, prior to that, held a top marketing role at Microscience International.

Tim Luehmann, Office Manager, is the primary administrator and operations manager for TRENDFOCUS. Tim has expertise in consumer electronics and gaming technologies, as well as IT infrastructure and end-user market trends. Tim is responsible for the day to day operations at TRENDFOCUS including the collecting stories for the Daily News Letter, website administration, maintenance of all of TRENDFOCUS documents and databases, and processing custom data sets for clients.

TRENDFOCUS

**The Data Storage Industry's
Most Trusted Market Intelligence**

HDDs, NAND and SSDs

Cloud, Hyperscale, Enterprise,
and Client Markets

Technology and the Storage Supply Chain

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The Data Storage Industry's Most Trusted Market Intelligence

TRENDFOCUS blends "top down/bottom up" and 360° statistical analysis, providing our clients with the exacting data set needed to make complex decisions in today's environment.

Delivered with agile customer support, our research deliverables include:

- ▶ Quantitative supply/demand trend analyses: production plans vs. demand, shipments, market shares, pricing, and technology transitions
- ▶ Storage demand interlinks into the wider computing/IT ecosystem
- ▶ Competitive analysis and risk assessment
- ▶ Capital investments and trends

Research Expertise In:

HDD, NAND and SSD

- ▶ Demand Drivers, Technology Interconnects
- ▶ Key Components
- ▶ Equipment and Materials

Storage Market Segments

- ▶ Cloud, Hyperscale, and Enterprise Storage
- ▶ PCs, Tablets, Convertibles, Mobile Phones, Consumer Electronics

Supply Chain Risk, Technology Transitions, Capital Investment Assessment

FEATURED IN 2017

SSD Forecasts & Analysis by Endurance, SMR, and Nearline Sub-Categories

In the Cloud, Hyperscale, & Enterprise Storage Service

- ▶ TRENDFOCUS will redefine nearline sub-categories due to shifting technology definitions and product specifications. Our focus will include the expected market acceptance patterns of SMR, higher-capacity/platter count models, and archival HDD designs and specifications.
- ▶ Enterprise SSD data will illustrate historical and current quarter actual shipments of PCIe SSDs by form factor.
- ▶ The adoption of lower endurance enterprise SSDs has fostered the growth of higher capacity and lower cost enterprise solid state solutions, accelerating SSD's impact on legacy performance enterprise HDDs. TRENDFOCUS will publish high-level enterprise SSD forecasts by endurance, mapping the impact on unit growth and exabytes shipped.

NAND Bit Shipment Forecast by Technology and Application

In the NAND/SSD Information Service

- ▶ In 2017 TRENDFOCUS will report both four-quarter and five-year outlook and analysis defined by major applications: SSD, Mobile Phones, Tablet PCs & others.
- ▶ The emergence of new process technologies such as 3D is critical for NAND bit growth and has direct impact on all of the NAND consuming applications such as SSDs. The Quarterly Update reports will contain both four-quarter and five-year market forecast and analysis on all significant NAND technologies including: Planar, 3D, SLC, MLC, TLC and QLC.

TRENDFOCUS

INFORMATION SERVICES

Cloud, Hyperscale, and Enterprise Storage Service

This service analyzes hyperscale/ODM-direct/commodity hardware and traditional OEM demand for HDDs and SSDs. Included are HDD forecasts by nearline, workload-limited, and archive/cold models; SSD forecasts by SATA, SAS, PCIe; \$/GB, exabyte and revenue forecasts by HDD and SSD type; and the resulting impact on the storage supply chain.

SDAS: HDD Information Service

TRENDFOCUS' exacting, well-timed analysis of HDD supply and demand provides clients with the most comprehensive market research tool available.

Storage Interlinks Service

An integrated report included in the SDAS: HDD Information Service, this expanded coverage analyzes the critical interconnections of the HDD industry into wider market segments, applications, and adjacent storage technologies.

Key Components: Rigid Disk Media/Substrate, Recording Head Information Services

NAND/SSD Information Service

TRENDFOCUS' NAND & SSD Information Service provides a unique and evolving data set that includes solid-state storage device forecasts by device type, interface, capacity, exabytes shipped by application, and major vendor market shares.

Management Consulting

TRENDFOCUS has an extensive history of successful project collaborations with global clients. We encourage you to leverage our expertise to address your specialized data needs.

Subscribers to each TRENDFOCUS Information Service will receive the following:

Unique Customer Service and Support

Clients have full access to TRENDFOCUS analysts, at no extra charge. We take pride in our consistent and responsive customer support.

Quarterly Updates & Long-Term Forecasts

Comprehensive and timely market updates focusing on key industry metrics.

Executive Briefs and Periodic Installments

Event-driven publications analyzing spot market issues.

FOCUS ON Documents

In depth white papers examining complex market and technology issues.

Daily Global News

Widely sourced global news delivered via email.