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Beyond the Buzz · electronica 2026

Industrial Storage at a Turning Point

Five technology trends shaping the future of reliable data storage

Beyond Capacity and Speed: What Industrial Storage Really Needs

AI is reshaping the semiconductor industry and redefining storage requirements across data centers, industrial infrastructure and edge systems. Rapid NAND innovation, shifting suppliers' priorities and new interfaces are challenging established storage strategies. For industrial applications, the focus goes beyond capacity and speed to ensuring data integrity, predictable performance and long-term availability. Following electronica 2026, we explore five key developments shaping industrial storage – and their implications for future system designs.



Christoph Beckenbauer
GM Memory Solutions



Five Trends Shaping Industrial Storage

01 AI Makes Reliable Storage More Critical

Beyond GPUs and high-bandwidth memory, AI relies on industrial flash for boot, firmware, configuration and recovery. Edge AI adds demands for model storage, sensor data and logging – increasing the need for reliability and endurance.

02 Higher NAND Densities Challenge Industrial Needs

Rising NAND densities threaten the availability of low-capacity storage. Yet industrial systems still demand modest capacities, predictable endurance and long lifecycles. Optimized architectures and planned migrations help bridge the gap.

03 Predictable Performance Matters More Than Peak Speed

PCIe and NVMe boost throughput and reduce latency. Industrial workloads, however, require consistent performance, data integrity and power-loss protection, even under demanding thermal conditions.

04 Storage Interfaces Evolve at Different Speeds

PCIe, NVMe, UFS and CFexpress enable new applications, while SATA, CFast and e.MMC remain essential. The right choice balances innovation, compatibility and lifecycle requirements.

05 Supply Security Becomes a Strategic Priority

Rapid semiconductor innovation and shifting market priorities accelerate product transitions. Control over firmware, packaging, qualification and manufacturing supports consistent quality and long-term availability.

Technology Moves Fast – Industrial Reliability Must Last

112-Layer

3D NAND

Discussions at electronica highlighted a key challenge: adopting higher-density NAND while preserving low-capacity options and long-term industrial availability.

PCIe Gen4

Industrial SSDs

Beyond higher throughput, customer discussions emphasized predictable performance, data integrity and reliability as critical requirements for industrial storage.



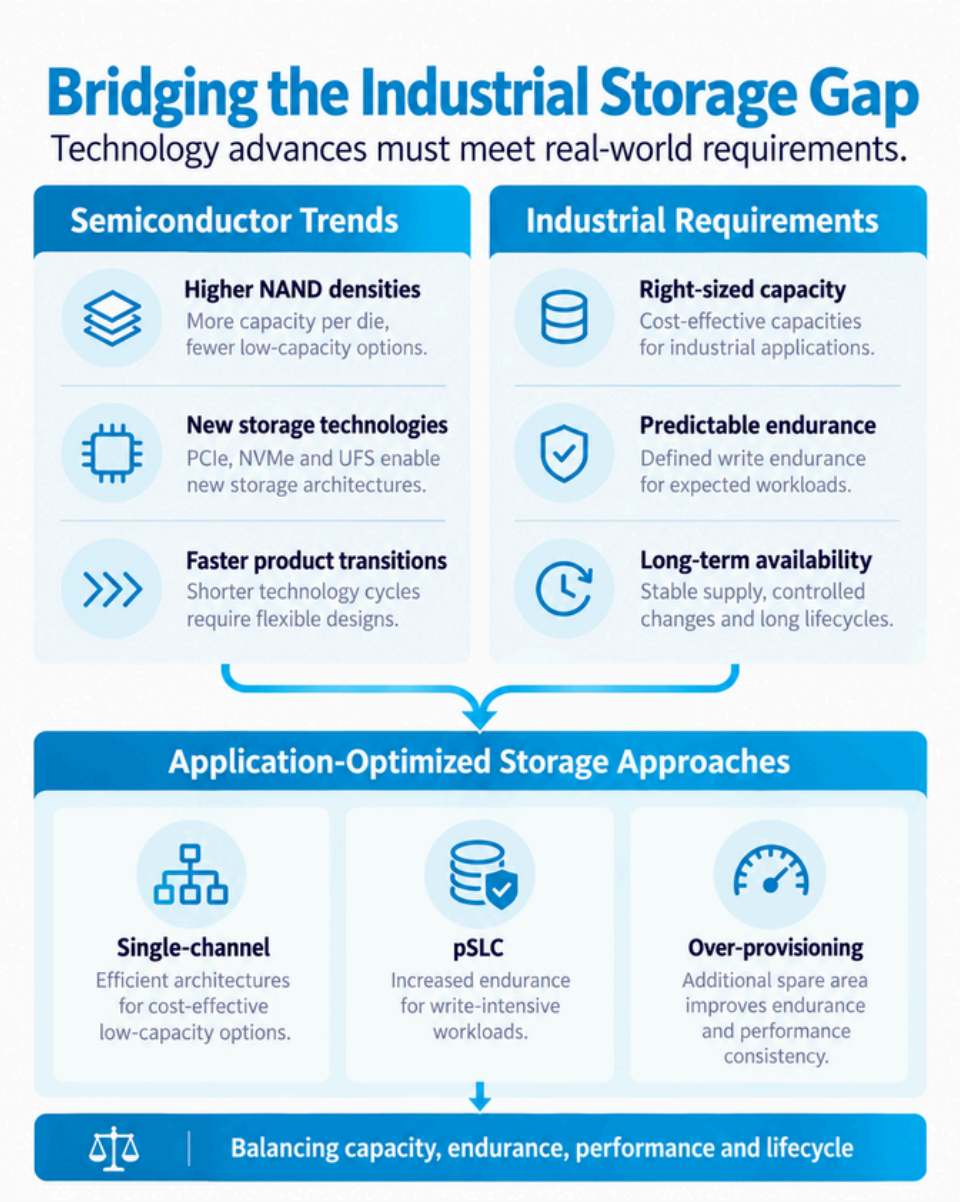
Why Technology Progress Needs an Industrial Perspective

AI Needs More Than High-Performance Computing

AI is driving demand for powerful processors, high-bandwidth memory and faster storage. Yet reliable operation also depends on boot drives, firmware, configuration data and system logs. Industrial edge systems add AI models, sensor data and continuous operation under demanding conditions. Data integrity, endurance and predictable performance are therefore as critical as throughput.

When Higher NAND Density Meets Lower Capacity Demand

Rising NAND densities challenge industrial applications requiring modest capacities, long-term availability and stable operation. Efficient single-channel architectures help maintain cost-effective low-capacity options. pSLC increases endurance for write-intensive workloads, while additional over-provisioning improves endurance and performance consistency. The key is translating NAND innovation into application-specific storage solutions without unnecessary system redesigns.



> The best NAND technology for industrial applications is not necessarily the newest. It is about finding the right balance between longevity, cost, endurance, performance and the risk that comes with change.

Lisa Picherer
Product Manager



What Industrial Applications Need – And How Swissbit Responds

TDiscussions at electronica highlighted how closely performance, technology migration and long-term availability are connected in industrial storage decisions. Swissbit addresses these challenges through application-focused products, in-house development and manufacturing expertise, and strategic technology partnerships.



01 Reliable Storage for AI
The challenge: Supporting critical boot, management and storage functions in AI servers and intelligent edge systems.
Swissbit's response: Industrial PCIe SSDs such as N7000 and A2000 combine modern performance with power efficiency, data integrity and long-term reliability.

02 Smooth Migration to New NAND Generations
The challenge: Maintaining industrial platforms as legacy NAND technologies become less available.
Swissbit's response: The expanded BiCS5 portfolio across SATA, CFast, CompactFlash and USB enables practical migration. Single-channel and pSLC options address different capacity and endurance needs.

03 The Right Interface for Every Application
The challenge: Balancing performance, system compatibility, qualification effort and long-term support.
Swissbit's response: A portfolio spanning established interfaces and new PCIe architectures enables application-specific storage choices.

04 Greater Control and Supply Security
The challenge: Ensuring quality, long-term availability and supply security amid semiconductor change.
Swissbit's response: In-house firmware, advanced packaging, Berlin manufacturing and qualification strengthen control. Swissbit offers supply-security options, including LTAs, over the next two years. Nexperia collaboration supports AI, cloud and server platforms.

> Industrial storage innovation is not only about adopting the latest available technology. It' about making technology work for real world applications – reliable, efficient and for the long run.



Martin Schreiber
Head of Product Management



Seven Questions for Your Next Storage Decision

1 **AI Readiness**
Does your storage architecture support the reliability and data integrity requirements of AI-driven systems?

2 **Real-World Performance**
Is your storage optimized for actual workloads rather than peak benchmark figures?

3 **NAND Technology**
Are capacity, endurance and data retention matched to your application's needs?

4 **Technology Migration**
Can future NAND generations be introduced without major system redesigns?

5 **Interface Selection**
Does your chosen interface balance performance, compatibility and long-term availability?

6 **Supply Chain Resilience**
How well are component sourcing, manufacturing quality and product lifecycles controlled?

7 **Long-Term Reliability**
Will your storage continue to perform reliably throughout the expected system lifetime?

Conclusion

Innovation That Works Beyond the Buzz.
Industrial storage innovation is not simply about faster interfaces or higher NAND densities. It is about bringing together performance, reliability, technology migration and long-term availability in solutions designed for real-world applications.
As AI and semiconductor technologies continue to evolve, the ability to translate innovation into dependable industrial storage will become increasingly important.



Find the Right Storage for Your Application

Explore how Swissbit combines advanced flash technologies, industrial expertise and manufacturing capabilities to support your next system design.

Explore Swissbit Flash Storage

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