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Global Industrial mSATA Supply, Demand and Key Producers, 2026-2032

https://marketpublishers.com/r/G4853F3CD253EN.html
Date: February 2026
Pages: 165
Price: US$ 4,480.00 (Single User License)
ID: G4853F3CD253EN

Abstracts

The global Industrial mSATA market size is expected to reach $ 480 million by 2032, rising at a market growth of 6.2% CAGR during the forecast period (2026-2032). Global shipments of industrial mSATA drives are projected to reach approximately 2.9 million units annually by 2025, primarily driven by industrial computers, embedded control systems, network communication equipment, and rail transportation equipment. The Asia-Pacific market accounts for approximately 48%–52% of this demand. The average price varies depending on capacity, NAND type, and industrial grade, generally around $106 per drive. Models supporting wide temperature ranges (-40?–85?), power loss protection (PLP), pSLC firmware, or long lifespan commitments can reach prices as high as $320 per drive. In terms of equipment, a single industrial computer, embedded gateway, or controller typically uses one mSATA drive as the system drive. In dual-system redundancy, log isolation, or secure storage scenarios (such as rail transportation, energy SCADA, and military ground systems), configuring two mSATA drives (system drive + data drive) is also common. These products are core functionalities in systems with relatively small capacity but extremely high reliability requirements. Their value lies not in capacity expansion, but in the long-term stable operation and uninterrupted nature of the system. Industrial mSATA is an industrial-grade solid-state storage module based on the SATA 3Gb/s/6Gb/s interface and using the Mini-PCIe form factor. It is primarily used in industrial motherboards, embedded computers, communication equipment, and dedicated control systems, serving as local storage for operating systems, firmware, logs, and critical data. Its core positioning is not high-performance storage, but rather as a highly reliable, localized, and long-term supply system-level storage medium. Compared to consumer mSATA or SD/TF cards, industrial mSATA places greater emphasis on NAND screening strategies, firmware controllability, power-loss protection, wide-temperature operation, and lifecycle consistency. Until NVMe fully covers low-power, low-cost industrial platforms, mSATA

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remains the 'standard answer' in many existing and newly built industrial systems.

Supply Situation

Upstream components mainly include: NAND Flash (MLC/TLC/pSLC), controller chips, DRAM Cache (or SRAM), power management ICs, industrial-grade PCBs, and connectors. Among these, the choice of NAND type and controller firmware strategy have a decisive impact on lifespan, stability, and write consistency, with related costs and design investment typically accounting for 60%–70% of the entire mSATA BOM. Typical upstream suppliers include: Kioxia, Micron, Samsung Semiconductor, SK hynix, and Western Digital.

Manufacturer Characteristics

Advantech: Focuses on system-level compatibility between storage and motherboards, power supplies, and BIOS around its industrial computing platforms, emphasizing overall system stability. Innodisk: Continuously iterates on industrial-grade NAND management, pSLC conversion, and power-loss protection solutions, serving rail, energy, and defense customers. Transcend: Known for its wide SKU coverage and stable supply capabilities, deeply integrated with industrial PC and embedded system customers. ATP Electronics: Enhancing firmware controllability and lifespan consistency in high-endurance, extreme environment applications. Swissbit: Focusing on high-reliability and secure storage, with strong brand power in the European industrial, energy, and security sectors.

The Breakthrough Point

For industrial-grade mSATA manufacturers, the real breakthrough lies not in blindly pursuing higher capacity or faster interfaces, but in redefining the engineering value of storage modules in the context of the reality that 'industrial system lifecycles are far longer than storage technology lifecycles.' As industrial platforms continue to evolve towards lower power consumption and higher integration, mSATA no longer possesses the performance competitiveness to compete with NVMe, but it remains irreplaceable in terms of protocol maturity, power consumption controllability, platform compatibility, and engineering predictability. Taking Innodisk's product strategy as an example, it does not emphasize 'faster,' but rather ensures that customer systems operate 'problematically, without component replacement or software changes' over the long term through pSLC firmware, fixed BOM, a 10-year supply commitment, and a strict NAND management

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mechanism. In the eyes of industrial customers, 'predictable 10 years' is far more valuable than 'peak performance.'

Applications

Industrial-grade mSATA is primarily used in industrial automation control systems, rail transit vehicle-mounted and ground equipment, energy and power monitoring systems, network security and communication gateways, and avionics and defense ground systems for storing operating systems, control programs, logs, and critical configuration data. Typical downstream customers include Siemens, Schneider Electric, Rockwell Automation, ABB, and Honeywell.

Technology Trends

From a technology evolution perspective, industrial-grade mSATA is evolving from a 'general-purpose storage module' to a 'platform-level fundamental storage component.' For example, Advantech has integrated mSATA selection, verification, and lifecycle management directly into its next-generation industrial computing platform strategy. Through BIOS adaptation, write policy control, and overall system reliability testing, mSATA has become an integral part of the system architecture rather than a replaceable component. This trend does not mean that mSATA will be immediately phased out, but rather that its role is shifting from 'optional storage' to a platform default configuration, with its core value increasingly reflected in system consistency and long-term operational stability.

Example

In a rail transit vehicle-mounted monitoring and data recording system project, Innodisk provided the system integrator with an industrial-grade mSATA storage solution to replace the existing CF card system. Without changing the operating system or application software, it achieved improved boot speed, enhanced data integrity during power outages, and reduced maintenance frequency. The final solution adopted Innodisk's wide-temperature, pSLC firmware mSATA product, meeting the relevant environmental requirements of EN 50155 while ensuring a stable supply cycle of over 10 years, demonstrating the practical engineering value of industrial-grade mSATA in existing system upgrades and long-term maintenance scenarios.

Market Influencing Factors

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The core influencing factor of the industrial-grade mSATA market does not depend on the speed of generational evolution of storage technology, but rather on the structural characteristics of industrial systems—'slow replacement, long lifecycle.' On the one hand, NVMe is rapidly penetrating the high-end industrial computing field; on the other hand, a large number of low-to-medium power industrial platforms, in-service systems, and certification systems still heavily rely on the SATA architecture, ensuring a stable demand base for mSATA for a considerable period. It is worth noting that this market exhibits a highly concentrated dominance by Taiwanese manufacturers. Taiwanese companies, represented by Innodisk, Advantech, Transcend, Cervoz, and ADATA, have long been deeply involved in the industrial motherboard and embedded computing ecosystem. Their platform-level verification capabilities, NAND management experience, and global industrial customer channels have enabled them to dominate the 'non-high-end but crucial' niche market of industrial-grade mSATA. Compared to European and American manufacturers who tend to focus on project-based or high-end customization, Taiwanese manufacturers emphasize ecosystem consistency, SKU continuity, and long-term supply commitments. This gives them a structural advantage in sectors highly sensitive to lifecycles, such as rail transportation, energy, and industrial automation. While this market lacks explosive growth potential, it possesses a highly predictable demand curve and stable cash flow; therefore, competition is essentially a contest of engineering credibility and long-term commitment.

This report studies the global Industrial mSATA production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Industrial mSATA and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Industrial mSATA that contribute to its increasing demand across many markets.

Highlights and key features of the study
Global Industrial mSATA total production and demand, 2021-2032, (K Units)
Global Industrial mSATA total production value, 2021-2032, (USD Million)
Global Industrial mSATA production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (K Units), (based on production site)
Global Industrial mSATA consumption by region & country, CAGR, 2021-2032 & (K Units)
U.S. VS China: Industrial mSATA domestic production, consumption, key domestic manufacturers and share

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Global Industrial mSATA production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (K Units)
Global Industrial mSATA production by Type, production, value, CAGR, 2021-2032, (USD Million) & (K Units)
Global Industrial mSATA production by Application, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

This report profiles key players in the global Industrial mSATA market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Advantech (Public, Taipei, China Taiwan), Innodisk (Public, Taipei, China Taiwan), Kingston (Private, Fountain Valley, USA), Delkin (Private, San Diego, USA), Cervoz Technology (Private, Taipei, China Taiwan), ATP Electronics (Private, Taipei, China Taiwan), Cactus Technologies (Private, Hong Kong, China), Swissbit (Private, Bronschhofen, Switzerland), Exascend (Private, Taipei, China Taiwan), DigiStor (Private, Vancouver, USA), etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Industrial mSATA market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (K Units) and average price (US$/Unit) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Industrial mSATA Market, By Region:

United States

China

Europe

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Japan

South Korea

ASEAN

India

Rest of World

Global Industrial mSATA Market, Segmentation by Type:

16GB

32GB

64GB

128GB

Others

Global Industrial mSATA Market, Segmentation by Technology Model:

MLC

pSLC

Others

Global Industrial mSATA Market, Segmentation by Data Protection:

No PLP

Capacitor-Grade PLP

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Global Industrial mSATA Market, Segmentation by Application:

Aviation

Rail Transportation

Marine Equipment

Data Centers

Others

Companies Profiled:

Advantech (Public, Taipei, China Taiwan)

Innodisk (Public, Taipei, China Taiwan)

Kingston (Private, Fountain Valley, USA)

Delkin (Private, San Diego, USA)

Cervoz Technology (Private, Taipei, China Taiwan)

ATP Electronics (Private, Taipei, China Taiwan)

Cactus Technologies (Private, Hong Kong, China)

Swissbit (Private, Bronschhofen, Switzerland)

Exascend (Private, Taipei, China Taiwan)

DigiStor (Private, Vancouver, USA)

Renice (Private, Shenzhen, China)

Transcend (Public, Taipei, China Taiwan)

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Flexxon (Private, Singapore)

Yansen (Private, Shenzhen, China)

ADATA (Public, Taipei, China Taiwan)

Princeton Technology (Private, Orange County, USA)

Qootec (Private, Shenzhen, China)

Longsys (Public, Shenzhen, China)

Integral (Private, London, UK)

Virtium (Private, Rancho Santa Margarita, USA)

Viking Technology (Private, Costa Mesa, USA)

Key Questions Answered:

1. How big is the global Industrial mSATA market?
2. What is the demand of the global Industrial mSATA market?
3. What is the year over year growth of the global Industrial mSATA market?
4. What is the production and production value of the global Industrial mSATA market?
5. Who are the key producers in the global Industrial mSATA market?
6. What are the growth factors driving the market demand?

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