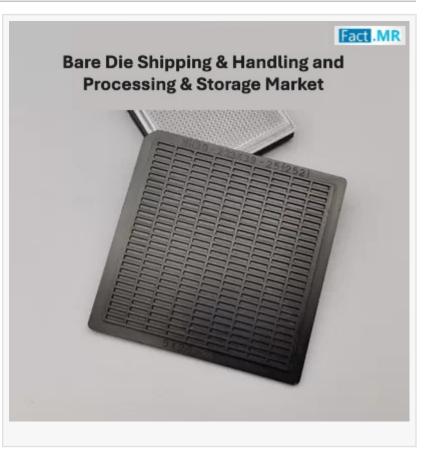


Bare Die Shipping & Handling and Processing & Storage Market Size Worth US\$ 1.1 Billion by 2035 | Fact.MR

Semiconductor Supply Chains Lean on Smart Logistics to Drive Bare Die Shipping and Storage Boom

ROCKVILLE, MD, UNITED STATES, June 2, 2025 /EINPresswire.com/ -- The global <u>bare die shipping & handling</u> <u>and processing & storage market</u> is set to reach USD 1.1 billion by 2035, up from USD 684.2 million in 2025, registering a CAGR of 5.2%. The surge in miniaturized and high-performance semiconductor devices is placing heightened importance on precision logistics.

Bare dies—unpackaged semiconductor chips—require advanced protection from mechanical stress, contamination, and electrostatic discharge during



shipping and storage. As semiconductor complexity grows, so does the demand for smart, ESD-safe, and automation-compatible packaging formats such as trays, tubes, and carrier tapes.

Consumer electronics, autonomous vehicles, and next-gen communication devices increasingly rely on compact semiconductor designs. This accelerates innovation in wafer-level packaging, smart inspection systems, and IoT-based traceability solutions. Asia Pacific remains the production hub, while the U.S. and Europe ramp up localized capacity through reshoring and supply chain resilience. The future of this market hinges on recyclability, automation, and hybrid integration with OEMs and semiconductor assembly ecosystems.

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Growth Drivers Fueling Market Expansion

Rising adoption of bare die formats in compact electronics and chiplet architectures is pushing demand for robust, scalable packaging and storage formats. Shipping tubes, anti-static trays, and modular storage systems safeguard dies in cleanroom environments, fabs, and global transit.

Electrostatic-sensitive applications, especially in AI, EVs, and aerospace, demand highly reliable and protective handling. Additionally, logistics players are introducing blockchain-based tracking and automation to minimize error and improve traceability. Environment-friendly materials and sustainable packaging options are gaining traction among global semiconductor players.

Regional Insights

Asia-Pacific leads, with China, South Korea, and Taiwan at the core of global semiconductor packaging and testing. North America shows strong demand due to reshoring efforts and advanced R&D, while Europe is focusing on sustainability and precision handling. Emerging markets like Southeast Asia are investing in backend semiconductor infrastructure, making them future growth frontiers.

Key Takeaways from the Market Study

Bare die shipping & storage market to reach USD 1.1 billion by 2035. CAGR projected at 5.2% from 2025 to 2035. Shipping tubes dominate with 34.5% share in 2025. Consumer electronics lead application with 38% share. China to grow fastest at 8.5% CAGR. S. market to rise at 7.8% CAGR.

Survey Insights and Stakeholder Priorities

Fact.MR's survey revealed that 82% of stakeholders view damage prevention and ESD protection as top priorities. About 74% stressed the need to lower logistics costs without sacrificing safety, while 70% emphasized improved traceability for compliance. Automation is now being used by 63% of firms, with AI-enabled inspections gaining ground. However, 75% of respondents cited supply chain complexity and cross-border regulations as ongoing hurdles. Nearly 78% plan to invest in smart storage and logistics centers. Across geographies, localized strategies, sustainability, and IoT traceability are emerging as critical success levers.

Companies Targeting

Entegris, Inc. remains the top player, providing clean-room-grade die containers and FOUPs to top fabs worldwide. 3M Company delivers ESD-safe materials integrated into high-volume

manufacturing lines, while Brooks Automation (now Azenta) drives automation in die storage and handling. Kostat, Inc. has become a dominant supplier of scalable trays across Asia, optimized for OSAT operations.

Niche players like MRTP Company and ITW ECPS develop customizable kits for specialized fabs. Dalau and Daitron serve as regional innovators in clean packaging. Across the board, leading players are investing in Al-driven handling, robotic storage, and sustainable materials to build differentiation in this complex, high-precision industry.

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Segmental Insights

Shipping tubes will lead in 2025 with 34.5% share, favored for their shock resistance, simplicity, and compatibility with high-volume transit. Major chipmakers like Intel and Qualcomm utilize them for global delivery of sensitive dies.

Trays, with 28% share, are ideal for cleanroom environments where die placement precision is critical. Samsung and GlobalFoundries use them to stabilize die positioning during testing and packaging, ensuring zero contamination in precision-driven applications.

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The global <u>Dielectric Gases Market</u> was valued at USD 118.2 million in 2024 and is projected to grow at a CAGR of 7.1% to reach USD 251.4 million by 2035.

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