

## **Dicing Equipment - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2026 - 2031)**

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### **Report description:**

Dicing Equipment Market Analysis

Dicing equipment market size in 2026 is estimated at USD 0.88 billion, growing from 2025 value of USD 0.83 billion with 2031 projections showing USD 1.2 billion, growing at 6.33% CAGR over 2026-2031. Robust investment in semiconductor backend manufacturing, especially for thinner wafers, advanced packaging formats, and wide-bandgap power devices, underpins this steady expansion. As electric-vehicle, renewable-energy, and AI workloads intensify, chipmakers prioritize high-yield die singulation, favoring systems that combine sub-micrometer positioning accuracy, contamination-controlled processing, and integrated inspection. Continuous migration toward 3D and heterogeneous integration is elevating the demand for plasma and laser dicing tools that minimize chipping and enable narrower streets. Meanwhile, automation upgrades help fabs offset labor constraints, shorten changeover times, and boost overall equipment effectiveness. Supply-chain localization programs in the United States, Europe, and East Asia introduce new regional demand nodes; however, persistent geopolitical frictions surrounding rare-earth laser sources and stringent slurry-disposal rules continue to keep capital intensity high.

Global Dicing Equipment Market Trends and Insights

Technological Advancements in High-Precision Motion Systems

Recent motion-control breakthroughs deliver sub-micrometer stage accuracy essential for heterogeneous integration lines. DISCO's DFD6370 platform, for instance, handles 330 x 330 mm substrates while using selectable height sensors that keep cut

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depth within 1 μm, an advantage for panel-level packaging. Active damping, closed-loop robotics, and vision-guided alignment further trim vibration and thermal drift, enabling higher yield when processing brittle silicon-carbide wafers. Vendors integrating multi-axis stages with on-board metrology now offer turnkey singulation cells that combine cutting, cleaning, and inspection in a single flow, reducing handling defects and cycle time.

#### Surge in Demand from Advanced Logic and Memory Fabs

SEMI projects cumulative 300 mm fab equipment outlays to reach USD 400 billion between 2025 and 2027, with foundries accounting for USD 230 billion of that total. New extreme-ultraviolet nodes and 3D-stacked DRAM lines magnify backside contamination risks, prompting fabs to specify dicing tools with electrostatic-charge suppression and hermetic chip-collection. As capacity ramps accelerate, particularly at TSMC, Samsung, and China's domestic foundries, rapid tool delivery and field-service reach become procurement gatekeepers for equipment suppliers.

#### Stricter Slurry/Chemical Disposal Regulations

ISO 14644 cleanroom revisions and emerging PFAS controls require fabs to retrofit wastewater loops, install fluorinated-compound abatement systems, and adopt closed-loop coolants. Vendors that embed recycling modules and real-time particulate monitors inside dicing cells help customers meet regulatory thresholds while reducing utility bills; however, the added equipment cost and facility retrofit delay some purchase decisions.

Other drivers and restraints analyzed in the detailed report include:

Rapid Adoption of 3D Packaging and Heterogeneous Integration  
Growing Deployment of Power Devices for EV and Renewables  
Laser Source Supply Bottlenecks and Rare-Earth Dependency

For complete list of drivers and restraints, kindly check the Table Of Contents.

#### Segment Analysis

Blade systems controlled 46.10% of the dicing equipment market in 2025, their cost-per-wafer edge and mature service networks suiting high-volume logic and memory lines. However, the laser segment is expanding at a 6.53% CAGR as sub-50 μm wafers proliferate, requiring kerf-free singulation that conventional blades cannot guarantee. Panasonic's APX300 plasma platform enables 20 μm streets on 300 mm wafers, underscoring the performance leap plasma and laser tools deliver. Hybrid lines that combine blade rough-cutting with laser finishing are also gaining traction, striking a balance between throughput and die strength.

The incremental cost of laser optics, rare-earth alignment components, and multi-kW power supplies still limits adoption in price-sensitive fabs. Yet where die-to-package vertical interconnect or brittle SiC substrates prevail, the higher upfront spend is offset by lower scrap and tighter design rules. Over the forecast horizon, sustained research and development in ultrafast pulse shaping and auto-focus optics is expected to enhance tool duty cycle, gradually narrowing the per-wafer cost gap.

The semiconductor industry is transitioning to larger wafer formats, with wafers exceeding 450 mm projected to grow at a 6.38% CAGR through 2031, challenging the 300 mm wafers, which held a 37.55% market share in 2025. Advanced packaging applications, particularly in panel-level packaging workflows, are driving demand for larger substrate-handling capabilities. DISCO Corporation's DFD6370 supports workpieces up to 330 × 330 mm, addressing the gap between conventional wafer processing and emerging large-format requirements.

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Smaller wafer sizes, including 200 mm and below, remain relevant in specialized applications such as MEMS devices and power semiconductors, where substrate costs and process optimization favor established formats. The 200 mm segment benefits from mature node expansion and automotive semiconductor demand, while 150 mm wafers serve niche applications in compound semiconductors and legacy device production. However, the economic advantages of larger wafers, including higher die yield per substrate and reduced per-unit processing costs, are driving format migration. SEMI's World Fab Forecast identifies 79 high-probability facilities beginning operations through 2027, many incorporating mixed wafer-size capabilities. Equipment suppliers developing scalable handling systems for multiple wafer formats within single platforms are well-positioned for this evolving landscape.

The Dicing Equipment Market Report is Segmented by Dicing Technology (Blade Dicing, Laser Ablation, Stealth Dicing, and More), Wafer Size (? 150 Mm, 200 Mm, 300 Mm, and More) Application (Logic and Memory, MEMS Devices, Power Devices, CMOS Image Sensors, and More), End-User Industry (Foundries, Idms, and OSATs) and Geography (North America, Europe, Asia-Pacific, and More). The Market Forecasts are Provided in Terms of Value (USD).

## Geography Analysis

The Asia-Pacific region retained a 42.55% share of the dicing equipment market in 2025, driven by its deep-seated manufacturing clusters across Taiwan, South Korea, Japan, and mainland China. Tokyo-backed subsidies totaling JPY 3.9 trillion (USD 0.026 trillion) underpin Japan's resurgence, channeling orders to precision-motion vendors and automation integrators. Chinese OSATs accelerate plasma-dicing line installs to raise yields on locally designed AI accelerators, while Southeast Asian nations attract assembly spillover, spawning mid-tier blade-dicer demand.

North America's CHIPS Act has unlocked more than USD 50 billion in incentives, transforming greenfield fabs in Arizona, Texas, and upstate New York into new procurement hubs starting in 2026. These sites prioritize fully automated blade and laser cells, equipped with predictive maintenance analytics, to offset skilled labor shortages.

Europe's Chips Act funnels USD 47 billion into continental capacity, led by German and French projects focused on silicon-carbide power electronics for EV supply chains. Although smaller than Asian volumes, the stringent environmental standards in EU fabs accelerate uptake of closed-loop slurry and low-water-consumption plasma dicing systems, nudging regional ASPs upward.

## List of Companies Covered in this Report:

DISCO Corporation Tokyo Seimitsu Co., Ltd. (ACCRETECH) Advanced Dicing Technologies Ltd. Panasonic Connect Co., Ltd. SPTS Technologies Ltd. (KLA Corporation) Plasma-Therm LLC Veeco Instruments Inc. Synova SA 3D-Micromac AG Han's Laser Technology Industry Group Co., Ltd. Suzhou Delphi Laser Co., Ltd. EO Technics Co., Ltd. Neon Tech Co., Ltd. ASM Laser Separation International B.V. Kulicke & Soffa Industries, Inc. Takatori Corporation Lumentum Holdings Inc. (dicing lasers) IPG Photonics Corporation Oxford Instruments Plasma Technology Plasma Etch Inc. Dynatex International Loadpoint Micro Machining Ltd. Disco Hi-Tec America, Inc. Shenzhen JLH Laser Co., Ltd. Wuhan HGLaser Engineering Co., Ltd.

## Additional Benefits:

- <ul> The market estimate (ME) sheet in Excel format
- 3 months of analyst support </ul>

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