

Focused Ion Beam Market by Ion Source (Ga+ Liquid Metal, Plasma, Gas Field), Application (Failure Analysis, Nanofabrication, Device Modification, Circuit Edit, Counterfeit Detection), Vertical and Region - Global Forecast to 2028

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Report description:

The global focused ion beam market is projected to reach USD 1.8 billion by 2028 from an estimated USD 1.3 billion in 2023, at a CAGR of 7.0% from 2023 to 2028. The growth can be attributed to the increased use of the FIB-SEM in research laboratories to improve the quality and performance of products used in various industries, including automotive, printed electronics, battery and additive manufacturing, renewable energy, and medical technology.

"In 2022, Ga+ liquid metal segment captured largest share of overall focused ion beam market"

In 2022, the Ga+ liquid metal segment captured the largest share of the overall market. The growth of this segment can be attributed to several advantages offered by them and a majority of manufacturers deploying Ga+ liquid metal ion sources in their FIB systems. Several applications, such as ion implanters, ion projection lithography, and particle accelerator injectors, use plasma ion source-based FIB systems.

"In 2022, failure analysis segment captured the largest share of the focused ion beam market"

In 2022, the failure analysis segment captured the largest share of the focused ion beam market based on application. The growth can be attributed to the increased demand for FIB systems in the electronics & semiconductor vertical for failure analysis applications. Product or device failures generally occur during the starting and ending phases of manufacturing. These failures are usually caused by improper handling, mounting, packaging, and storing of devices or components, as well as due to their exposure to radiation. It is necessary to understand the reasons behind the failure and degraded performance of any component or device. Thus, failure analysis is essential as it detects failures in devices or components and their root cause.

"In 2022, electronics & semiconductor vertical accounted for largest share of focused ion beam market"

In 2022, the electronics & semiconductor vertical accounted for the largest share of the focused ion beam market. A similar trend

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is likely to be observed during the forecast period. The growth can be attributed to the increased adoption of organic growth strategies, such as product launches by manufacturers of FIB systems used in the electronics & semiconductor vertical. For instance, in 2021, Thermo Fisher Scientific Inc. launched Helios 5 EXL Wafer DualBeam designed to meet increasing sample volumes and analysis needs of semiconductor manufacturers as they scale operations.

In-depth interviews have been conducted with chief executive officers (CEOs), directors, and other executives from various key organizations operating in the focused ion beam marketplace.

- By Company Type: Tier 1 - 50%, Tier 2 - 30%, and Tier 3 - 20%

- By Designation: C-level Executives - 45%, Directors- 35%, and Others - 20%

- By Region: North America - 40%, Europe - 30%, Asia Pacific - 20%, and RoW - 10%

Thermo Fisher Scientific Inc. (US); ZEISS International (Germany); Hitachi, Ltd. (Japan); JEOL Ltd. (Japan); TESCAN ORSAY HOLDING, a.s. (Czech Republic); Eurofins Scientific (Luxembourg); A&D Company, Limited (Japan); Veeco Instruments Inc. (US); Raith GmbH (Germany); and FOCUS GmbH (Germany); are some of the key players in the focused ion beam market.

The study includes an in-depth competitive analysis of these key players in the focused ion beam market, with their company profiles, recent developments, and key market strategies.

Research Coverage

The report defines, describes, and forecasts the focused ion beam market based on ion source, application, vertical, and region. It provides detailed information regarding factors such as drivers, restraints, opportunities, and challenges influencing the growth of the focused ion beam market. It also analyzes product launches and contracts carried out by the key players to grow in the market.

Key Benefits of Buying the Report

This report will help market leaders/new entrants in this industry with information on the closest approximations of the revenue numbers for the overall focused ion beam market and the subsegments. The report will help stakeholders understand the competitive landscape and gain more insights to better position their businesses and plan suitable go-to-market strategies. The report will also help stakeholders to understand the pulse of the market and provide them with information on key market drivers, restraints, challenges, and opportunities.

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