Global Materials for Next Generation Lithography Market 2023

Abstracts

Next Generation Lithography (NGL) refers to a set of advanced technologies and techniques used in the semiconductor industry for creating incredibly small patterns on silicon wafers. As the demand for smaller and more complex integrated circuits increases, traditional lithography methods face limitations due to physical constraints. Next Generation Lithography aims to overcome these limitations and enable the production of even smaller features with higher precision.

NGL materials play a crucial role in enabling the production of high-performance and high-density semiconductor devices. As the demand for smaller and more powerful electronic devices continues to grow, there is a need for lithography technologies that can achieve smaller feature sizes. Next-generation lithography materials, such as photoresists and etching materials, are designed to meet the requirements of advanced lithographic techniques, such as extreme ultraviolet (EUV) lithography and multi-beam electron beam lithography. These materials enable the fabrication of sub-10nm and sub-5nm features, driving the demand for NGL materials.

The global materials for next generation lithography market is projected to rise by USD 321.7 million by 2029, according to the latest market study results. It is anticipated to expand at a CAGR of 22.7 percent during the forecast period.

The report covers market size and growth, segmentation, regional breakdowns, competitive landscape, trends and strategies for global materials for next generation lithography market. It presents a quantitative analysis of the market to enable stakeholders to capitalize on the prevailing market opportunities. The report also identifies top segments for opportunities and strategies based on market trends and leading competitors' approaches.

Market Segmentation
Product: ancillary materials, photoresists
Application: automotive, consumer electronics, IT and telecommunications, others
Region: Asia-Pacific, Europe, North America, RoW (Rest of World)
Photoresists by type: EUV photoresists, electron beam photoresists, others
Ancillary materials by type: developers, anti-reflective coatings, others

This industry report offers market estimates and forecasts of the global market, followed by a detailed analysis of the product, application, and region. The global market for materials for next generation lithography can be segmented by product: ancillary materials, photoresists. Photoresists are light-sensitive materials used to transfer patterns onto substrates during the lithographic process. They undergo chemical changes when exposed to light, allowing precise imaging of the desired pattern onto the substrate.

In 2022, the photoresists segment held the largest share of the global materials for next-generation lithography market. This is because photoresists are a critical component in various types of lithography techniques, including traditional optical lithography as well as emerging technologies like extreme ultraviolet lithography (EUV). As these lithography techniques continue to advance and be adopted in semiconductor manufacturing, the demand for high-quality and specialized photoresists increases.

The photoresists segment is expected to maintain its share during the forecast period due to the ongoing development and commercialization of advanced lithography technologies. With the continuous drive towards smaller feature sizes, higher resolutions, and increased complexity in semiconductor devices, the demand for innovative photoresists that can meet these requirements is expected to grow.

In NGL, various ancillary materials are used to support the lithographic process and ensure optimal performance. Some of the common ancillary materials used in NGL processes include developers, anti-reflective coating (ARC) materials, pre-wet, cup rinse, photoresist stripping, remover, and rinse. These ancillary materials are essential for optimizing the performance and reliability of next-generation lithography processes. They are designed to work in conjunction with the photoresist and other components to achieve precise patterning and high-quality semiconductor device manufacturing.

Materials for next generation lithography market is further segmented by application: automotive, consumer electronics, IT and telecommunications, others. The consumer

electronics sector accounted for the largest market share in the global materials for next-generation lithography market. This is primarily due to the ever-increasing demand for advanced lithography techniques and materials in the production of consumer electronic devices worldwide. The consumer electronics industry relies heavily on semiconductor manufacturing, where lithography plays a crucial role in producing intricate patterns and high-resolution features on semiconductor chips. As a result, the consumer electronics segment stands out as the leading driver of demand for materials used in next-generation lithography applications across the globe.

Based on region, the materials for next generation lithography market is segmented into: Asia-Pacific, Europe, North America, RoW (Rest of World). In 2022, the Asia-Pacific region emerged as the primary contributor to the global materials for next-generation lithography market. With its booming semiconductor industry and significant technological advancements in countries like China, South Korea, and Taiwan, the region experienced robust growth in the demand for materials used in next-generation lithography applications. The Asia-Pacific region's dominance can be attributed to the presence of major semiconductor manufacturers, increasing investments in research and development, and the adoption of advanced lithography techniques.

The photoresists by type market is further segmented into EUV photoresists, electron beam photoresists, others. The latest analysis indicates that the EUV photoresists segment occupied the largest share of this market in 2022 and is expected to draw the highest demand in coming years. Furthermore, the ancillary materials by type market has been categorized into developers, anti-reflective coatings, others. Globally, the developers segment made up the largest share of the materials for next generation lithography market.

Major Companies and Competitive Landscape
The report explores the recent developments and profiles of key vendors in the Global Materials for Next Generation Lithography Market, including Allresist GmbH, Avantor, Inc., Brewer Science, Inc., DJ MicroLaminates, Inc., Dongjin Semichem Co., Ltd., Dongjin Semichem Co., Ltd., DuPont de Nemours, Inc, Fujifilm Corporation, Irresistible Materials Ltd., Jiangsu Nata Opto-electronic Material Co., Ltd., JSR Corporation, KemLab Inc., Kempur Microelectronics Inc., Merck KGaA, micro resist technology GmbH, Nippon Kayaku Ltd., PhiChem Corporation, SACHEM, Inc., Shanghai Sinyang Semiconductor Materials Co., Ltd., Shenzhen Didao Microelectronics Technology Co., Ltd., Shenzhen Rongda Photosensitive Science & Technology Co., Ltd., Shin-Etsu Chemical Co., Ltd., Sumitomo Chemical Co., Ltd., Suzhou Crystal Clear Chemical Co., Ltd., Tokyo Ohka Kogyo Co., Ltd. (TOK), Weifang Xingtaike Microelectronic Materials

Co., Ltd., among others. In this report, key players and their strategies are thoroughly analyzed to understand the competitive outlook of the market.

Scope of the Report
To analyze and forecast the market size of the global materials for next generation lithography market.
To classify and forecast the global materials for next generation lithography market based on product, application, region.
To identify drivers and challenges for the global materials for next generation lithography market.
To examine competitive developments such as mergers & acquisitions, agreements, collaborations and partnerships, etc., in the global materials for next generation lithography market.
To identify and analyze the profile of leading players operating in the global materials for next generation lithography market.

Why Choose This Report
Gain a reliable outlook of the global materials for next generation lithography market forecasts from 2023 to 2029 across scenarios.
Identify growth segments for investment.
Stay ahead of competitors through company profiles and market data.
The market estimate for ease of analysis across scenarios in Excel format.
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