

Scanning Electron Microscopes Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

Market Report | 2023-05-29 | 139 pages | IMARC Group

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Report description:

Market Overview:

The global scanning electron microscopes market size reached US\$ 4.2 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 6.8 Billion by 2028, exhibiting a growth rate (CAGR) of 7.9% during 2023-2028.

A scanning electron microscope (SEM) refers to a highly powerful electron microscope that generates sample images upon scanning the sample surface with a focused beam of electrons instead of light, thereby allowing to see images at up to 100 million times magnification. The microscope uses electron beams to collide with atoms in the sample and generate signals that provide information on the sample composition and the topography of the surface. SEMs are divided into two broad categories: conventional pressure SEM, which delivers images at atmospheric pressures, and variable pressure SEM, which visualizes samples in vacuum conditions as well as under elevated pressures. SEMs provide numerous benefits, including compact design, elemental product analysis, 3D imagery, and effective results with greater resolution. Consequently, they find extensive applications in research laboratory quality control procedures and various industries, including microelectronics, automotive, semiconductor, and pharmaceuticals.

Scanning Electron Microscopes Market Trends:

The market is primarily driven by the increasing number of laboratories in academic institutes. Moreover, the escalating adoption of SEMs in different disciplinary studies, such as surface morphology and topography, fractography, and chemical analysis, are providing a boost to the market growth. In line with this, the growing prevalence of various chronic disorders across the globe has led to rising investments in research and development (R&D) activities for continual improvements in the healthcare infrastructure, thereby impelling the product demand. The market is further driven by continuous product innovations, such as the advent of attachment provisions for appliances like energy x-ray dispersion spectrometers, and technological advancements, such

as improvements in the resolution power. Some of the other factors that are also creating a positive outlook for the market include the advent of nanotechnology and the widespread preference for outsourcing electric equipment manufacturing.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global scanning electron microscopes market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on type, technology and application.

Breakup by Type:

Tabletop/Benchtop
Conventional
Breakup by Technology:

Conventional or High Vacuum Scanning Electron Microscope (HVSEM)
Uvariable Pressure or Low Vacuum Scanning Electron Microscope (LVSEM)
Cryo-Scanning Electron Microscope (Cryo-SEM)
Environmental Scanning Electron Microscope (ESEM)
[]Others
0
Breakup by Application:
□Material Sciences
□Nanotechnology
_Life Sciences
□Semiconductors
[]Others
0
Breakup by Region:

```
North America
United States
Canada
Canada
Asia-Pacific
China
Japan
India
South Korea
Australia
Indonesia
Others
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[Europe □□Germany □□France United Kingdom □□Italy □□Spain Russia []Others Π □Latin America Π □□Brazil □□Mexico []]Others Π ☐Middle East and Africa Π Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Advantest Corporation, Bruker Corporation, Carl Zeiss AG, Danaher Corporation, Delong Instruments, Hitachi High-Tech Corporation (Hitachi Ltd.), JEOL Ltd., Nanoscience Instruments, Nikon Corporation, Olympus Corporation and Thermo Fisher Scientific Inc.

Key Questions Answered in This Report:

What was the size of the global scanning electron microscopes market in 2022? What is the expected growth rate of the global scanning electron microscopes market during 2023-2028? What are the key factors driving the global scanning electron microscopes market? What has been the impact of COVID-19 on the global scanning electron microscopes market? What is the breakup of the global scanning electron microscopes market based on the type? What is the breakup of the global scanning electron microscopes market based on the technology? What is the breakup of the global scanning electron microscopes market based on application? What are the key regions in the global scanning electron microscopes market? Who are the key players/companies in the global scanning electron microscopes market?

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