

Scanning Electron Microscopes Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2022-2027

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Abstracts

The global scanning electron microscopes market reached a value of US\$ 3.83 Billion in 2021. Looking forward, IMARC Group expects the market to reach a value of US\$ 6.29 Billion by 2027, exhibiting a CAGR of 8.10% during 2022-2027. Keeping in mind the uncertainties of COVID-19, we are continuously tracking and evaluating the direct as well as the indirect influence of the pandemic on different end use industries. These insights are included in the report as a major market contributor.

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, along with forecasts at the global, regional and country level from 2022-2027. Our report has categorized the market based on type, technology and application.

Breakup by Type:

- Tabletop/Benchttop
- Conventional

Breakup by Technology:

- Conventional or High Vacuum Scanning Electron Microscope (HVSEM)
- Variable Pressure or Low Vacuum Scanning Electron Microscope (LVSEM)
- Cryo-Scanning Electron Microscope (Cryo-SEM)
- Environmental Scanning Electron Microscope (ESEM)
- Others

Breakup by Application:

- Material Sciences
- Nanotechnology
- Life Sciences
- Semiconductors
- Others

Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

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:

How has the global scanning electron microscopes market performed so far and how will it perform in the coming years?

What has been the impact of COVID-19 on the global scanning electron microscopes market?

What are the key regional markets?

What is the breakup of the market based on the type?

What is the breakup of the market based on the technology?

What is the breakup of the market based on the application?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global scanning electron microscopes market and who are the key players?

What is the degree of competition in the industry?

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