

Scanning Electron Microscopes Market Size, Share, Trends & Growth Forecast To 2027

HYDERABAD, TELANGAANA, INDIA, August 29, 2022 /EINPresswire.com/ -- As per the report published by MarketDataForecast, the global scanning electron microscope market is forecasted to grow at a CAGR of 9.12% from 2022 to 2027 and be worth USD 6.82 billion by 2027 from USD 4.41 billion in 2022.

What is the impact of COVID-19 on the global scanning electron microscope market?

Covid-19 is a severe disease that has affected the lives of many people in the world. SARS-CoV-2 is a new β -coronavirus belonging to the sarbecovirus subgenus of Coronaviridae family. The RNA genome of coronaviruses is single-stranded and positive-sense enclosed. Electron microscopy (EM), a tool for identifying viruses based on their ultra-structure, was one of the first techniques to detect coronaviruses. The ability of EM to detect unsuspected organisms has made it a suitable tool to guide the public health response during outbreaks. By considering all these factors, the market has favorable growth.

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MARKET DYNAMICS:

Increased use of electron microscopes in nanotechnology is of the notable factors boosting the scanning electron microscopes market. Nanoscientists use powerful microscopes that use advanced methods, therefore opening the way for modern nanotechnology. Using instruments like the scanning electron microscope, transmission electron microscope, and field ion microscope, scientists could view the nanoscale as early as the 1930s. The electron tunneling microscope and the atomic force microscope are the two most recent and significant advancements in microscopy. In addition, electron microscopes give much greater resolution; they can obtain magnifications up to 1 million times, while the best light microscopes can



magnify an image only about 1,500 times.

Scanning electron microscopes' abilities have recently been expanded using scanning TEM detectors, which enable the examination of specimens that are transparent to electrons. The topographical, morphological, and compositional information provided in the high-resolution, three-dimensional images produced by SEMs makes them invaluable in various research and industrial applications.

Increasing usage of scanning electron microscopes in pharmaceutical research further promotes the SEM market's growth rate. SEMs in pharmaceutical research are used for powder imaging and analysis, insights into cellular interactions with new drugs, and applications in the most complicated cancer treatments.

However, high costs associated with the maintenance are anticipated to hamper the growth of the scanning electron microscopes market. In addition, SEMs carry a small risk of radiation exposure associated with the electrons that scatter from below the sample surface. One of the market challenges is that samples must fit inside the chamber of the microscope and be solid. Lack of skilled professionals and lack of awareness about the microscope are other market challenges.

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ANALYSIS OF VARIOUS SEGMENTS INVOLVED IN THE SCANNING ELECTRON MICROSCOPES MARKET:

Based on type, the benchtop/tabletop scanning electron microscope segment accounted for a significant market share in 2021. Benchtop scanning electron microscopes are the fastest and most user-friendly. Benchtop SEMs have an intuitive user interface and are designed to be used as a training tool by researchers and engineers. They also require very minimal initial training.

Based on application, the life science segment had the largest share of the global scanning electron microscopes market in 2021. The discovery of viruses, the prevention of infection, the elucidation of the organelle structure, drug development, and food safety are several ways in which electron microscopy has significantly contributed to the life sciences. For usage in life sciences, Hitachi High-Tech provides advanced technologies, including TEM systems that can be utilized with ultra-thin sections to examine cellular inner structure.

GEOGRAPHICAL ANALYSIS:

The Asia Pacific region is anticipated to account for a significant share of the scanning electron microscopes market worldwide during the forecast period owing to rising demand for nanotechnology and increasing use of SEM for imaging. An electron microscopy (EM) center of excellence in Japan opened in 2016, allowing you to test our latest advancements and expand

your knowledge and abilities while receiving assistance from our applications team. The Nanopore team supports workshops and other events and provides live demonstrations and training for scientists and engineers. In the Transmission Electron Microscope (TEM) applications team, the Application Scientist is responsible for providing technical support for the efforts of the Electron Microscopy team in China at specific consumer sites and at NanoPort in Shanghai.

North America will have the highest market share in the coming years. Scientists from Rice University and academic and industry partners will be able to view and analyze materials smaller than a nanometer due to an electron microscope, one of the most powerful in the United States.

KEY MARKET PARTICIPANTS IN THE SEM MARKET:

- Bruker Corp.
- Danish Micro Engineering (DME)
- JEOL Ltd.
- Leica Microsystems
- Nanoscience Instruments, Inc.
- Nikon Corp.
- Olympus Corp.
- Thermo Fisher Scientific
- Hitachi High Technologies Corp.
- Carl Zeiss

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