Cryo-Electron Microscopy Market - Opportunities, Share, Growth and Competitive Analysis and Forecast 2029

The Business Research Company's Cryo-Electron Microscopy Global Market Report 2025 – Market Size, Trends, And Forecast 2025-2034

The Business Research Company

LONDON, GREATER LONDON, UNITED KINGDOM, August 21, 2025 /EINPresswire.com/ -- What Is The Forecast For The Cryo-Electron Microscopy Market From 2024 To 2029?

In recent years, the market size for cryo-electron microscopy has seen a swift escalation. It is projected that the market will expand from $1.48 billion in 2024 to $1.69 billion in 2025, with a compound annual growth rate (CAGR) of 14.0%. The past growth of this market can be credited to the surging need for high-resolution imaging in structural biology, advancements in hardware related to electron microscopy, an increase in research related to infectious diseases and virology, rising adoption in scholarly and research institutions, along with the shortcomings of traditional microscopy methods.

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In the forthcoming years, the cryo-electron microscopy market is anticipated to experience significant growth, with an expected size of $2.84 billion by 2029 and a compound annual growth rate (CAGR) of 13.8%. This growth during the forecast period is due to the increasing use of cryo-em technology in drug discovery, higher funding for life sciences and biotechnology research, development in automation and image processing, advanced structural insights, and growing use in clinical diagnostics. The upcoming trends during this period involve the combination of artificial intelligence with cryo-em technology, the reduction in size and increased mobility of cryo-em systems, a shift to cloud-based cryo-em data analysis platforms, advancements in high-resolution imaging technologies, and the creation of hybrid imaging systems.

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What Are The Core Growth Drivers Shaping The Future Of The Cryo-Electron Microscopy Market?
The rise in infectious diseases is anticipated to boost the cryo-electron microscopy market's growth. Pathogenic microorganisms such as bacteria, viruses, fungi, or parasites cause these infections, including those like malaria that can be transmitted directly or indirectly. The surge in infectious diseases is attributed to swift urbanization, which results in higher population density and close human contact, promoting the propagation of infections. Cryo-electron microscopy plays a critical role in infectious disease research by offering high-resolution visualization of viruses, bacteria, and host-pathogen interactions in their nearly native states, thus expediting the detection of viral structures, comprehension of infection methods, and acceleration of antiviral and vaccine production. For example, in November 2023, the World Health Organization, a Switzerland-based intergovernmental organization, stated that, in 2022, approximately 249 million malaria cases were reported worldwide, a surge of 5 million cases (2%) in comparison to 2021. Hence, the increasing prevalence of infectious diseases is propelling the growth of the cryo-electron microscopy market.

Which Companies Are Currently Leading In The Cryo-Electron Microscopy Market?
Major players in the Cryo-Electron Microscopy Global Market Report 2025 include:
• Hitachi High-Tech Corporation
• Thermo Fisher Scientific Inc.
• Danaher Corporation
• Charles River Laboratories International Inc.
• Intertek Group plc
• Bruker Corporation
• Carl Zeiss AG
• Japan Electron Optics Laboratory Ltd.
• Leica Microsystems GmbH
• Gatan Inc.

What Are The Top Trends In The Cryo-Electron Microscopy Industry?
Key players in the cryo-electron microscopy market are putting their efforts into creating innovative technologies such as cryo-transmission electron microscope (cryo-TEM) systems integrated with artificial intelligence (AI). Such advancements are vital in improving image processing, automating data generation, enhancing resolution, and speeding up the 3D assembly of biomolecular formations. AI-integrated cryo-TEM systems represent cutting-edge transmission electron microscopes that merge AI with high-resolution optics to optimize specimen targeting, lessen user variability, and speed up data generation. For instance, in April 2025, Thermo Fisher Scientific, a US-based scientific instruments and laboratory equipment company, introduced the Thermo Scientific Krios 5 Cryo-TEM. This next-gen atomic-resolution platform utilizes improved optics and AI-enabled automation. It offers distinctive features, such

as progressive automatic data collection, enhanced sample throughput, and high-resolution imaging capacities, which allow researchers to observe molecular and cellular formations with exceptional precision. Moreover, its heightened stability and automation reduce manual handling and boost productivity for high-volume cryo-EM processes.

Comparative Analysis Of Leading Cryo-Electron Microscopy Market Segments
The cryo-electron microscopy market covered in this report is segmented –
1) By Product: Instruments, Fully Automated Instruments, Semi-Automated Instruments, Software, Services
2) By Nano Formulations: Lipid Nanoparticle Formulations (LNFS), Metal Oxide Formulations, Metal Formulations, Other NanoForms
3) By Technology: Electron Crystallography, Single Particle Analysis, Cryo-Electron Tomography, Other Technologies
4) By Application: Life Science Research And Academia, Cancer Research, Omics Research, Pharma And Biotech Manufacturing, Cell And Gene Therapy, Vaccines, Preclinical And Clinical Research, Healthcare Or Medical Applications, Disease Diagnosis And Pathology
5) By End-User: Research Laboratories And Institutes, Forensic And Diagnostic Laboratories, Pharmaceutical And Biotechnology Companies, Contract Research Organization, Other End-Users

Subsegments:
1) By Instruments, Electron Microscopes: Sample Preparation Equipment, Detectors And Cameras, Cryo-Transfer Holders
2) By Fully Automated Instruments: Automated Sample Loading Systems, Automated Data Acquisition Systems, Automated Imaging Systems
3) By Semi-Automated Instruments: Semi-Automated Sample Preparation Systems, Semi-Automated Imaging Systems, Semi-Automated Data Processing Units
4) By Software: Image Analysis Software, 3D Reconstruction Software, Data Processing Software, Workflow Management Software
4) By Services: Sample Preparation Services, Data Analysis Services, Training And Support Services, Maintenance And Repair Services

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https://www.thebusinessresearchcompany.com/report/cryo-electron-microscopy-global-market-report

Which Regions Are Dominating The Cryo-Electron Microscopy Market Landscape?
In 2024, North America dominated the global cryo-electron microscopy market. However, the Asia-Pacific region is projected to experience the most substantial growth during the forecast period. The cryo-electron microscopy market report conversely encompasses regions such as Asia-Pacific, Western Europe, Eastern Europe, North America, South America, the Middle East, and Africa.

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