

# **Electron Microscope Trends: Market Research Report**

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# **Abstracts**

An Electron Microscope (EM) is a high-magnification, high-resolution microscope that utilizes an electron beam for illuminating a specimen, and magnifies the image. Semiconductor industry and miniaturization of Semiconductor chips are the growth engines driving the Electron Microscope market ahead. Medical Device and Semiconductor manufacturers are establishing plants in Asia, and the region is emerging as a major hub for Electron Microscopes.

The report analyzes and presents an overview of Electron Microscopes market worldwide. The report also provides global market estimates and projections for Electron Microscopes by Category in US dollars for years 2012 through 2017. Supported with 1 market data table, the report provides a review of market trends, growth drivers, and strategic industry activities of major companies worldwide. The report further discusses about various types of Electron Microscopes including Transmission Electron Microscope, Scanning Electron Microscope, Reflection Electron Microscope, Scanning Transmission Electron Microscope, and Low Voltage Electron Microscope. In addition, 41 companies operating in the Electron Microscopes arena worldwide including Agilent Technologies, Carl Zeiss Group, FEI Company, Hitachi High-Technologies Corporation, JEOL Ltd, Nikon Corporation, Olympus Corporation, Seiko Instruments, Thermo Fisher Scientific and others are profiled.



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Differences between Electron Microscope and Optical Microscope

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Working of TEM

Scanning Electron Microscope (SEM)

**SEM Types** 

Working of SEM

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Reflection Electron Microscope (REM)

Scanning Transmission Electron Microscope (STEM)

Low Voltage Electron Microscope (LVEM)

**Imaging Modes** 

**Applications** 

Market Scenario

**Table 1.** Global Electron Microscopes Market by Category (2012-2017) in US\$ Million for Scanning Electron Microscopes, Transmission Electron Microscopes, and Others

**Market Drivers** 

Applications of Electron Microcopy

Major Applications of TEM and SEM

Use of Electron Microscopy for Detecting Viruses

Applications of Tabletop Scanning Electron Microscopes (Tabletop SEM)

Material Science

Food and Chemical

Pharmaceutical

Forensic Science

#### 2. RECENT INDUSTRY ACTIVITY

Element Materials Technology Laboratories Purchases VEGA-XMU Scanning Electron Microscopes from TESCAN

Fusion IP Enters into Licensing Agreement with Gatan



Gordon and Betty Moore Foundation and Various Physics Researchers to Launch Global Research Collaboration

Techcomp Holdings Acquires Majority Stake in Edinburgh Instruments

ASU Deploys Aberration-Corrected Electron Microscopes

Charm Engineering Inks Agreement with Bnano

Emory University to Deploy Transmission Electron Microscopes of JEOL

FEI Acquires ASPEX

JEOL and INCJ Form JEOL Resonance

Oxford Instruments Takes Over Asylum Research

Scientex Inks Distribution Agreement with Advanced Microscopy Techniques

SuperSTEM Consortium Establishes EPSRC National Facility

University of Glasgow Purchases MagTEM Microscope from JEOL

Yale Purchases Osirus ChemiSTEM Transmission Electron Microscope from FEI

Zyvex Technologies Inks Partnership Agreement with CEMAS of Ohio State University Advantest Acquires Verigy

AŽD Praha Extends Collaboration with FEI

Basque Nanoscience Cooperative Research Center nanoGUNE Consolider Selects

Electron Microscope Systems of FEI

FEI Takes Over TILL Photonics

#### 3. PRODUCT LAUNCHES/TECHNOLOGY INNOVATIONS

Computer Power Supply Unveils Model 3603 Scanning Electron Microscope Power Supply

FEI Rolls Out ASPEX CleanCHK Analyzer for Automotive Applications

Hitachi High-Technologies Rolls Out TM3030 Tabletop Electron Microscope

Olympus Introduces New Units to IX3 Research Inverted Microscopes and Upgrades cellSens V1. 8 Software

Science Department of Carleton University Introduces FEI Tecnai G2 Transmission Electron Microscope

Bruker Launches Micro-Computed Tomography Accessory for Scanning Electron Microscopes

Carl Zeiss Microscopy Introduces SIGMA HD Field-Emission Scanning Electron Microscope

FEI Rolls Out Verios XHR High-Resolution Scanning Electron Microscope

JEOL Rolls Out JEOL JSM-7100F Field Emission Scanning Electron Microscope Line

EDAX Launches New Range of Apollo Silicon Drift Detectors

Hitachi High-Technologies Unveils SU8000 Range of Field-Emission Scanning Electron Microscopes



#### 4. MARKET PARTICIPANTS

Advantest Corporation (Japan)

Agilent Technologies, Inc. (USA)

Aspex Corporation (USA)

B-Nano Ltd. (Israel)

Carl Zeiss Group (Germany)

Carl Zeiss Microscopy GmbH (Germany)

Cordouan Technologies (France)

COXEM Ltd. (Korea)

Danish Micro Engineering A/S (Denmark)

Delong America (Canada)

FEI Company (USA)

Hirox Asia Ltd. (Hong Kong)

Hirox Europe Ltd. (France)

Hitachi High-Technologies America, Inc. (USA)

Hitachi High-Technologies Corporation (Japan)

Hitachi High-Technologies Europe GmbH (Germany)

JEOL (Europe) BV (The Netherlands)

JEOL (Germany) GmbH (Germany)

JEOL Ltd. (Japan)

JEOL USA, Inc. (USA)

Leica Microsystems Holdings GmbH (Germany)

Nikon Corporation (Japan)

Nikon Instruments, Inc. (USA)

Nikon Metrology Europe NV (Belgium)

Nion Company (USA)

Novelx, Inc. (USA)

Olympus Corporation (Japan)

Omicron NanoTechnology GmbH (Germany)

Pemtron Co., Ltd. (Korea)

Phenom-World B. V. (The Netherlands)

R. B. Scientific Industries (India)

SEC Co., Ltd. (Korea)

Seiko Instruments, Inc. (Japan)

Techcomp (Holdings) Ltd. (Hong Kong)

Ted Pella, Inc. (USA)

Tescan, A. S. (Czech Republic)



Thermo Fisher Scientific, Inc. (USA)
TILL Photonics GmbH (Germany)
Topcon Singapore Holdings Pte. Ltd. (Singapore)
Topcon Technohouse Corporation (Japan)
Zyvex Labs LLC (USA)

### **5. APPENDIX**



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