

WINTERGREEN RESEARCH, INC.

**Worldwide Optical, Transmission TEM, and Scanning SEM
Electron Microscope Market Shares, Strategies, and Forecasts,
2009 to 2015**

**Nanotechnology Research, Bio-Med and Life Sciences, Clinical
and Surgical, Industrial, Mining and Materials, Electronics and
Semiconductor, and Ion Beam**



Picture by Susie Eustis

MOUNTAINS OF OPPORTUNITY

**WinterGreen Research, Inc.
Lexington, Massachusetts**

www.wintergreenresearch.com

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009
\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

CHECK OUT THESE KEY TOPICS

TRANSMISSION ELECTRON MICROSCOPE TEM

SCANNING ELECTRON MICROSCOPE SEM

TEM AND SEM ELECTRON MICROSCOPE

OPTICAL MICROSCOPE

RESEARCH MICROSCOPE

BIO-MED MICROSCOPE

LIFE SCIENCES MICROSCOPE

CLINICAL MICROSCOPE

SURGICAL MICROSCOPE

INDUSTRIAL MICROSCOPE

MINING AND MATERIALS MICROSCOPE

ELECTRONICS MICROSCOPE

SEMICONDUCTOR MICROSCOPE

ION BEAM MICROSCOPE

TEM MICROSCOPE MARKET SHARES

SEM MICROSCOPE MARKET SHARES

OPTICAL MICROSCOPE MARKET SHARES

ELECTRON MICROSCOPE MARKET FORECASTS

Microscope Advances In Technology

Microscopes Increase Resolution

Microscopes for Nanotechnology

FEI Team for Nanoscience Facility

IBM Microscope Finer Resolution Than MRI

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009

\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

OPPORTUNITY ABOUNDS

WinterGreen Research, Inc.
Lexington, Massachusetts
www.wintergreenresearch.com

**Worldwide Optical, Transmission TEM, and Scanning SEM
Electron Microscope Market Shares, Strategies, Forecasts,
2009-2015**

Breakthrough technology in microscopy brings advancements that provide customers with the power to discover things they have never seen before, and to solve problems never before solvable.

Microscope markets are segmented as optical microscopes, electron microscopes, scanning probe microscopes, and focused ion beam microscopy. Optical microscopes are light microscopes. The optical microscope is limited in the minimum size and nature of the features it can resolve by manufacturability constraints and the physics of light. While optical microscopes once accounted for the bulk of all microscopes sold in the world, today their percentage of total revenue is shrinking.

New microscopy technologies have been developed to overcome the limitations of light microscopes. Electron, scanning probe, and focused ion beam microscopy are essential aspects of different approaches to visualization at the nanoparticle level. The field of microscopy continues to evolve rapidly, as new requirements and imaging technologies are developed.

Technology integration, marking the convergence of information technology and digital imaging, is expected to change standard laboratories into advanced research centers. Current innovations in the microscopy industry are towards development of microscopes with higher precision and resolution.

Developments in image restoration, reconstruction, and other related fields will continue to influence the industry.

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009
\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

Innovations in electronics, engineering and industrial materials permit the industry to effectively overcome conventional barriers, allowing new systems to evolve based on new technologies.

Custom-assembled systems are based on modular approaches to product delivery. Platforms are implemented as frameworks that accept any of a variety of modules. In this manner customization is supported in the microscope industry. These custom-assembled systems enable end users incorporate existing workflow.

The microscope markets are driven by the need for research facilities to attract the most qualified researchers. The best researchers are attracted to good equipment. They will move to where the best equipment is. For enterprises and universities to land and hang on to leading researchers, they have to upgrade their equipment or those people are gone in a year.

The research and industrial use of imaging has shifted rapidly with the increasing significance of nanotechnology. To look at particles on the nano-scale requires increased sophistication and use of more expensive imaging equipment. This means that fewer organizations can afford the imaging equipment needed to stay competitive and that those organizations that can afford the very expensive imaging equipment will tend to be quite large.

Nanotechnology funding at \$8.5 billion in 2008 is anticipated to increase rapidly as countries respond to the economic meltdown. Every dollar invested in nanotechnology research turns \$5 in tax dollars within a year and continues to provide that level of taxes for the next 20 to 50 years. This is a very good investment.

Countries are learning that they need to compete at a level of industrial development in the new global economy. The financial meltdown represents at its core the disintegration of national boundaries in the traditional sense. In its place are global enterprises based in a particular country, providing tax dollars to that base nation.

In this global economy, innovation is central. Innovation is based on software systems that improve productivity. Software is used to manage information and make it more accessible. Innovation improves enterprise and business decision making. Nanotechnology and electron microscopes are a central aspect of this global initiative.

FEI has had momentum in the microscope research markets unmatched by any competitor. The wins in the research market are significant because the nanotechnology techniques being developed there will work for another generation, driving markets in every segment as the research in nanotechnology being conducted now provides technology that will flow out into industry and government at a rapid pace.

FEI Company (Nasdaq:FEIC) high-resolution imaging and analysis system Titan(3(TM)) 80-300 scanning/transmission electron microscope (S/TEM) competitive win in the National Institute for Materials Science (NIMS) and King Abdullah University of Science and Technology (KAUST) of Saudi Arabia bring enormous opportunity to the company.

Nanoparticles are so tiny that good technology is a basic part of the industry. The best researchers prefer the FEI technology, giving the company significant competitive advantage.

IBM has extended 3D MRI to the Nanoscale. IBM Research (NYSE: IBM) scientists, in collaboration with the Center for Probing the Nanoscale at Stanford University, have demonstrated magnetic resonance imaging (MRI) with volume resolution 100 million times finer than conventional MRI.

Microscope market forecasts indicate that markets at \$3.5 billion in 2008 are anticipated to reach \$7.7 billion by 2015. Growth is stimulated by worldwide government investment in innovation in response to the meltdown of financial markets.

Microscope Companies Profiled

Microscope Market Leaders

Carl Zeiss
FEI
Hitachi
Jeol
Nikon
Olympus
Danaher / Leica

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009

\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

Microscope Market Participants

Company Profiles

Alicona Imaging

Aligent

Angstrom Advanced

Asylum Research

Bausch and Lomb

Bruker / S.I.S. Surface Imaging System

Danaher Corporation

MetaMorph Software

JPK Instruments

Kaust

Labomed

Motic

Nanotec Electronica / Nanonics

Nanosurf

Omicron

Orsay Physics S.A.

Phase Focus

Raith

Seiko Instruments Inc. (SII)

Thermo Fisher Scientific

Veeco

Westover Scientific

Worldwide Optical, Transmission TEM, and Scanning SEM Electron Microscope Market Shares, Strategies, and Forecasts, 2009-2015

REPORT METHODOLOGY

THIS IS THE 402ST REPORT IN A SERIES OF MARKET RESEARCH REPORTS THAT PROVIDE FORECASTS IN COMMUNICATIONS, TELECOMMUNICATIONS, THE INTERNET, COMPUTER, SOFTWARE, TELEPHONE EQUIPMENT, HEALTH EQUIPMENT, AND ENERGY. THE PROJECT LEADERS TAKE DIRECT RESPONSIBILITY FOR WRITING AND PREPARING EACH REPORT. THEY HAVE SIGNIFICANT EXPERIENCE PREPARING INDUSTRY STUDIES. FORECASTS ARE BASED ON PRIMARY RESEARCH AND PROPRIETARY DATA BASES. FORECASTS REFLECT ANALYSIS OF THE MARKET TRENDS IN THE SEGMENT AND RELATED SEGMENTS. UNIT AND DOLLAR SHIPMENTS ARE ANALYZED THROUGH CONSIDERATION OF DOLLAR VOLUME OF EACH MARKET PARTICIPANT IN THE SEGMENT. INSTALLED BASE ANALYSIS AND UNIT ANALYSIS IS BASED ON INTERVIEWS AND AN INFORMATION SEARCH. MARKET SHARE ANALYSIS INCLUDES CONVERSATIONS WITH KEY CUSTOMERS OF PRODUCTS, INDUSTRY SEGMENT LEADERS, MARKETING DIRECTORS, DISTRIBUTORS, LEADING MARKET PARTICIPANTS, OPINION LEADERS, AND COMPANIES SEEKING TO DEVELOP MEASURABLE MARKET SHARE. OVER 200 IN DEPTH INTERVIEWS ARE CONDUCTED FOR EACH REPORT WITH A BROAD RANGE OF KEY PARTICIPANTS AND INDUSTRY LEADERS IN THE MARKET SEGMENT. WE ESTABLISH ACCURATE MARKET FORECASTS BASED ON ECONOMIC AND MARKET CONDITIONS AS A BASE. USE INPUT/OUTPUT RATIOS, FLOW CHARTS, AND OTHER ECONOMIC METHODS TO QUANTIFY DATA. USE IN-HOUSE ANALYSTS WHO MEET STRINGENT QUALITY STANDARDS. INTERVIEWING KEY INDUSTRY PARTICIPANTS, EXPERTS AND END-USERS IS A CENTRAL PART OF THE STUDY. OUR RESEARCH INCLUDES ACCESS TO LARGE PROPRIETARY DATABASES. LITERATURE SEARCH INCLUDES ANALYSIS OF TRADE PUBLICATIONS, GOVERNMENT REPORTS, AND CORPORATE LITERATURE.

FINDINGS AND CONCLUSIONS OF THIS REPORT ARE BASED ON INFORMATION GATHERED FROM INDUSTRY SOURCES, INCLUDING MANUFACTURERS, DISTRIBUTORS, PARTNERS, OPINION LEADERS, AND USERS. INTERVIEW DATA WAS COMBINED WITH INFORMATION GATHERED THROUGH AN EXTENSIVE REVIEW OF INTERNET AND PRINTED SOURCES SUCH AS TRADE PUBLICATIONS, TRADE ASSOCIATIONS, COMPANY LITERATURE, AND ONLINE DATABASES. THE PROJECTIONS CONTAINED IN THIS REPORT ARE CHECKED FROM TOP DOWN AND BOTTOM UP ANALYSIS TO BE SURE THERE IS CONGRUENCE FROM THAT PERSPECTIVE.

THE BASE YEAR FOR ANALYSIS AND PROJECTION IS 2008. WITH 2008 AND SEVERAL YEARS PRIOR TO THAT AS A BASELINE, MARKET PROJECTIONS WERE DEVELOPED FOR 2009 THROUGH 2015. THESE PROJECTIONS ARE BASED ON A COMBINATION OF A CONSENSUS AMONG THE PRIMARY CONTACTS COMBINED WITH UNDERSTANDING OF THE KEY MARKET DRIVERS AND THEIR IMPACT FROM A HISTORICAL AND ANALYTICAL PERSPECTIVE. THE ANALYTICAL METHODOLOGIES USED TO GENERATE THE MARKET ESTIMATES ARE BASED ON PENETRATION ANALYSES, SIMILAR MARKET ANALYSES, AND DELTA CALCULATIONS TO SUPPLEMENT INDEPENDENT AND DEPENDENT VARIABLE ANALYSIS.

YOU MUST HAVE THIS STUDY

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009

\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

**Worldwide Optical, Transmission TEM, and Scanning SEM
Electron Microscope Market Shares, Strategies, and Forecasts,
2009 to 2015**

Table of Contents

MICROSCOPE EXECUTIVE SUMMARY

MICROSCOPE EXECUTIVE SUMMARY	ES-1
Microscope Market Driving Forces	ES-1
Microscope Market Shares	ES-5
Carl Zeiss	ES-8
Microscope Market Forecasts	ES-9
Research And Industrial Use Of Imaging	ES-11
Japan's Leading National Institute Orders Powerful Microscope from FEI	ES-15
Every Major Developed Country Needs To Invest	
Nanotechnology Microscopes	ES-17
King Abdullah University of Science and Technology and FEI Team for Nanoscience Facility	ES-18
Japan's Leading National Institute Orders Powerful Microscope from FEI	ES-18
FEI's Titan Krios TEM Selected by Leading Life Science Research Centers in Asia	ES-20
IBM Microscope 100 Million Times Finer Resolution Than Current MRI	ES-21

**OPTICAL, TRANSMISSION TEM, AND SCANNING SEM ELECTRON MICROSCOPE
MARKET DESCRIPTION AND MARKET DYNAMICS**

1. MICROSCOPES MARKET DESCRIPTION AND MARKET DYNAMICS	1-1
1.1 Electron Microscope	1-1
1.1.1 Electron Microscope Economic Driving Forces	1-2
1.1.2 Transmission Electron Microscope (TEM)	1-3
1.1.3 TEM Uses Magnetic Lenses Guide the Electrons	1-4
1.1.4 Scanning Electron Microscope	1-5
1.1.5 TEM and SEM used for Nanotechnology	1-5
1.1.6 Nanotechnology: Using a Bottom-Up Approach Larger Structures Are Built Or Grown Atom By Atom Or Molecule By Molecule	1-6
1.2 Atomic Force Microscopy	1-7
1.2.1 AFM	1-7
1.2.2 Force Spectroscopy	1-8
1.3 Emerging Topics In Microscopy And Microanalysis	1-12
1.3.1 Intravital Two-Photon Microscopy	1-14
1.3.2 Understanding Of Interactions Between Organic And Mineral Interfaces	1-15

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009

\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

1.3.3	Routine Application Of Imaging, Spectroscopy And Diffraction Techniques For The Analysis Of Individual Nanostructured Materials	1-15
1.3.4	Irradiation By Energetic Electrons	1-16
1.3.5	Focused Ion Beam (FIB) Science And Technology	1-16
1.3.6	Semiconductor Quantum Dots (QDs)	1-16
1.3.7	Advances of Electron Backscatter Diffraction	1-17
1.3.8	Development Of Nano-Materials	1-17
1.3.9	Approaches To Achieve Sub-Light Wavelength Resolution	1-18
1.3.10	Advanced Coating Stability	1-18
1.3.11	Quantitative Atom-Probe Tomography (APT)	1-19
1.3.12	Electron Microscopy Structural Issues	1-19
1.4	Microscope Frames And Accessory Modules	1-19
1.4.1	Fluorescent Or Phase Microscope Modules	1-20
1.4.2	Modern Materials, Lubricants And Machine Tools	1-21
1.5	Microscope Market Segments	1-22
1.5.1	Bio-Med Microscope Market	1-23
1.5.2	Clinical Microscope Market	1-23
1.5.3	Industrial Microscope Market	1-23
1.5.4	Electronics Market Microscopes	1-25
1.5.5	Metalurgical Microscopes	1-25
1.6	Stereomicroscopy Need To Measure On-Axis	1-26
1.6.1	Stereo Microscopes	1-26
1.7	Compound Microscopes	1-30
1.8	Microscopy Illumination Methods	1-30
1.9	Microscopy Imaging Techniques	1-31
1.10	Nanotechnology Paves The Way For A Revolution In Materials	1-33

MICROSCOPE MARKET SHARES AND MARKET FORECASTS

2. MICROSCOPE MARKET SHARES AND MARKET FORECASTS	2-1	
2.1	Microscope Market Driving Forces	2-1
2.2	Microscope Market Shares	2-5
2.2.1	Carl Zeiss	2-8
2.3	Microscope Market Forecasts	2-10
2.4	Optical Microscope and Electron Microscope Market Segments	2-12
2.5	Electron Microscope Transmission (TEM) and Scanning (SEM) Markets	2-22
2.5.1	Electron Microscope Transmission Electron Microscopy (TEM) and Scanning Electron Microscope (SEM) Market Shares	2-22
2.5.2	Electron Microscope Transmission Electron Microscopy (TEM) and Scanning Electron Microscope (SEM) Market Forecasts	2-25
2.5.3	Hitachi S-5500 In-lens FE-SEM	2-30
2.5.4	FEI	2-31
2.5.5	Japan's Leading National Institute Orders Powerful Microscope from FEI	2-32
2.5.6	King Abdullah University of Science and Technology and FEI Company Team to Create Major Nanoscience Facility	2-32

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009**\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING**

WINTERGREEN RESEARCH, INC.

2.5.7	Jeol Scanning Electron Microscopes	2-32
2.5.8	JEOL 2-33	
2.5.9	JEOL Electron Optics	2-33
2.5.10	JEOL Analytical Electron Microscope Instruments	2-34
2.5.11	Carl Zeiss ORION™ Helium Ion Microscope	2-35
2.6	TEM and SEM Research Electron Microscope Market Forecasts	2-37
2.6.1	Electron Microscopes Are Helping Materials Scientists	2-41
2.6.2	Electron Microscope TEM and SEM Research Markets	2-43
2.6.3	Electron Microscope TEM and SEM Life Sciences Market Shares	2-48
2.6.4	Electron Microscope TEM and SEM Life Sciences Market Forecasts	2-49
2.6.5	Nanoparticles for Drug Delivery	2-57
2.6.6	Electronics Electron Microscope TEM and SEM Market Shares	2-60
2.6.7	Electron Microscope TEM and SEM Electronics Market Forecasts	2-63
2.6.8	Electron Microscope SEM and TEM Industry Market Shares	2-68
2.6.9	Electron Microscope SEM and TEM Industry Market Forecasts	2-69
2.7	Optical Microscopes Market Shares	2-73
2.7.1	Olympus Group	2-74
2.7.2	Nikon Sales Strength	2-75
2.7.3	Nikon Biological Microscopes Coolscope II	2-76
2.7.4	Nikon Inverted Microscopes (For Research) Eclipse Ti-E	2-76
2.7.5	Danaher / Leica Microsystems	2-77
2.7.6	Leica M80 Stereomicroscope	2-77
2.7.7	Carl Zeiss	2-78
2.8	Optical Microscopes Market Forecasts	2-80
2.8.1	Worldwide Optical Research Microscope Shipments, Market Shares	2-84
2.8.2	Olympus SZX Research Stereomicroscope System	2-85
2.8.3	Worldwide Optical Research Microscope Shipments, Market Forecasts	2-86
2.8.4	Worldwide Bio-Med And Life Science Optical Microscope Market Shares	2-88
2.8.5	Worldwide Bio-Med And Life Science Optical Microscope Market Forecasts	2-90
2.8.1	Worldwide Optical Clinical and Surgical Microscope Market Shares	2-92
2.8.1	Worldwide Optical Clinical and Surgical Microscope Market Forecasts	2-94
2.8.1	Worldwide Optical Industrial and Semiconductor Microscope Market Shares	2-95
2.8.1	Nikon Advanced Integration With Peripherals Via Intelligent Software	2-96
2.8.2	Nikon Motorized Laser TIRF Illumination Unit	2-97
2.8.3	Nikon ECLIPSE L300D Episcopic Illumination Type	2-97
2.8.4	Worldwide Optical Industrial and Semiconductor Microscope Market Forecasts	2-98
2.8.5	Carl Zeiss	2-99
2.8.6	Olympus Materials Research Imaging Solutions	2-100
2.9	Customized Focused Ion And Electron Beam Columns Microscopes	2-100
2.9.1	Orsay Physics	2-100
2.10	Lensless Microscope Technology Electron Microscopy	

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009**\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING**

And Optical Microscopy Markets	2-106
2.10.1 Phase Focus	2-106
2.11 Microscope Market Regional Segments	2-107
2.11.1 Carl Zeiss Revenue By Region	2-109
2.11.2 Carl Zeiss Regional Revenue Segments	2-111
2.11.3 FEI Revenue by Region	2-112
2.11.4 Agilent Revenue by Region	2-114

MICROSCOPE PRODUCT DESCRIPTION

3. MICROSCOPE PRODUCT DESCRIPTION	3-1
3.1 Olympus	3-1
3.1.1 Olympus SZX Research Stereomicroscope System	3-1
3.1.2 Olympus Integration of Apochromatic System	3-8
3.1.3 Olympus Vertical Observation	3-11
3.1.4 Olympus Multiphoton Microscope	3-12
3.1.5 Olympus Confocal Microscope	3-14
3.1.6 Olympus Confocal Microscope Laser Monitoring Function	3-21
3.1.7 Olympus Photo Stimulation	3-22
3.1.8 Olympus Unmixing	3-23
3.1.9 Olympus Colocalization	3-23
3.1.10 Olympus Industrial Micro-Imaging Segments	3-24
3.1.11 Olympus Materials Research Imaging Solutions	3-25
3.1.12 Olympus Ceramics	3-27
3.1.13 Olympus Plastics Microscopes	3-28
3.1.14 Olympus Materials Forming	3-29
3.1.15 Olympus Semiconductor Imaging Solutions	3-29
3.1.16 Olympus - Bacus Laboratories - Virtual Microscopy	3-33
3.2 Nikon	3-35
3.2.1 Nikon ECLIPSE L300D Episcopic	3-36
3.2.2 Nikon CFI60	3-36
3.2.3 Nikon Biological Microscopes COOLSCOPE II	3-38
3.2.4 Nikon Low Magnification Model	3-40
3.2.5 Nikon ECLIPSE E200POL	3-43
3.2.6 Nikon Inverted Microscopes (For Research) Eclipse Ti-E	3-44
3.2.7 Nikon High-Speed Motorized Control And Acquisition	3-44
3.2.8 Nikon Advanced Integration With Peripherals	
Via Intelligent Software	3-46
3.2.9 Nikon Motorized Laser TIRF Illumination Unit	3-46
3.2.10 Nikon Photo Activation Illumination Unit	3-46
3.2.11 Nikon Multiport Design With A	
Maximum Of Five Imaging Ports	3-47
3.2.12 Nikon Industrial Microscopes	3-48
3.2.13 Nikon ECLIPSE L300D Episcopic Illumination Type	3-48
3.2.14 Nikon Stereoscopic Microscopes	3-53
3.2.15 Nikon Semiconductor Inspection Equipment	3-56
3.2.16 Nikon Inspection Equipment	3-62
3.3 Carl Zeiss	3-63
3.3.1 Carl Zeiss Axio	3-63

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009**\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING**

WINTERGREEN RESEARCH, INC.

3.3.2	Zeiss Stereo Microscopes	3-64
3.3.3	Zeiss SteREO Discovery.V20	3-67
3.3.4	Zeiss SteREO Discovery Final Assembly Of The Stereomicroscope	3-73
3.3.5	Zeiss SteREO Discovery	3-74
3.3.6	Zeiss AxioVision Microscope Software	3-80
3.3.7	Carl Zeiss SteREO Discovery.V20 Provides Depth Perception	3-81
3.3.8	Carl Zeiss SteREO Discovery.V12	3-83
3.3.9	Zeiss Confocal Microscopes	3-89
3.3.10	Zeiss Confocal Systems Axio CSM 700	3-90
3.3.11	Carl Zeiss Axio CSM 700 Reliably Assesses Surface Quality	3-93
3.3.12	Carl Zeiss Topography for LSM	3-95
3.3.13	Carl Zeiss ORION™ Helium Ion Microscope	3-98
3.4	Leica 3-99	
3.4.1	Leica M80 Stereomicroscope	3-111
3.4.2	Leica M400 E Surgical Microscope	3-113
3.4.3	Detailed Description	3-115
3.4.4	Leica M80	3-121
3.4.5	Leica TCS SP5 X Supercontinuum Confocal Microscope	3-125
3.5	Unitron	3-125
3.6	Meiji Techno	3-125
3.7	Motic3-126	
3.8	American Optical	3-126
3.9	Lumenera	3-129
3.10	Diagnostic Instruments	3-129
3.11	Meiji Techno Microscopes	3-129
3.11.1	Meiji MT4000 Series Laboratory and Student Compound Microscopes in Transmitted Light Brightfield and Phase Contrast.	3-130
3.11.2	Meiji MT4200 Binocular & MT4300 Trinocular	3-130
3.11.3	Meiji MT5000 Series Laboratory Compound Microscopes in Transmitted Light Brightfield and Phase Contrast	3-130
3.11.4	Meiji IM7000 Series and Meiji MT9000 Series	3-131
3.11.5	Meiji RZ Research Zoom Stereomicroscope:	3-131
3.11.6	Meiji EMZ Zoom Stereomicroscopes:	3-131
3.12	FEI Electron Microscopes SEM and TEM	3-135
3.12.1	FEI Phenom Applications	3-138
3.12.2	Metallurgical Applications Using The FEI Phenom	3-139
3.12.3	Forensic Applications of FEI Scanning Electron Microscopy	3-139
3.12.4	FEI Micron Scale Insect Anatomy	3-140
3.12.5	FEI Phenom Use for Pharmaceutical Particle Inspection	3-140
3.12.6	FEI Topography Imaging With Phenom	3-141
3.12.7	FEI Product Offerings	3-142
3.12.8	FEI SEM Transition in Imaging	3-144
3.12.9	FEI TEM Product Positioning	3-148
3.13	Hitachi 3-153	
3.13.1	Hitachi S-5500 In-lens FE-SEM	3-156
3.14	Jeol Scanning Electron Microscopes	3-164
3.14.1	Jeol JXA-8500F Electron Probe Microanalyzer (EPMA)	3-166
3.14.2	JEOL Electron Microscope Semiconductor Equipment	3-167
3.15	Alicona Imaging	3-168
3.15.1	Alicona Imaging InfiniteFocus	3-170
3.15.2	Alicona Imaging InfiniteFocusRobot	3-171
3.15.3	Alicona Imaging InfiniteFocus Real 3D	3-171
3.15.4	Alicona Imaging InfiniteFocus Inline	3-171

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009**\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING**

WINTERGREEN RESEARCH, INC.

3.15.5	Alicona Imaging EdgeMaster	3-172
3.15.6	Alicona Imaging MeX	3-172
3.16	Anderson Materials Evaluation EDS, XRF, and FTIR	3-172
3.16.1	Anderson Materials XPS Surface Analysis Technique	3-173
3.16.2	Anderson Materials XPS System Capabilities	3-176
3.16.3	Anderson Materials XPS Applications	3-177
3.16.4	Anderson Materials ESCA Surface Analysis Applications	3-177
3.16.5	Anderson Materials X-ray Photoelectron Spectroscopy	3-180
3.17	Westover Scientific Telecommunications	
	Fiber Optic Network Probe	3-182
3.18	AIST-NT Co	3-187
3.18.1	AIST-NT Co Products	3-187
3.19	Angstrom - Advanced	3-198
3.20	Angstrom Advanced	3-199
3.21	Agilent Technologies Atomic Force Microscopes	3-201
3.21.1	Agilent Technologies In Particle Analysis	3-202
3.21.2	Agilent Particle Analysis Target Markets	3-203
3.21.3	Agilent Inks And Pigments	3-204
3.21.4	Agilent Specialty Chemicals	3-204
3.22	Veeco	3-205
3.23	Asylum Research	3-206
3.23.1	Asylum Cypher AFM Features	3-209
3.23.2	Asylum Nanoindenting	3-211
3.23.3	Asylum Research Atomic Force Microscope (AFM)	3-233
3.23.4	Asylum Research Atomic Force Microscope	
	Technical Innovations	3-233
3.24	JPK Instruments	3-241
3.25	Nanosurf FlexAFM easyScan 2	3-247
3.26	Bruker AXS	3-249
3.27	Nanonics	3-250
3.27.1	Nanonics Confocal Microscope	3-250
3.27.2	Nanonics Confocal Microscope	3-251
3.27.3	Nanonics Dual Microscope	3-253
3.27.4	Nanonics Dual Microscope Combined Upright and Inverted Systems	3-254
3.27.5	Nanonics SPM & NSOM Systems	3-257
3.27.6	Nanonics Transparent Correlation of Raman and SPM Imaging.	3-258
3.27.7	Nanonics Parallel Imaging	3-261
3.27.8	Nanonics Raman Mapping with Z-Control	3-263
3.27.9	Nanonics Examples of the Power of Integrated Raman/AFM	3-264
3.27.10	Nanoindentation Correlated with Material Properties	3-266
3.27.11	Local Stress of MEMs Devices	3-267
3.27.12	Intermittent Contact Mode in Liquids	3-268
3.28	Nanotec Electrónica	3-269
3.28.1	Nanotec Products	3-270
3.29	Cervantes AFM System	3-271
3.30	Dulcinea Control System	3-271
3.31	Omicron Multiprobe MBE and S System For Thin Film Deposition Analysis	3-272
3.31.1	Omicron Multiprobe MXPS Thin Film Studies With Pulsed Laser Deposition (PLD) System	3-274
3.31.2	Omicron Multiscan LAB:	3-276
3.31.3	Omicron Customized Solution for 2.5 – 350 K STM Operation in 3D Magnetic Fields	3-276
3.32	Veeco	3-279

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009**\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING**

WINTERGREEN RESEARCH, INC.

3.32.1	Veeco BioScope II Atomic Force Microscope – Combining atomic force And Optical Microscopy	3-279
3.32.2	Veeco BioScope SZ Atomic Force Microscope Designed For Life Sciences Research	3-281
3.32.3	Veeco Caliber Atomic Force Microscope AFM with Research-Quality Results	3-282
3.32.4	Veeco Dimension 3100 Scanning Probe Microscope – Superior research versatility	3-283
3.32.5	Veeco Dimension 5000 Scanning Probe Microscope Large-Sample Metrology And Imaging	3-284
3.32.6	Veeco Dimension V Scanning Probe Microscope – Superior High-Resolution Research Performance And Versatility	3-285
3.32.7	Veeco Electrochemical SPM Real-Time Electrochemical Processes In-Situ	3-286
3.32.8	Veeco EnviroScope Atomic Force Microscope – Combined AFM Imaging With Sample Environmental Control	3-288
3.32.9	Veeco Innova Scanning Probe Microscope Low Noise, High Resolution AFM	3-289
3.32.10	Veeco MultiMode V Scanning Probe Microscope High Resolution SPM	3-290
3.32.11	NanoMan VS Scanning Probe Microscope Enabling Advanced Nanoscale Surface Manipulation	3-291
3.32.12	Veeco Scanning Probe Microscope Force Spectroscopy Research	3-292
3.33	Agilent	3-293
3.34	Orsay Physics S.A.	3-297
3.34.1	Orsay Physics S.A. COBRA-FIB Column	3-297
3.35	Seiko	3-299
3.35.1	Seiko SUPRA 55VP Versatile High Performance VP SEM	3-300
3.35.2	Carl Zeiss NVision 40 FIB-SEM	3-301
3.35.3	Carl Zeiss NVision DES100 1540XB CrossBeam/	3-302

MICROSCOPE SERVER TECHNOLOGY

4. MICROSCOPE TECHNOLOGY	4-1
4.1 IBM Microscope 100 Million Times Finer Resolution Than Current MRI	4-1
4.1.1 IBM Research	4-2
4.2 Technological Trends in the Microscopy Business	4-3
4.3 Industry Overview	4-6
4.3.1 Key Trends in the Laboratory Equipment Market	4-6
4.3.2 Semiconductor Industry	4-8
4.4 Surface Science Technologies	4-10
4.4.1 Surface Analyzers	4-11

MICROSCOPE SERVER COMPANY PROFILES

5. MICROSCOPE COMPANY PROFILES	5-1
---------------------------------------	------------

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009
\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

WINTERGREEN RESEARCH, INC.

5.1	Alicona Imaging	5-1
5.2	Aligent	5-3
5.2.1	Agilent Technologies Inc. (NYSE: A) High-Precision Atomic Force Microscopes (AFM)	5-5
5.2.2	Agilent Technologies Atomic Force Microscopes	5-10
5.2.3	Agilent Buys Nano Instruments	5-13
5.2.4	Agilent Technologies Atomic Force Microscopes Consumables	5-14
5.2.5	Agilent Gold Mica Substrates	5-16
5.2.6	Agilent Hydrogen Flame Annealing	5-16
5.2.7	Agilent Net Revenue Fiscal Year 2008	5-17
5.2.8	Agilent Electronic and Communications Measurement	5-22
5.2.9	Agilent Bio-Analytical Measurement	5-24
5.2.10	Agilent Laboratories	5-28
5.2.11	Agilent Technologies Fourth Quarter 2008 Revenue	5-29
5.2.12	Agilent Electronic Measurement	5-31
5.2.13	Agilent Technologies Revenue	5-32
5.3	Angstrom Advanced	5-33
5.4	Asylum Research	5-35
5.5	Bausch and Lomb	5-36
5.6	Bruker	5-37
5.6.1	Bruker Acquires S.I.S. Surface Imaging System In the AFM Market	5-37
5.7	Carl Zeiss	5-39
5.7.1	Carl Zeiss Regional Revenue Segments	5-42
5.7.2	Carl Zeiss Foundation Organizational Structure	5-43
5.7.3	Carl Zeiss Reorganization of Business Units	5-44
5.7.4	Carl Zeiss AxioVision Physiology Microscope System	5-44
5.7.5	Carl Zeiss Meditec	5-47
5.7.6	Carl Zeiss Revenue By Strategic Business Segment	5-48
5.7.7	Carl Zeiss Revenue By Region	5-49
5.7.8	Zeiss Outlook	5-50
5.7.9	Zeiss Clinical Diagnostics ACIS III System Developed by Clariant	5-51
5.8	Danaher Corporation	5-52
5.8.1	Danaher Revenue For Fourth Quarter And Full Year 2008	5-52
5.8.2	Danaher Operating Segments	5-54
5.8.3	Danaher Third Quarter Revenue	5-57
5.8.4	Danaher / Leica Brand	5-57
5.8.5	Danaher / Leica Microsystems	5-59
5.8.6	Leica Microsystems' Life Science Division	5-60
5.8.7	Leica Professional Instrumentation	5-61
5.8.8	Leica Industrial Technologies	5-62
5.8.9	Danaher Tools & Components	5-62
5.8.10	Leica Microsystems Acquires Surgipath Medical Industries, Inc.	5-62
5.8.11	Leica Microsystems' Life Science Division	5-63
5.8.12	Danaher Leica Microsystems' Industry Division	5-63
5.8.13	Danaher Leica Microsystems' Biosystems Division	5-64
5.8.14	Danaher Leica Microsystems' Surgical Division	5-65
5.8.15	Danaher / Leica MM AF Imaging Systems and MetaMorph Software	5-66
5.9	FEI	5-67
5.9.1	FEI Acquires Intellection Holdings	5-67
5.9.2	FEI Suppliers	5-68
5.9.3	FEI Technologies And Applications	5-68
5.9.4	FEI Worldwide Presence	5-69
5.9.5	Japan's Leading National Institute Orders	

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009**\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING**

WINTERGREEN RESEARCH, INC.

Powerful Microscope from FEI	5-69
5.9.6 FEI's Titan Krios TEM Selected by Leading Life Science Research Centers in Asia	5-71
5.9.7 King Abdullah University of Science and Technology and FEI Company Team to Create Major Nanoscience Facility	5-73
5.9.8 FEI Revenue	5-74
5.9.9 FEI Strategic Positioning	5-80
5.9.10 FEI Life Sciences Instrument Positioning	5-88
5.9.11 FEI Three major markets – Research & Industry, Electronics and Life Sciences Segment Information	5-90
5.9.12 FEI Electronics Segments	5-93
5.9.13 FEI Research and Industry	5-94
5.9.14 FEI Life Sciences	5-94
5.9.15 FEI Service and Components	5-94
5.9.16 FEI Electronics Market	5-95
5.9.17 FEI Research And Industry Market	5-95
5.9.18 FEI Life Sciences	5-96
5.9.19 FEI Order Cancellations	5-97
5.9.20 FEI Sales by Geographic Region	5-97
5.9.21 FEI North America	5-98
5.9.22 FEI Europe	5-99
5.9.23 FEI Asia-Pacific Region	5-99
5.9.24 FEI SEM Phenom Scope	5-99
5.9.25 FEI Fits in the Semiconductor Microscope Equipment Supply Chain	5-101
5.9.26 FEI Leader in Tools for Nanotechnology	5-101
5.9.27 FEI Titan Electron Microscope (TEM) Designed By Philips Design	5-102
5.10 Hitachi	5-103
5.11 Jeol	5-104
5.11.1 Jeol Electron Optics	5-104
5.11.2 Jeol Analytical Instruments	5-105
5.11.3 Jeol Semiconductor Equipment	5-106
5.11.4 Jeol Thin Film Coating Systems	5-107
5.11.5 Jeol Medical Equipment	5-108
5.12 JPK Instruments	5-117
5.12.1 JPK Instruments Business units	5-118
5.12.2 Molecular Analytics Division	5-119
5.13 Kaust	5-121
5.14 Labomed	5-122
5.15 Motic	5-122
5.15.1 Motic Contract With Carl Zeiss	5-122
5.16 Nanotec Electronica / Nanonics	5-124
5.17 Nanosurf	5-125
5.17.1 Nanosurf Integrated Microscopy	5-127
5.17.2 Nanosurf Technology	5-127
5.18 NIKON	5-128
5.18.1 Nikon Revenue	5-129
5.18.2 Nikon Instruments Business	5-129
5.18.3 Nikon Geographical Segments	5-131
5.18.4 Nikon Instrument Product Line	5-141
5.18.5 Nikon Stereoscopic Microscopes	5-147
5.18.6 Nikon Cameras for Microscopy	5-148
5.18.7 Nikon Bioscience Field Market Environment and Business Trends	5-149
5.18.8 Nikon Business Strategy	5-150
5.18.9 Nikon Instruments and Biosciences Business	5-151

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009**\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING**

WINTERGREEN RESEARCH, INC.

5.19	Olympus	5-152
5.19.1	Olympus Microscopes For Industrial Applications	5-153
5.19.2	Olympus Micro-Imaging	5-154
5.19.3	Olympus Centre Strengthens R&D In Lab Equipment	5-156
5.20	Omicron	5-157
5.20.1	Omicron High-Performance STM Operation	5-157
5.20.2	Omicron Customized Solution	5-159
5.21	Orsay Physics S.A.	5-159
5.22	Phase Focus	5-162
5.22.1	Phase Focus 'Lenless' Optical Microscope	5-162
5.22.2	Phase Focus / Fusion IP £250k Funding	5-163
5.23	Raith	5-163
5.23.1	Raith Secure Customers Investments	5-164
5.24	Seiko Instruments Inc. (SII)	5-164
5.24.1	Seiko Holdings	5-165
5.24.2	Seiko Watch Corporation	5-165
5.24.3	Seiko Clock	5-165
5.24.4	Seiko Precision	5-166
5.24.5	Seiko Instruments (SII)	5-166
5.24.6	Seiko Epson	5-166
5.25	Thermo Fisher Scientific	5-166
5.26	Veeco	5-167
5.26.1	Veeco Third Quarter and Nine Month 2008 Revenue	5-168
5.27	Westover Scientific	5-176
5.28	Selected Microscopy Vendors	5-177
5.28.1	Atomic Force Microscope Manufacturers	5-179
5.28.2	Grandeye	5-181
5.28.3	BioTek	5-181
5.28.4	Avo Photonics	5-181

List of Tables and Figures

MICROSCOPE EXECUTIVE SUMMARY

Table ES-1	ES-3
Microscope Market Driving Forces	
Table ES-1 (Continued)	ES-4
Microscope Market Driving Forces	
Table ES-2	ES-5
Technology Impact on Microscope Market Driving Forces	
Table ES-3	ES-7
Worldwide Microscope	
Shipments Market Shares, Dollars, 2008	
Figure ES-4	ES-10
Worldwide Optical and Electron Microscope Market	
Forecasts, Dollars, 2009-2015	
Figure ES-5	ES-13
FEI From Wafer to Atomic Resolution	

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009

\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

Figure ES-6
FEI Industry Transition in Imaging

ES-14

MICROSCOPE MARKET DESCRIPTION AND MARKET DYNAMICS

Figure 1-1	1-11
Platinum Electrode Measuring One Hundredth Of A Nanometer Deposited On Pyramid Shaped AFM Tip Via Focused Ion Beam (Fib) Deposition	
Table 1-2	1-12
Emerging Topics In Microscopy And Microanalysis	
Table 1-3	1-20
Commercial Microscope Modules	
Table 1-4	1-22
Microscope Market Segments	
Table 1-5	1-28
Stereo Microscope Features	
Table 1-5 (Continued)	1-29
Stereo Microscope Features	

MICROSCOPE MARKET SHARES AND MARKET FORECASTS

Table 2-1	2-3
Microscope Market Driving Forces	
Table 2-1 (Continued)	2-4
Microscope Market Driving Forces	
Table 2-2	2-5
Technology Impact on Microscope Market Driving Forces	
Table 2-3	2-7
Worldwide Microscope Shipments Market Shares, Dollars, 2008	
Table 2-4	2-8
Worldwide Microscope Shipments Market Shares, Dollars, 2008	
Figure 2-5	2-11
Worldwide Optical and Electron Microscope Market Forecasts, Dollars, 2009-2015	
Table 2-6	2-12
Worldwide Total Optical and Electron Microscope Market Forecasts, Dollars, 2009-2015	
Figure 2-7	2-13
Worldwide Optical and Electron Microscope Market Segments, 2008	
Figure 2-8	2-14
Worldwide Optical and Electron Microscope Market Segments, 2015	
Table 2-9	2-15
Worldwide Optical and Electron Microscope	

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009

\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

Market Segments, Dollars, 2009-2015 Figure 2-10	2-17
FEI Magellan Nanoscale Characterization Down To The Level of Atoms Figure 2-11	2-19
Improvements in Visualization from SEM to TEM Figure 2-12	2-20
FEI Titan Nanoscale Visualization Down To The Level Of Atoms Table 2-13	2-21
Comparison of AFM, TEM, SEM, and Optical Microscopy Techniques Table 2-14	2-23
Worldwide TEM and SEM Electron Microscope Shipments Market Shares, Dollars, 2008 Table 2-15	2-24
Worldwide TEM and SEM Electron Microscope Shipments Market Shares, Dollars, 2008 Table 2-16	2-25
Worldwide Electron Microscope Market Forecasts, Dollars, 2009-2015 Table 2-17	2-26
Worldwide Electron Microscope Market Forecasts, Dollars, 2009-2015 Figure 2-18	2-27
Worldwide TEM and SEM Electron Microscope Shipments, Research, Bio-Med and Life Sciences, Clinical and Surgical, Industrial, Mining and Materials, Electronics and Semiconductor, and Ion Beam Market Forecasts, Units and Dollars, 2009-2015 Figure 2-19	2-29
Worldwide Research TEM and SEM Electron Microscope Shipments Market Shares, Dollars, 2008 Table 2-20	2-30
Worldwide Research TEM and SEM Electron Microscope Shipments Market Shares, Dollars, 2008 Table 2-21	2-34
JEOL Electron Microscope Products Table 2-22	2-35
JEOL Analytical Instrument Products Figure 2-23	2-36
Carl Zeiss ORION™ Helium Ion Microscope Figure 2-24	2-38
Worldwide Research TEM and SEM Electron Microscope Market Forecasts, Dollars, 2009-2015 Figure 2-25	2-40
Nanotechnology Funding of National Programs Table 2-26	2-42
FEI Electron Microscope Research Positioning Table 2-27	2-44
Worldwide Research TEM and SEM Electron Microscope Shipments Market Forecasts, Units and Dollars, 2009-2015	

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009**\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING**

Table 2-28	2-45
Electron Microscope TEM and SEM Research Segment Growth Drivers	
Table 2-29	2-48
Worldwide Bio-Med and Life Science Shipments TEM and SEM Electron Microscope Market Shares, Dollars, 2008	
Table 2-30	2-49
Worldwide Bio-Med and Life Science Shipments TEM and SEM Electron Microscope Market Shares, Dollars, 2008	
Figure 2-31	2-50
Worldwide Bio-Med and Life Science TEM and SEM Electron Microscope Market Forecasts, Dollars, 2009-2015	
Figure 2-32	2-51
Worldwide Bio-Med and Life Science TEM and SEM Electron Microscope Market Forecasts, Dollars, 2009-2015	
Table 2-33	2-52
TEM and SEM Life Sciences Market Growth Factors	
Table 2-33 (Continued)	2-53
TEM and SEM Life Sciences Market Growth Factors	
Figure 2-34	2-54
Life Sciences Market Growth	
Table 2-35	2-55
FEI Solutions For Structural Biology	
Table 2-36	2-56
University and Government Lab Life Science Applications	
Figure 2-37	2-59
Nanoparticles for Drug Delivery	
Table 2-38	2-60
Nanotechnology Life Sciences Market Growth Factors	
Table 2-39	2-61
Worldwide Electronics and Semiconductor TEM and SEM Electron Microscope Shipments Market Shares, Dollars, 2008	
Table 2-40	2-62
Worldwide Electronics and Semiconductor TEM and SEM Electron Microscope Shipments Market Shares, Dollars, 2008	
Figure 2-41	2-63
Worldwide Electronics TEM and SEM Electron Microscope Market Forecasts, Dollars, 2009-2015	
Table 2-42	2-64
Worldwide Electronics and Semiconductor TEM and SEM Electron Microscope Shipments Market Forecasts, Units and Dollars, 2009-2015	
Table 2-43	2-65
Electron Microscope Semiconductor Equipment Products	
Table 2-44	2-66
Electron Microscope TEM and SEM Electronics Market Growth Drivers	
Table 2-45	2-67
Electron Microscope TEM and SEM Electronics Market Tactics:	
Table 2-46	2-68
Worldwide Industrial Mining and Materials TEM and SEM	

Electron Microscope Shipments Market Shares, Dollars, 2008 Table 2-47	2-69
Worldwide Industrial Mining and Materials TEM and SEM Electron Microscope Shipments Market Shares, Dollars, 2008 Table 2-48	2-70
Worldwide Industrial, Mining and Materials TEM and SEM Electron Microscope Shipments Market Forecasts, Units and Dollars, 2009-2015 Table 2-49	2-71
Worldwide Industrial, Mining and Materials TEM and SEM Electron Microscope Shipments Market Forecasts, Units and Dollars, 2009-2015 Table 2-50	2-72
Thin Film Coating System Products Table 2-51	2-73
Worldwide Optical Microscopes Market Shares, Dollars, 2008 Table 2-52	2-74
Worldwide Optical Microscope Shipments Market Shares, Dollars, 2008 Figure 2-53	2-81
Worldwide Optical Microscope Market Forecasts, Dollars, 2009-2015 Figure 2-54	2-82
Worldwide Optical Microscope Market Forecasts, Dollars, 2009-2015 Figure 2-55	2-82
Worldwide Optical Microscope Shipments, Research, Bio-Med and Life Sciences, Clinical and Surgical, Industrial and Semiconductor, Market Forecasts, Units and Dollars, 2009-2015 Figure 2-56	2-84
Worldwide Optical Research Microscope Shipments, Market Shares, Dollars, 2008 Figure 2-57	2-85
Worldwide Optical Research Microscope Shipments, Market Shares, Dollars, 2008 Figure 2-57	2-87
Worldwide Optical Research Microscope Market Forecasts, Dollars, 2009-2015 Figure 2-58	2-88
Worldwide Bio-Med and Life Science Optical Microscope Shipments, Market Shares, Dollars, 2008 Figure 2-59	2-89
Worldwide Bio-Med and Life Science Optical Microscope Shipments, Market Shares, Dollars, 2008 Figure 2-60	2-91
Worldwide Bio-Med And Life Science Optical Microscope Forecasts, Dollars, 2009-2015 Figure 2-61	2-92
Worldwide Optical Clinical and Surgical Microscope Shipments Market Shares, Dollars, 2008 Table 2-62	2-93

Worldwide Optical Clinical and Surgical Microscope Shipments Market Shares, Dollars, 2008 Figure 2-61	2-94
Worldwide Optical Clinical and Surgical Microscope Shipments Market Forecasts, Dollars, 2009-2015 Figure 2-62	2-95
Worldwide Optical Industrial and Semiconductor Microscope Shipments Market Shares, Dollars, 2008 Figure 2-63	2-96
Worldwide Optical Industrial and Semiconductor Microscope Shipments Market Shares, Dollars, 2008 Figure 2-64	2-98
Worldwide Optical Industrial and Semiconductor Microscope Market Forecasts, Dollars, 2009-2015 Table 2-65	2-101
Customized Focused Ion And Electron Beam Column Microscope Market Competitive Factors Figure 2-66	2-102
Worldwide Customized Focused Ion and Electron Beam Columns Microscope Shipments Market Shares, Dollars, 2008 Table 2-67	2-103
Worldwide Customized Focused Ion and Electron Beam Columns Microscope Shipments Market Shares, Dollars, 2008 Figure 2-68	2-104
Worldwide Focused Ion Beam and Electron Beam Columns Electron Microscope Market Forecasts, Dollars, 2009-2015 Figure 2-69	2-105
Worldwide Focused Ion Beam and Electron Beam Columns SEM and TEM Electron Microscope Market Forecasts, Dollars, 2009-2015 Table 2-70	2-108
Regional Microscope Shipment Analysis Market Shares, Dollars, 2008 Table 2-71	2-109
Regional Microscope Shipment Analysis Market Shares, Dollars, 2008 Figure 5-72	2-112
FEI Growth and Regional Diversity Table 2-73	2-113
FEI Nanotechnology Research Center Penetration	

MICROSCOPE PRODUCT DESCRIPTION

Figure 3-1	3-2
Olympus SZX16 Advanced Research Microscope	
Table 3-2	3-3
Olympus SZX16 Research Microscope Benefits	
Table 3-2 (Continued)	3-4
Olympus SZX16 Research Microscope Benefits	
Table 3-3	3-5
Olympus SDF Objective Lenses Features	
Figure 3-4	3-12
Olympus Multiphoton Microscope	
Table 3-5	3-13
Olympus FV1000MPE TWIN Features	
Table 3-6	3-15
Olympus Confocal Microscope Benefits	
Table 3-7	3-16
Olympus Confocal Microscope Evolved Laser Light Stimulation	
Table 3-8	3-17
Olympus Confocal Microscope Evolved Basic Performance	
Table 3-9	3-18
Olympus Confocal Microscope Quantification	
Table 3-10	3-19
Olympus Confocal Microscope High Sensitivity	
Figure 3-11	3-20
Olympus Confocal Microscope	
Table 3-12	3-25
Olympus Industrial Micro-Imaging Segments	
Figure 3-13	3-30
Olympus Semiconductor Imaging Solutions	
Table 3-14	3-34
Olympus Virtual Microscopy Applications	
Table 3-15	3-36
Nikon CFI60 Features	
Figure 3-16	3-38
Nikon CFI60	
Figure 3-17	3-39
Nikon COOLSCOPE2 Main Screen And Controller	
Table 3-18	3-40
Nikon Low Magnification Features	
Table 3-19	3-41
Nikon Low Magnification Microscope Features	
Table 3-19 (Continued)	3-42
Nikon Low Magnification Microscope Features	
Figure 3-20	3-43
Nikon ECLIPSE E200POL	
Figure 3-21	3-47
Nikon Inverted Microscopes For Research ECLIPSE Ti-E	
Table 3-22	3-49
ECLIPSE L300D Episcopic Illumination Type	

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009**\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING**

Figure 3-23	3-50
Nikon ECLIPSE L300D Episcopic Illumination Type	
Table 3-24	3-51
Selected Nikon Industrial Microscopes and Accessories and Other	
Table 3-25	3-54
Nikon Stereoscopic Zoom Microscope SMZ1500 Features	
Figure 3-26	3-55
SMZ1500 With Epi-Fluorescence Attachment	
Table 3-27	3-56
Stereoscopic Zoom Microscope Products	
Table 3-28	3-57
Nikon Wafer Edge Bevel Inspection System	
WES-3000 Major Features	
Figure 3-29	3-59
Nikon Wafer Edge Bevel Inspection System WES-3000	
Table 3-30	3-60
Nikon Wafer Edge Bevel Inspection System	
Applications and Functions	
Table 3-31	3-61
Nikon Wafer Edge Bevel Inspection System Products	
Table 3-32	3-62
Nikon Inspection Equipment	
Figure 3-33	3-64
Zeiss Axio	
Figure 3-34	3-65
Zeiss Stereo Microscope	
Figure 3-35	3-66
Zeiss SteREO Lumar	
Table 3-36	3-67
Zeiss SteREO Discovery.V20	
Table 3-37	3-69
Zeiss SteREO Discovery.V20 Features	
Table 3-38	3-72
Zeiss SteREO Discovery.V20 Microscopic Sharper	
Images Benefits	
Table 3-39	3-73
Zeiss SteREO Discovery Stereomicroscope	
Final Assembly Process	
Figure 3-40	3-76
Zeiss Final Assembly Of The Stereomicroscope	
Figure 3-41	3-77
Zeiss Benefits of Sharper Image From Computer Based Alignment	
Figure 3-42	3-82
Carl Zeiss SteREO Discovery.V20 Image Quality	
Table 3-43	3-84
Carl Zeiss Stereomicroscopy Benefits	
Table 3-44	3-85
Carl Zeiss SteREO Discovery.V12 Stereomicroscopy Applications	
Figure 3-45	3-87
Axio Observer	
Table 3-46	3-88
Zeiss Live Cell Imaging under Physiological Conditions	

Table 3-47	3-89
Zeiss Imaging	
Figure 3-48	3-90
Zeiss Confocal Microscopes Support Fluorescence Correlation Spectroscopy To Visualize Dynamics At The Molecular Level	
Figure 3-49	3-91
Carl Zeiss Axio CSM 700	
Figure 3-50	3-94
Carl Zeiss LSM 700 Confocal Laser Scanning Microscope 3D Topography & Fluorescence Measurements	
Figure 3-51	3-95
Zeiss High-End Confocal Microscope	
Figure 3-52	3-96
Carl Zeiss LSM 5 Macros	
Figure 3-53	3-97
Carl Zeiss AxioVision Physiology Microscope System	
Figure 3-54	3-98
Carl Zeiss ORION™ Helium Ion Microscope	
Table 3-55	3-100
Leica Microscope Product Positioning	
Figure 3-56	3-112
Leica M80 stereomicroscope	
Table 3-57	3-113
Leica M400 E Surgical Microscope Key Features	
Figure 3-58	3-116
Leica M125 Trinocular Zoom Stereomicroscope with Ergonomic Tilting	
Figure 3-59	3-117
Leica Transmitted Light Darkfield Example	
Table 3-60	3-118
Leica Microsystems GmbH Wetzlar, Germany	
Table 3-61	3-119
Leica Optical Microscope Product Set	
Figure 3-62	3-122
Leica M205 A Stereomicroscope	
Table 3-63	3-123
Leica M205 A Key Features	
Table 3-64	3-127
American Optical Cycloptic Stereomicroscope	
Figure 3-65	3-128
American Optical Cycloptic Microscope	
Table 3-66	3-132
Meiji's EMZ Stereomicroscope Models	
Figure 3-67	3-133
Meiji Microscopes	
Table 3-68	3-134
Meiji EMZ13TR Trinocular Zoom Stereo	
Table 3-69	3-135
FEI's Phenom™ Desktop SEM Key Specifications	
Figure 3-70	3-136
FEI Scanning Microscope	

Table 3-71	3-137
FEI Phenom Desktop SEM Modules	
Figure 3-72	3-142
FEI Broad Product Positioning	
Figure 3-73	3-143
FEI Throughput Solution	
Figure 3-74	3-144
Microscope Industry Transition in Imaging	
Figure 3-75	3-145
FEI SEM Magellan Extreme High Resolution	
Figure 3-76	3-146
FEI Magellan SEM Semi Process Development Application	
Figure 3-77	3-147
FEI Magellan Nanoscale Characterization Down To The Level Of Atoms	
Figure 3-78	3-148
FEI Titan Nanoscale Visualization Down To The Level Of Atoms	
Figure 3-79	3-149
FEI TEM Titan For Biology	
Figure 3-80	3-150
FEI Solutions for Cellular Biology: 3D Tomography Software	
Figure 3-81	3-151
FEI Emerging Solutions for Biology	
Figure 3-82	3-152
FEI Solutions for Nanoparticles	
Table 3-83	3-153
Hitachi Electron Microscopes	
Figure 3-84	3-155
Hitachi H-9500 300kV TEM	
Table 3-85	3-156
Hitachi S-5500 In-lens FE-SEM Features	
Table 3-86	3-157
Hitachi S-5500 In-lens FE-SEM Product Number:S-5500 Features	
Figure 3-87	3-158
Hitachi S-5500 In-lens FE-SEM	
Figure 3-88	3-159
Hitachi TEM	
Table 3-89	3-161
Hitachi FIB + SEM TM-1000 Tabletop Microscope Benefits	
Table 3-90	3-162
Hitachi TEM System Specifications	
Figure 3-91	3-165
Jeol Scanning Electron Microscope	
Table 3-92	3-166
Jeol JXA-8500FThe Electron Microscope Benefits	
Table 3-93	3-167
Jeol Electron Microscope Semiconductor Products	
Figure 3-94	3-170
Alicona Imaging InfiniteFocus Robot	
Table 3-95	3-173
Anderson Materials XPS Surface Analysis Technique	
Table 3-96	3-175

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009**\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING**

Anderson Materials ESCA Samples and Materials	
Figure 3-97	3-183
Westover Scientific Telecommunications Fiber Optic Network Probe Microscope	1
Figure 3-98	3-184
Westover Scientific FiberChek2 Probe	
Figure 3-99	3-186
Westover Scientific Fiber Probes	
Table 3-100	3-187
AIST-NT Co Products	
Figure 3-101	3-189
AIST-NT Images	
Figure 3-102	3-190
AIST-NT Piezo Response Imaging	
Figure 3-103	3-191
AIST-NT Topography image of PZT	
Figure 3-104	3-192
AIST-NT Images Piezo response image (normal force). Left - amplitude. Right - phase.	
Figure 3-105	3-193
AIST-NT Polymer Images	
Figure 3-106	3-194
AIST-NT Images	
Figure 3-107	3-195
AIST-NT Images Nanolithography	
Figure 3-108	3-196
AIST-NT Images Diamond Materials	
Figure 3-109	3-197
AIST-NT Materials Images Kelvin Probe Microscopy image	
Figure 3-110	3-198
Angstrom Advanced Atomic Force Microscope and Scanning Probe Microscope	
Figure 3-111	3-200
Angstrom Advanced Ellipsometer	
Table 3-112	3-201
Agilent Atomic Force Microscopes industry segments	
Table 3-113	3-202
Agilent Atomic Force Microscopes Applications	
Figure 3-114	3-205
Veeco AFMs for Research	
Figure 3-115	3-206
Veeco AFMs	
Figure 3-116	3-208
Asylum's MFP-3D AFM	
Table 3-117	3-209
Asylum Cypher AFM Features	
Figure 3-118	3-211
Asylum Research Closed loop STM Showing Graphite Atoms, 6nm Scan	
Figure 3-119	3-212
Asylum Research Automated Laser Alignment	
Figure 3-120	3-214

Asylum Research Loop Image Of Domains Of Surfactant Hemi-Micelles Surrounding A Defect On Graphite, 200nm Scan Figure 3-121	3-215
Asylum Research. Closed Loop Image Of Extracellular Face Of Bacteriorhodopsin In Buffer Table 3-122	3-216
Asylum Research Modules Table 3-123	3-223
Asylum Types of Microscopy Table 3-124	3-224
Asylum Cypher AFM Table 3-125	3-226
Asylum Specifications Table 3-126	3-227
Asylum Scanner Modules Table 3-127	3-229
Asylum Standard View Module Specifications Table 3-128	3-234
Asylum Research Atomic Force Microscope Technical Innovation Figure 3-129	3-235
Asylum Research Atomic Force Microscope Figure 3-130	3-236
Asylum Research Atomic Force Microscope MFP-3D Head Figure 3-131	3-237
Asylum Research Atomic Force Microscope Nano-Positioning System Figure 3-132	3-238
Asylum Research Atomic Force Microscope MFP-3D XY Scanner Figure 3-133	3-239
Asylum Research Atomic Force Microscope MFP-3D XY Figure 3-134	3-240
Asylum Image Of A Hard Disk, 20µm scan Science Applications Figure 3-135	3-241
Lithography Nanografting of thiols on a Au(111) surface. 1.5µm Scan Table 3-136	3-242
JPK Instruments Solutions Table 3-137	3-244
JPK Instruments Applications Table 3-138	3-245
JPK Instruments Major AFM Modes Figure 2-139	3-247
Nanosurf easyScan 2Product Lines Figure 3-140	3-247
Nanosurf Mobile S Provides Portable, All-in-One AFM System Figure 3-141	3-248
Nanosurf Nanite Table 3-142	3-249
Nanosurf Nanite Features	

Figure 3-143	3-249
Bruker AXS	
Figure 3-144	3-251
Nanonics Confocal Microscope	
Table 3-145	3-251
Nanonics Confocal Microscope Features	
Table 3-146	3-252
Nanonics Dual (upright/inverted) Microscope	
Table 3-147	3-254
Nanonics Dual Microscope	
Figure 3-148	3-255
Nanonics Dual Microscope Combined Upright and Inverted Systems	
Figure 3-149	3-256
Nanonics Dual Microscope Combined Upright and Inverted Systems	
Figure 3-150	3-258
Nanonics Systems Combining AFM and Raman	
Figure 3-151	3-259
Nanonics AFM without Optical Obstruction	
Figure 3-152	3-261
Nanonics Parallel Imaging of a Silicon Semiconductor	
Table 3-153	3-265
Nanonics Difference Between Raman Mapping With And Without Z-Control Vibration Mode of Diamond at 1334cm-1	
Figure 3-154	3-268
Raman Shift as a Function of Local Stress Location	
Figure 3-155	3-273
Omicron Multiprobe MXPS System For Thin Film Studies	
Figure 3-156	3-275
Omicron Multiscan LAB Combined With a Multiprobe MXPS System	
Figure 3-157	3-277
Omicron Customized Solution for 2.5 – 350 K STM Operation in 3D Magnetic Fields	
Figure 3-158	3-278
Omicron Customized Microscope	
Table 3-159	3-279
Veeco BioScope II Atomic Force Microscope Product Description	
Table 3-160	3-281
Veeco BioScope SZ Atomic Force Microscope Product Features:	
Table 3-161	3-282
Veeco Caliber Atomic Force Microscope Product Features:	
Table 3-162	3-283
Veeco Dimension 3100 Scanning Probe Microscope Product Features:	
Table 3-163	3-284
Veeco Dimension 5000 Scanning Probe Microscope Product Features:	
Table 3-164	3-285
Veeco Dimension V Scanning Probe Microscope Product Features:	
Table 3-165	3-286
Veeco Electrochemical SPM Product Features:	
Table 3-166	3-288
Veeco EnviroScope Atomic Force Microscope	

WINTERGREEN RESEARCH, INC.

Product Features & Benefits:	
Table 3-167	3-289
Veeco Innova Scanning Probe Microscope Product Features:	
Table 3-168	3-290
Veeco MultiMode V Scanning Probe Microscope Product Features:	
Table 3-169	3-291
NanoMan VS Scanning Probe Microscope Product Features:	
Table 3-170	3-292
Veeco Scanning Probe Microscope Product Features & Benefits:	
Figure 3-171	3-294
Agilent 5500 AFM (N9410S)	
Figure 3-172	3-295
Agilent 5500 AFM Imaging Modes	
Figure 3-173	3-296
Agilent Photodetector Atomic Visualization	
Figure 3-174	3-297
Agilent Region Where The Tip Approaches The Surface	
Figure 3-175	3-298
Orsay Physics S.A. COBRA-FIB Column	
Table 3-176	3-299
Seiko ULTRA 55 Transmission Electron Microscope Features	
Figure 3-177	3-301
Zeiss NVision 40 FIB-SEM NVision 40 FIB-SEM Cross Beam System	
Table 3-178	3-302
Carl Zeiss NVision 40 FIB-SEM Features	

MICROSCOPE TECHNOLOGY

Table 4-1	4-4
Computerization Of Microscopic Manufacturing Procedure Benefits	

MICROSCOPE COMPANY PROFILES

Table 5-1	5-2
Alicona Microscope Applications Research And Development	
Table 5-2	5-4
Agilent Electronic And Bio-Analytical Measurement Positioning	
Table 5-3	5-6
Agilent Nanotechnology Microscope Instruments	
Table 5-3 (Continued)	5-7
Agilent Nanotechnology Microscope Instruments	
Table 5-4	5-8
Agilent Nanotechnology Microscope Instruments	
Agilent Applications	
Table 5-4 (Continued)	5-9
Agilent Nanotechnology Microscope Instruments	
Agilent Applications	

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009

\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

Table 5-4 (Continued)	5-10
Agilent Nanotechnology Microscope Instruments	
Agilent Applications	
Table 5-5	5-11
Agilent Imaging Modes	
Table 5-6	5-14
Agilent Technologies Atomic Force Microscopes Consumables	
Figure 5-7	5-17
Agilent Revenue by Market Segment Q4 2008	
Figure 5-8	5-18
Agilent Revenue by Market Segment FY 2008	
Figure 5-9	5-19
Agilent Revenue by Geographical Region Q4 2008	
Figure 5-10	5-20
Agilent Revenue by Geographical Region FY 2008	
Table 5-11	5-22
Agilent Networks Communications Measurement Types	
Table 5-12	5-23
Agilent General Purpose Test Products	
Table 5-13	5-24
Agilent Communications Technology Addressed with Test Equipment	
Table 5-14	5-25
Agilent Bio-Analytical Measurement Business Application-Focused Solutions	
Table 5-15	5-26
Agilent Chemical and Segment Analysis Market Focus	
Table 5-16	5-27
Agilent Key Product Categories For The Bio-Analytical Measurements	
Table 5-17	5-42
Markets In Which Carl Zeiss Participates	
Figure 5-18	5-45
Carl Zeiss AxioVision Physiology Microscope System	
Figure 5-19	5-58
Leica Microsystems Latest Products	
Table 5-20	5-61
Life Science Division Products	
Table 5-21	5-63
Danaher Leica Microsystems' Life Science Division Products	
Table 5-22	5-64
Danaher Leica Microsystems' Industry Division Products	
Table 5-23	5-65
Danaher Leica Microsystems' Biosystems Division Products	
Table 5-24	5-65
Danaher Leica Microsystems' Surgical Division Products	
Figure 5-25	5-76
FEI Growth and Regional Diversity	
Table 5-26	5-77
FEI Overall Revenue Levels, Electronics vs. Other Levels	
Table 5-27	5-78
FEI Nanotechnology Research Center Penetration	

Figure 5-28	5-79
FEI Life Sciences Instrument Landscape	
Table 5-29	5-80
FEI Strategic Positioning	
Table 5-30	5-81
FEI Q3 2008 Summary Results	
Table 5-31	5-82
FEI Broad Product Line That Creates And Measures Nanostructures	
Figure 5-32	5-83
FEI Product Track	
Table 5-33	5-84
FEI Titan –World’s Most Powerful Electron Microscope Features	
Table 5-34	5-85
FEI Imago Scientific Instruments Collaboration	
Figure 5-35	5-86
FEI Industry Transition in Imaging	
Figure 5-36	5-87
FEI From Wafer to Atomic Resolution	
Figure 5-37	5-88
FEI Life Sciences Instrument Landscape	
Figure 5-38	5-89
FEI Role in Life Sciences	
Figure 5-39	5-90
FEI Titan Krios and Titan Global Life Sciences Regional Activity	
Figure 5-40	5-92
FEI Segment Analysis	
Table 5-41	5-105
Jeol Electron Optic Products	
Table 5-42	5-106
Jeol Analytical Instruments Products	
Table 5-43	5-107
Jeol Semiconductor Equipment Products	
Table 5-44	5-108
Jeol Thin Film Coating System Products	
Table 5-45	5-109
Jeol Medical Equipment Products	
Table 5-46	5-113
Jeol Priority Fields Of The Basic Plan For Scientific Technologies	
Table 5-47	5-115
Selected Jeol Microscope Products	
Table 5-48	5-123
Motic Products	
Figure 5-49	5-132
Nikon Segment and Regional Revenue Analysis	
Source: Nikon.	
Figure 5-50	5-133
Nikon Imaging Segment Revenue Analysis	
Figure 5-51	5-134
Nikon Imaging, Precision Equipment, and Instruments Segment Revenue Analysis	
Table 5-52	5-135
Nikon Imaging, Precision Equipment, and	

Instruments Segment Revenue Analysis Figure 5-53	5-136
Nikon Regional Segment Revenue Analysis Table 5-54	5-137
Nikon Regional Segment Revenue Analysis Figure 5-55	5-138
Nikon Financial Results by Quarter Table 5-56	5-139
Nikon Financial Results by Quarter Table 5-57	5-140
Nikon Consolidated Financial Results Table 5-58	5-141
Nikon Instrument Product Line Table 5-59	5-143
Nikon Biological Microscopes Table 5-60	5-145
Nikon Industrial Microscopes Table 5-61	5-147
Nikon Stereoscopic Microscope Products Table 5-62	5-148
Nikon Cameras for Microscopy Table 5-63	5-149
Nikon Microscopic Image Recording Equipment Figure 5-64	5-150
Nikon Product Development Strategy Table 5-65	5-152
Nikon Wafer Edge Chips And Damage Microscopes Features Figure 5-66	5-155
Olympus Microscopes Table 5-67	5-160
Orsay Physics S.A. Customers Table 5-67 (Continued)	5-161
Orsay Physics S.A. Customers Table 5-68	5-170
Veeco Instruments Table 5- 69	5-177
Selected Microscopy Vendors Table 5-70	5-180
Selected Atomic Force Microscope Manufacturers	

ABOUT THE COMPANY

WINTERGREEN RESEARCH, RESEARCH STRATEGY IDENTIFIES MARKET TRENDS THROUGH READING MARKET MATERIALS AND INTERVIEWING OPINION LEADERS. BY READING THE ELECTRONIC EQUIVALENT OF 40 FEET OF PAPER, WINTERGREEN RESEARCH SENIOR ANALYSTS CAN LEARN A LOT MORE ABOUT MARKETS. IDENTIFICATION OF MARKET TRENDS IS A HIGH PRIORITY AT WINTERGREEN RESEARCH. AS WITH THE VALUE PROPOSITION FOR COMPETITIVE ANALYSIS COMING FROM GETTING PRIMARY INPUT FROM A RANGE OF INDUSTRY PARTICIPANTS AND OBSERVERS.

WINTERGREEN RESEARCH TEAM WORKS TO GATHER PRIMARY INFORMATION FROM INTERVIEWS, INDUSTRY MATERIALS, AND COMPANY DOCUMENTS TO WRITE MARKET RESEARCH STUDIES FROM AN INDEPENDENT PERSPECTIVE. THE ABILITY, TO THINK ABOUT MARKET TRENDS IS ENHANCED BY DOING IT OVER AND OVER FOR MANY DIFFERENT MARKETS. THAT IS WHAT WINTERGREEN RESEARCH IS ALL ABOUT: READING AND THINKING IS AN ESSENTIAL ASPECT OF COMPETITIVE ANALYSIS. TALKING TO OPINION LEADERS IS AN ESSENTIAL ASPECT OF PRODUCING GOOD, RELIABLE, INDEPENDENT DATA.

WINTERGREEN RESEARCH, FOUNDED IN 1985, PROVIDES STRATEGIC MARKET ASSESSMENTS IN TELECOMMUNICATIONS, COMMUNICATIONS EQUIPMENT, HEALTH CARE, INTERNET AND ADVANCED COMPUTER TECHNOLOGY. INDUSTRY REPORTS FOCUS ON OPPORTUNITIES THAT EXPAND EXISTING MARKETS OR DEVELOP MAJOR NEW MARKETS. THE REPORTS ASSESS NEW PRODUCT AND SERVICE POSITIONING STRATEGIES, NEW AND EVOLVING TECHNOLOGIES, AND TECHNOLOGICAL IMPACT ON PRODUCTS, SERVICES, AND MARKETS. MARKET SHARES ARE PROVIDED. LEADING MARKET PARTICIPANTS ARE PROFILED, AND THEIR MARKETING STRATEGIES, ACQUISITIONS, AND STRATEGIC ALLIANCES ARE DISCUSSED. THE PRINCIPALS OF WINTERGREEN RESEARCH HAVE BEEN INVOLVED IN ANALYSIS AND FORECASTING OF INTERNATIONAL BUSINESS OPPORTUNITIES IN TELECOMMUNICATIONS AND ADVANCED COMPUTER TECHNOLOGY MARKETS FOR OVER 30 YEARS.

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009
\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING

ABOUT THE PRINCIPAL AUTHORS

ELLEN T. CURTISS, TECHNICAL DIRECTOR, CO-FOUNDER OF WINTERGREEN RESEARCH, CONDUCTS STRATEGIC AND MARKET ASSESSMENTS IN TECHNOLOGY-BASED INDUSTRIES. PREVIOUSLY SHE WAS A MEMBER OF THE STAFF OF ARTHUR D. LITTLE, INC., FOR 23 YEARS, MOST RECENTLY AS VICE PRESIDENT OF ARTHUR D. LITTLE DECISION RESOURCES, SPECIALIZING IN STRATEGIC PLANNING AND MARKET DEVELOPMENT SERVICES. SHE IS A GRADUATE OF BOSTON UNIVERSITY AND THE PROGRAM FOR MANAGEMENT DEVELOPMENT AT HARVARD GRADUATE SCHOOL OF BUSINESS ADMINISTRATION. SHE IS THE AUTHOR OF RECENT STUDIES ON WORLDWIDE TELECOMMUNICATIONS MARKETS, THE TOP TEN INTERNET EQUIPMENT COMPANIES, THE TOP TEN CONTRACT MANUFACTURING COMPANIES, AND THE TOP TEN TELECOMMUNICATIONS MARKET ANALYSIS AND FORECASTS.

SUSAN EUSTIS, PRESIDENT, CO-FOUNDER OF WINTERGREEN RESEARCH, HAS DONE RESEARCH IN COMMUNICATIONS AND COMPUTER MARKETS AND APPLICATIONS. SHE HOLDS SEVERAL PATENTS IN MICROCOMPUTING AND PARALLEL PROCESSING. SHE HAS THE ORIGINAL PATENTS IN ELECTRONIC VOTING MACHINES. SHE HAS NEW PATENT APPLICATIONS IN FORMAT VARYING, MULTIPROCESSING, AND ELECTRONIC VOTING. SHE IS THE AUTHOR OF RECENT STUDIES OF THE SERVICES ORIENTED ARCHITECTURE, CONTENT MANAGEMENT, MID SIZE BUSINESS MIDDLEWARE, WORLDWIDE ENERGY MARKETS, SOLAR UTILITY MARKETS, SOLAR TECHNOLOGY MARKETS, THIN FILM BATTERY MARKETS, WEBCAM MARKETS, REGIONAL BELL OPERATING COMPANIES' MARKETING STRATEGIES, INTERNET EQUIPMENT, BIOMETRICS, A STUDY OF INTERNET EQUIPMENT, WORLDWIDE TELECOMMUNICATIONS EQUIPMENT, TOP TEN TELECOMMUNICATIONS, DIGITAL LOOP CARRIER, WEB HOSTING, WEB SERVICES, NANOTECHNOLOGY, AND APPLICATION INTEGRATION MARKETS. MS. EUSTIS IS A GRADUATE OF BARNARD COLLEGE.

WINTERGREEN RESEARCH, INC.

ORDER FORM

Return To: WinterGreen Research, Inc.
6 Raymond Street
Lexington, MA 02421 USA
Phone: (781) 863-5078 --- Fax: (781) 863-1235 or (781) 860-0897

PLEASE ENTER MY ORDER FOR:

Worldwide Optical, Transmission TEM, and
Scanning SEM Electron Microscope Market
Opportunities, Strategies, and Forecasts
2009-2015

-ALL REPORTS ARE AVAILABLE IN EITHER PRINT OR PDF-

_____ *PDF* _____ *PRINT*

___ ENCLOSED IS MY CHECK FOR \$3,400 FOR SINGLE COPY, \$6,800 FOR WEB SITE POSTING

___ PLEASE BILL MY COMPANY USING P.O. NUMBER _____

___ PLEASE CHARGE MY MASTERCARD/VISA/AMERICAN EXPRESS ___

CARD NUMBER _____ EXP. DATE _____

If charging to a Credit card you may e-mail the order form, but not the card information

Fax or Call with credit card information - Do not send card number as e-mail - You may send the order as e-mail

___ ADDITIONAL COPIES, @ \$375 (EXTRA COPY PRICE IN EFFECT ONLY WITH INITIAL ORDER)

NAME _____ TITLE _____

SIGNATURE _____

COMPANY _____ DIVISION _____

ADDRESS _____

CITY _____ STATE / ZIP _____

TELEPHONE _____

FAX _____

EMAIL _____

PLEASE NOTE: RESIDENTS OF MASSACHUSETTS AND CONNECTICUT MUST INCLUDE APPROPRIATE SALES TAX

SUBSCRIBERS OUTSIDE THE UNITED STATES MUST PROVIDE PREPAYMENT IN U.S. FUNDS

REPORT # SH244451402 723 PAGES 335 TABLES AND FIGURES 2009

\$3,400 SINGLE COPY \$6,800 WEB SITE HOSTING