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**Optical Transceiver Market Opportunities, Strategies,  
and Forecasts, 2005 to 2011**

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**Optical Transceiver**

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*Picture by Susie Eustis*

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**CHECK OUT THESE KEY TOPICS**

*OPTICAL TRANSCEIVER MARKET FORECASTS AND MARKET SHARES*

*OPTICAL TRANSCEIVER MARKET DRIVING FORCES*

**Transmission and Reception Of Optical Signals**

**Integrated Optics**

Industry Environment

Industry Description

*OPTICAL NETWORKING SUCCESS FACTORS*

***COMPANIES THAT PURCHASE OPTICAL COMPONENTS***

***PRODUCTS AS BASIC BUILDING BLOCKS***

***DWDM SYSTEMS***

***TECHNOLOGY FOR TRANSITION***

***OPTICAL TRANSCEIVER PRODUCTS***

***OPTICAL COMPONENT MARKET CONDITIONS***

***OPTICAL MARKET OVERVIEW***

***SUMMARY OPTICAL COMPONENT FORECASTS***

***LIGHTING DARK FIBER***

***OPPORTUNITY ABOUND***

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## **Optical Transceiver Market Opportunities, Market Forecasts, and Market Strategies, 2005-2011**

**Optical investment has been in building core and backbone networks. To harness the power of the optical core and backbone, the metro must be built out. As carriers move into a wider acceptance of optical networks the focus shifts to delivering broadband signals.**

**Traffic volumes are increasing at a rapid pace. Investment dollars are shifting from the core to metro networks. Carriers that are making money keep deploying and investing in new equipment to offer new services.**

**As telecommunications service providers extend their networks into metro and access applications, densities diminish and the need for high volume, less expensive components and systems become critical. The amounts of space available for optical networking systems diminish in metro and access systems.**

**The bottleneck in the deployment of optical networks has been the availability of low cost components that can be manufactured in large scale. Unlike electronic components, optical components are connected with fibers rather than electric pins. It is essential that proper physical connection be made between the fiber connectors and the device. Otherwise, unacceptable optical power losses occur.**

**Products need to be designed for automated fiber alignment and attachment. Optical components have not been designed for integration within a single fiber package. The output of the component vendor is limited making manufacturing costs high.**

**Smaller, faster, more complex and less expensive component solutions are needed. These drive down the cost of optical systems and solve valuable real estate issues, much of the current effort has centered on the cost of large-scale production of commonly used discrete components such as Erbium Doped Fiber Amplifiers (EDFA) and wavelength multiplexers / de-multiplexers.**

**Optical component markets at \$1.5 billion (US) are expected to reach \$2.4 billion by 2009. The world-wide market for integrated active optical products at \$1.1 billion in 2003 will grow to \$1.5 billion in 2009. Integrated active optical components include products such as transceivers and transponders. Markets for passive optical components at \$483 million in 2003 will grow to \$871 million in 2009.**

## Companies Profiled

### Market Leaders

Micrel  
National Semiconductor  
Maxim

### Market Participants

Avnet electronics Marketing  
Microchip

Linera Technology

# Optical Transceiver Strategies and Forecasts, 2005-2011

## REPORT METHODOLOGY

THIS IS THE 248<sup>TH</sup> 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 PARTICIPATION 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. OUR RESEARCH INCLUDES ACCESS TO LARGE PROPRIETARY DATABASES. LITERATURE SEARCH INCLUDES ANALYSIS OF TRADE PUBLICATIONS, GOVERNMENT REPORTS, AND CORPORATE LITERATURE.

**YOU MUST HAVE THIS STUDY**

# Optical Transceiver Market Opportunities, Strategies, and Forecasts, 2005 to 2011

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## ABOUT THE COMPANY

**WINTERGREEN RESEARCH**, HAS A UNIQUE RESEARCH STRATEGY THAT RELATES TO IDENTIFYING MARKET TRENDS THROUGH READING 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, A LOT FASTER THAN CAN BE LEARNED THROUGH EXPENSIVE SURVEYS AND FOCUS GROUPS. THINKING ABOUT MARKET TRENDS IS A HIGH PRIORITY AT WINTERGREEN RESEARCH. AS WITH ALL RESEARCH, THE VALUE PROPOSITION FOR COMPETITIVE ANALYSIS COMES FROM INTELLECTUAL INPUT.

IT IS A LUXURY REALLY, AVAILABLE TO ONLY A VERY FEW PEOPLE, TO BE ABLE TO GATHER INFORMATION, LOTS OF INFORMATION FROM READING MASSIVE AMOUNTS OF CONTENT, AND THEN TRYING TO MAKE SENSE OF THAT CONTENT. 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 THE THIRD ESSENTIAL ASPECT OF PRODUCING GOOD, RELIABLE 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.

**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 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, AND APPLICATION INTEGRATION MARKETS. MS. EUSTIS IS A GRADUATE OF BARNARD COLLEGE.

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