

WINTERGREEN RESEARCH, INC.

**Top Ten Telecommunications and Communications Market  
Opportunities, Strategies, and Forecasts, 2006 to 2012**

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**Top Ten Telecommunications and Communications**

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*Picture by Susie Eustis*

**MOUNTAINS OF OPPORTUNITY**

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

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**CHECK OUT THESE KEY TOPICS**

TOP TEN TELECOMMUNICATIONS EQUIPMENT PROVIDER  
MARKET FORECASTS

TELECOMMUNICATION MARKET INDEX 2000 TO 2004  
Increasing Average Revenue Per User

Wireless Networks

Impact of Competition  
Market Growth Dynamics

MULTIMEDIA MARKETS

WEB SERVICES

MARKET MAKERS

MARKETING GLOBALLY

INTERNET TRAFFIC

IP TELEPHONY SERVICE SOLUTIONS

STRATEGIES TO IMPROVE PERFORMANCE

DEMAND FOR TOTAL SOLUTIONS

CUSTOMER FINANCING ARRANGEMENTS

CONVERGED VOICE AND DATA NETWORKS

***OPPORTUNITY ABOUNDS***

**WinterGreen Research, Inc.**

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## **Top Ten Telecommunications and Communications Market Opportunities, Strategies, and Forecasts, 2006 to 2012**

The top ten telecommunications markets have shifted to become communications markets. This is the result of convergence of voice and data networks to digital transport of voice, video, and data signals on the same network. Transport over existing TDM infrastructure is being replaced with transport over IP infrastructure.

Service providers are actively moving towards IP-based next-generation networks. They need to protect their existing investment while upgrading to Internet protocol systems. The trunk gateway technology coupled with local technical support helps establish a stable NGN test bed, which is the first step toward a migration of traffic to IP based systems.

Network service needs relate to connectivity and bandwidth. Requirements are changing at a rate that is difficult to satisfy within budget constraints using traditional services. Consumer market for broadband leverage combined voice, video, gaming, voice over IP (VoIP), and entertainment signal transport.

Wireless networks are evolving increasing sophistication. WiMAX promises to be adopted by every community as a combined emergency and Internet access technology. There is a 1.8 billion wireless handset user community in 2005 that promises to grow to 3.8 billion users by 2012. Enterprises have a range of private networks. Each of the 11,000 mainframes in the world has a private network to support it.

A primary contributor to the paradigm of connectivity and bandwidth is the fact that the distribution of the work force in many business sectors has evolved to a point where most people work from remote locations much of the time. Redistribution has occurred to locate staff closer to customers, manufacture products closer to suppliers, and streamline the supply chain with just in time inventory control systems. Remote workers are sales people, services people, and general business workers.

50 percent of an enterprise's work force works away from the main office. Networks based on traffic flowing from a branch office to headquarters are no longer sufficient. Communication needs of the business relate to the ability to

**communicate with the remote sites and people working in remote locations including from home.**

**In health care applications the network may be required to support telemedicine and medical imaging from the clinic to the specialists.**

**In the redistribution of the work force, the services industries need to support sales and services consultants working at as many as ten different sites every day.**

**Applications used by enterprise are evolving. Enterprises across all sectors rely on collaborative tools.**

**Electronic messaging and electronic meetings are used to conduct daily business from any location. Applications focus on enterprise resource planning (ERP), customer relationship management (CRM) and supply chain management (SCM). These are critical to the running of the business, and must be accessible and perform equally well from all locations.**

#### **Network Service Solutions**

**Network services solutions match requirements in terms of making the workforce more productive by automating processes and providing access to information in a timelier manner. Network service solutions accommodate changing bandwidth requirements due to growth. The enterprise has a need to support ad-hoc, one-time events.**

**Networks need to implement cost effective point-to-point, hub-and-spoke and any-to-any topologies to match end point profiles of the enterprise.**

**Systems need to be flexible enough to allow evolution from one topology to another as the needs of the enterprise change. Service guarantees are being implemented for applications that are essential to the running of the business. Best effort is not an option. Service level guarantees offered could either be rigid and applied equally across all applications or flexible to provide tight coupling to enterprise application requirements.**

**Real time video and voice applications are sensitive to congestion. Congestion causes lower priority applications to disrupt higher priority or real time applications.**

**Offering service level guarantees is a step forward in satisfying enterprise needs. Metro Ethernet deployments or other best-effort services are being replaced by service level agreements (SLAs).**

**Supporting multiple service levels puts more levers of control in the hands of the service provider-enterprise partnership, enabling a more efficient use of the network while ensuring performance and priority levels appropriate to each application's requirements and business priorities.**

To ensure that the network service continues to satisfy requirements enterprises with a single service level are considering the emerging need for multiple service levels. The network service will evolve to continue increasing the bandwidth of their service as requirements grow. High speed services with a single service level can be achieved,

Worldwide telecommunications and communications equipment market forecasts, shipments in dollars analysis indicate strong growth in very large existing markets. Markets at \$267.2 billion in 2005 are anticipated to reach \$628.2 billion by 2012.

## Companies Profiled

### Market Leaders

Nokia  
Motorola  
Siemens

### Market Participants

Alcatel  
Cisco Systems  
Fujitsu  
Intel  
NEC  
Samsung

Avaya  
Ericsson  
Huawei Technologies  
Lucent Technologies  
Nortel  
UT Starcom

## Top Ten Telecommunications and Communications Strategies and Forecasts, 2006- 2012

### REPORT METHODOLOGY

THIS IS THE *TWO-HUNDRED AND THIRTY-SIXTH* 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****Top Ten Telecommunications and Communications Market Opportunities, Strategies, and Forecasts, 2006 to 2012****Table of Contents**

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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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