

# Executive Forum 2010

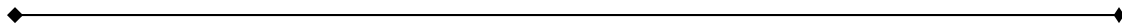
## Technology Innovations and Business Transformations

### Optical Communications in 2010 and Beyond

San Diego Convention Center  
San Diego, California, USA  
March 22, 2010



The 2010 Executive Forum, held in conjunction with OFC/NFOEC, provides industry executives with networking opportunities, and insights and analysis from the field's leading business and financial experts on tomorrow's trends and opportunities.



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## **ACKNOWLEDGMENTS**

***The Optical Society and LIGHTWAVE gratefully acknowledge the support given by our Corporate Sponsor.***

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Picometrix, LLC (NYSE Amex: API) has been a leading supplier of high-speed optical receivers and detectors since 1992, serving the telecommunications, data communications, and T&M markets. Their products are found inside a broad range of optical equipment from transmission systems to test equipment for the laboratory and the manufacturing floor and service provider systems. The company is vertically integrated from material growth through hybrid assembly and high-speed test.

Picometrix is dedicated to serving their customers by providing high performance products in standard and custom configurations. Their PIN, APD and waveguide based products offer industry leading performance and address the entire range of 10Gbps, 40Gbps and 100Gbps optical communication applications for a variety of modulation formats including NRZ, RZ, ODB, DPSK, DQPSK and DP-QPSK.



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- ❖ Daniel Docter, Director, *Intel Capital Optical Investments*
- ❖ Stephen Hardy, Editorial Director/Associate Publisher, *LIGHTWAVE Magazine*
- ❖ Michael Leppy, President and CEO, *OIDA*
- ❖ Shoa-Kai Liu, Advisory Partner, *Rustic Canyon Partners*
- ❖ Gurinder Parhar, Chief Business Officer, *Triple Ring Technologies*
- ❖ Richard Tompane, President and CEO, *Gemfire Corp.*
- ❖ Ken Yasunaga, Managing Partner, *Entrepia Ventures*

***Thank you to the dedicated committee for your time and efforts in developing an outstanding program.***

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*The 2010 Executive Forum is produced by OSA and PennWell.*

**The Optical Society**

Uniting more than 106,000 professionals from 134 countries, The Optical Society (OSA) brings together the global optics community through its programs and initiatives. Since 1916 OSA has worked to advance the common interests of the field, providing educational resources to the scientists, engineers and business leaders who work in the field by promoting the science of light and the advanced technologies made possible by optics and photonics. OSA publications, events, technical groups and programs foster optics knowledge and scientific collaboration among all those with an interest in optics and photonics. For more information, visit [www.osa.org](http://www.osa.org).

**PennWell Corporation**

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## **AGENDA AT-A-GLANCE**

### **Monday, March 22, 2010**

<i>7:00 am – 12:00 pm</i>	Registration
<i>7:30 am – 8:30 am</i>	Breakfast
<i>8:30 am – 8:45 am</i>	Welcome
<i>8:45 am – 9:30 am</i>	Keynote Presentation
<i>9:30 am – 11:00 am</i>	Panel 1: What is the Real Demand for 40- and 100-Gbps Technology?
<i>11:00 am – 11:15 am</i>	Coffee Break
<i>11:15 am – 12:45 pm</i>	Panel 2: Components and Subsystems for 40- and 100-Gbps
<i>12:45 pm – 2:00 pm</i>	Networking Lunch
<i>2:00 pm – 3:15 pm</i>	Panel 3: What Comes Next?
<i>3:15 pm – 3:30 pm</i>	Coffee Break
<i>3:30 pm – 4:30 pm</i>	Panel 4: What are Your Alternatives to Telecom?
<i>4:30 pm – 5:30 pm</i>	Panel 5: The Money Men Speak
<i>5:30 pm – 7:30 pm</i>	Networking Reception

## **KEYNOTE PRESENTATION**

*Monday, March 22, 2010; 8:45 am – 9:30 am*

### **Keynote Presenter**

**Dr. Vinton G. Cerf, Vice President and Chief Internet Evangelist, Google**

Dr. Vinton Cerf will provide a macro view of how the Internet and broadband technology have provided a platform for global innovation. He will address how today's climate and tomorrow's needs will drive future requirements and policies to help ensure the benefits of a broadband society are made available to the greatest number of people in a dynamic environment that continues to foster innovation. In addition, Dr. Cerf will comment on emerging challenges for global connectivity and Internet growth as well as technologies likely to drive the next wave of economic expansion.

Dr. Vinton G. Cerf is vice president and chief Internet evangelist for Google. He served as a senior vice president of MCI from 1994-2005, as vice president of the Corporation for National Research Initiatives from 1986-1994, as vice president of MCI from 1982-1986, and as principal scientist, U.S. Defense Advanced Research Projects Agency, Information Processing Techniques Office from 1976-1982. Dr. Cerf was a member of the Stanford Faculty from 1972-1976.

Widely known as one of the "Fathers of the Internet," Dr. Cerf is the co-designer of the TCP/IP protocols and the architecture of the Internet. He received the U.S. National Medal of Technology in 1997 and the 2004 ACM Alan M. Turing Award. In November 2005, he was awarded the Presidential Medal of Freedom and in April 2008 the Japan Prize.

Dr. Cerf served as chairman of the board of the Internet Corporation for Assigned Names and Numbers (ICANN) from 2000-2007 and was founding president of the Internet Society. He is a Fellow of the IEEE, ACM, American Association for the Advancement of Science, the American Academy of Arts and Sciences, the International Engineering Consortium, the Computer History Museum and the National Academy of Engineering. He is an honorary Freeman of the City of London and a member of the American Philosophical Society.

Dr. Cerf holds a B.S. in mathematics from Stanford University and an M.S. and Ph.D. in computer science from UCLA. He is the recipient of more than a dozen honorary degrees.

### **About Google**

Google's innovative search technologies connect millions of people around the world with information every day. Founded in 1998 by Stanford Ph.D. students Larry Page and Sergey Brin, Google today is a top web property in all major global markets. Google's targeted advertising program provides businesses of all sizes with measurable results, while enhancing the overall web experience for users. Google is headquartered in Silicon Valley with offices throughout the Americas, Europe and Asia.

## **PANEL DISCUSSIONS**

### **Panel 1: What is the Real Demand for 40- and 100-Gbps Technology?**

*Monday, March 22, 2010; 9:30 am – 11:00 am*

**Moderator:** Gurinder Parhar, Chief Business Officer, *Triple Ring Technologies*

#### **Speakers**

- Dana Cooperson, Vice President and Practice Leader, Network Infrastructure, *Ovum, Inc.*
- Bikash Koley, Senior Network Architect, *Google*
- Hans-Juergen Schmidtke, Head of Fixed Network Business, North America, *Nokia Siemens Networks*
- Hiroshi Uchida, Vice President of Engineering, Operation, Carrier Relations, Service Delivery, Procurement and Corporate Security Divisions, *KDDI America, Inc.*
- Mike Vildibill, Director, High Performance Computing, *Sun Microsystems*

#### **Panel Description**

In this first panel, carriers and their system house suppliers will discuss both the expectations and realities of high-speed network deployment. You will hear discussion of the price points, capabilities, and bandwidth requirements that will be necessary before 40- and 100-Gbps expands beyond niche applications. You will also learn whether the advent of 100-Gbps equipment will signal the death of the 40-Gbps market.

## Panel 2: Components and Subsystems for 40- and 100-Gbps

*Monday, March 22, 2010; 11:15 am – 12:45 pm*

**Moderator:** Stephen Hardy, Editorial Director/Associate Publisher, *LIGHTWAVE Magazine*

### **Speakers**

- Gilles Bouchard, President and CEO, *Opnext*
- Philip Gadd, Vice President and General Manager, Fiber Optics Products Division, *Avago Technologies*
- Javed Patel, President and CEO, *Sierra Monolithics, Inc.*
- Jerry S. Rawls, Executive Chairman, *Finisar*
- Terry F. Unter, President and CEO, *Mintera Corporation*

### **Panel Description**

Having just heard from their customers and customers' customers, senior executives from leading optical and electronic component and subsystem vendors respond. Is the market worth pursuing? If so, what will be the level of investment required to meet the most salient technical challenges? Hear strategies and tactics and decide for yourself which companies will be best positioned to successfully address 40- and 100-Gbps requirements.

## Panel 3: What Comes Next?

*Monday, March 22, 2010; 2:00 pm – 3:15 pm*

**Moderator:** Michael Lebbby, President and CEO, *OIDA*

### **Speakers**

- Joseph Berthold, Vice President, Network Architecture, Office of the CTO, *Ciena*
- John D'Ambrosia, Chair, *IEEE P802.3ba 40Gb/s and 100Gb/s Ethernet Task Force*; Senior Scientist, CTO Office, *Force10 Networks*
- Donn Lee, Senior Network Engineer, *Facebook Inc.*
- Glenn Wellbrock, Director Optical Transport Network – Architecture & Design, *Verizon*

### **Panel Description**

What else besides 40 and 100 Gbps will shape the future of optical communications? This panel will offer viewpoints from a range of perspectives, including major end user organizations, technologists, and market observers that could help you shape your company's strategy for 2010 and beyond.



## Panel 4: What Are Your Alternatives to Telecom?

*Monday, March 22, 2010; 3:30 pm – 4:30 pm*

**Moderator:** Richard Tompane, President and CEO, *Gemfire Corp.*

### **Speakers**

- Mark Cannata, Director, Sales and Marketing, Telecommunication Products, *IPG Photonics*
- Hong Q. Hou, Chief Executive Officer, *EMCORE Corporation*
- Kiminori Sato, Deputy General Manger, Global Telecommunication Strategy and Marketing Division, *Fujikura Ltd.*

### **Panel Description**

In a difficult telecom market, the grass can certainly look greener on the other side of the fence. This panel of senior executives describes the challenges and rewards of complementing your optical communications business by addressing other markets. Learn how to evaluate opportunities and your company's ability to take advantage of them.

## Panel 5: The Money Men Speak

*Monday, March 22, 2010; 4:30 pm – 5:30 pm*

**Moderator:** Donald Bossi, General Partner, *Technology Venture Partners*

### **Speakers**

- Paul A. Bonenfant, Communications Components Analyst, Vice President - Equity Research, *Morgan Keegan & Co.*
- Ray Conley, Partner, *Palo Alto Investors*
- Bob Flanagan, Managing Director, Technology Investment Banking, *Oppenheimer & Co. Inc.*
- Natarajan 'Subu' Subrahmanyam, Managing Director, *The Juda Group, a Division of Sanders Morris Harris, Inc.*

### **Panel Description**

If actions speak louder than words, the financial community has been fairly quiet regarding optical communications over the past several years. This panel of financial experts will discuss the prospects for funding, valuations, and liquidity in 2010, where they see consolidation happening, how to fairly determine the value of your company, and more.

## **SPEAKER AND COMPANY PROFILES**

### **Joseph Berthold, Vice President, Network Architecture, Office of the CTO, Ciena**

Joseph Berthold is vice president, Network Architecture at Ciena, where he has worked since 1997. There he contributes to the understanding of future network architecture directions, the definition of Ciena's networking products, and is responsible for coordination of Ciena's work in industry standards. Dr. Berthold is a Fellow of the IEEE and member of the Board of Directors of ATIS (Alliance for Telecommunications Industry Solutions). He chaired the Technical Committee of the Optical Internetworking Forum from 1998–2001, and was its' president from 2002–2007. Prior to Ciena, he held various research and development positions at Bell Labs and Bellcore from 1977–1997. Dr. Berthold received a Ph.D. in Physics from Brown University in 1976, and did postdoctoral research at Cornell University from 1975–1977.

#### **About Ciena**

Ciena offers leading network infrastructure solutions, intelligent software and a comprehensive services practice. The company's portfolio of software-centric optical and Ethernet platforms combines network element programmability, operating system commonality and management unification, and Carrier Ethernet-based transformation to enable their customers to change the way they compete. Ciena's solutions form the foundation of many of the largest, most reliable and sophisticated service provider, enterprise, government, and research and education networks across the globe. For more information, visit [www.ciena.com](http://www.ciena.com).

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### **Paul A. Bonenfant, Communications Components Analyst, Vice President - Equity Research, Morgan Keegan & Co.**

Paul A. Bonenfant joined Morgan Keegan in January 2005 as associate analyst for Communications Equipment, and in February 2008 assumed the role of senior analyst for Communications Components. Prior to his move to Wall Street, Mr. Bonenfant spent over 15 years in the telecommunications industry. He was principal network architect at Mahi Networks, chief architect at (and a founding member of) optical networking start-up Photuris, and a business development manager for mergers and acquisitions in Lucent's Optical Networking Group. Before joining Lucent, he led requirements and standards development for optical transport systems at Bell Communications Research (Bellcore, now Telcordia Technologies). Mr. Bonenfant received both his B.S. in engineering and applied science and his M.S. in electrical engineering from the California Institute of Technology.

#### **About Morgan Keegan & Co.**

Founded in 1969 in Memphis, Tennessee, Morgan Keegan & Company (now a subsidiary of Regions Financial) is a premier regional investment firm offering full-service investment banking, securities brokerage, wealth and asset management. Morgan Keegan serves the diverse financial needs of individual investors, corporate and institutional clients throughout the U.S. and abroad. Morgan Keegan has more than 300 offices in 19 states and more than 4,400 employees.

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**Gilles Bouchard, President and CEO, *Opnext***

Gilles Bouchard brings more than 17 years of experience with HP where he held various senior management roles. In his most recent role as EVP of global operations, Mr. Bouchard was responsible for HP's \$50 billion supply chain and all customer-facing operations. He reported directly to the CEO and was a member of HP's executive council. In previous positions at HP, Mr. Bouchard also served as chief information officer, SVP of operations for the Printing and Imaging Group, and held P&L responsibility for several multi-billion dollar businesses in the Personal Computing Group. He was also in charge of integrating the supply chains of HP and Compaq following their merger, delivering over \$1.3B in annual cost synergies. Prior to joining HP, he held various roles at IBM's research and storage divisions.

**About *Opnext***

*Opnext* (NASDAQ:OPXT) is the optical technology partner of choice supplying systems providers and OEMs worldwide with the industry's largest portfolio of 10G and higher next generation optical products and solutions. The company's industry expertise, future-focused thinking and commitment to research and development combine in bringing to market the most advanced technology to the communications, defense, security and biomedical industries. Formed out of Hitachi, *Opnext* has built on more than 30 years experience in advanced technology to establish its broad portfolio of solutions and solid reputation for excellence in service and delivering value to its customers. For additional information, visit [www.opnext.com](http://www.opnext.com).

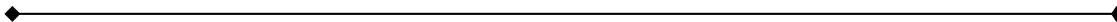


**Mark Cannata, Director, Sales and Marketing, Telecommunication Products, *IPG Photonics***

Mark Cannata is director of sales and marketing for *IPG Photonics*' telecommunications business. Prior to joining *IPG*, Mark worked in sales, marketing, engineering, and operations positions in the predecessor companies that ultimately became *Tellabs*' Access group. Mark graduated from The University of Texas at Austin in 1984 with a B.S. in Electrical Engineering. He earned an MBA from the University of Dallas in 1989.

**About *IPG Photonics***

*IPG Photonics* is the world's leading provider of high power fiber lasers and fiber amplifiers that are revolutionizing performance and utility in a remarkable array of materials processing, telecommunications, medical and other advanced applications.



**Ray Conley, Partner, *Palo Alto Investors***

Ray Conley, CFA, is a partner at *Palo Alto Investors* (PAI). Mr. Conley joined PAI in 2003 and specializes in the technology sector. Previously Mr. Conley served for seven years as an investment professional at Oak Hill Capital Management and was a founding partner of Oak Hill Venture Partners. Prior to Oak Hill, Mr. Conley was a management consultant at McKinsey & Company and a systems engineer at Hughes Aircraft Company. Mr. Conley holds B.S. and M.S. in aerospace engineering from the Massachusetts Institute of Technology.

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### **About Palo Alto Investors**

Palo Alto Investors, LLC (PAI) is a leading private investment firm. They make long-term investments for high-net-worth and institutional investors based on original, deep, fundamental research. PAI doesn't rent stocks, they own them. With approximately \$1.2 billion in assets under management, PAI offers a variety of investment products including diversified micro cap and small cap funds, as well as healthcare, energy and technology sector funds. Significant partner ownership in all of the company's Funds serves to align their financial interests with the financial interests of their clients. PAI's mission is to deliver superior returns to their clients by investing for the long term. At the core of their investment philosophy lies the belief that intensive, original research is required to discover and evaluate inefficiently priced equities. PAI generally focuses their investments in micro cap and small cap U.S. equities, which are not closely followed by Wall Street sell-side research firms. They target overlooked, misunderstood and undervalued segments of the equity markets, such as healthcare, energy and technology that have significant potential for appreciation. PAI's experienced research team has extensive industry experience in the sectors they cover. They utilize a disciplined, bottom-up approach to identify promising investments, and the firm's investment policies ensure liquidity horizons that are sufficient to take advantage of new opportunities. PAI is committed to providing exemplary client service, maintaining the highest level of ethics, operational excellence and professionalism. PAI is independently owned, and has been registered with the SEC since its inception in 1989.

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### **Dana Cooperson, VP and Practice Leader, Network Infrastructure, Ovum, Inc.**

Dana Cooperson is responsible for managing Ovum's networks research advisory and consulting services, which comprise broadband access; switching/routing; optical transport; mobile infrastructure; and carrier/vendor financials. Recent custom research projects have covered mobile network traffic management and optimization; test outsourcing in the mobile ecosystem; software product opportunities in ON; green networking; GPON opportunity analysis; Ethernet services opportunity analysis; and network architecture's impact on power consumption. Ms. Cooperson brought 15 years of telecoms vendor and service provider experience to her 11 years as an industry analyst. Prior to joining RHK/Ovum, she was a marketing manager for Tektronix, where she managed WDM/SONET/SDH test and measurement products. Before Tektronix, Ms. Cooperson managed MX3 and SONET products at Telco Systems. She began her career as a network engineer at NYNEX (now Verizon Communications) in New York City. She was awarded an M.S. in Management from MIT and a B.S. in Engineering from Cornell University.

### **About Ovum, Inc.**

Ovum's primary activity is providing value-added advisory services and consulting to retained and project clients. The company acts as a well-respected and trusted source of industry data, knowledge and expertise on the commercial impact of technology, regulatory and market changes. Ovum engages in continuous research and industry analysis to determine market dynamics in its specialist sectors. Ovum has developed long-standing relationships with many of its corporate clients, which include major international blue-chip companies such as Alcatel-Lucent, AT&T, BT, Cable & Wireless, Cisco Systems, Deutsche Telekom, Fujitsu, HP, IBM, Microsoft, Telstra and Vodafone. Ovum is part of the Datamonitor Group.

**John D’Ambrosia, Chair, IEEE P802.3ba 40Gb/s and 100Gb/s Ethernet Task Force; Senior Scientist, CTO Office, Force10 Networks**

As a senior scientist in the CTO Office at Force10 Networks, John D’Ambrosia focuses on components technology and leads the company's involvement in industry groups. Mr. D’Ambrosia has been an active participant in the development of Ethernet-related technologies since 1999. At the present time, he is the chair of the IEEE P802.3ba Task Force, which is driving the standards development process for 40 Gb/s and 100 Gb/s Ethernet. Mr. D’Ambrosia served as secretary for the IEEE 802.3ap Backplane Ethernet Task Force, and participated in the development of XAUI for 10 Gigabit Ethernet. He is a founder of the Ethernet Alliance and has served as a director and secretary. Mr. D’Ambrosia was the chair of the XAUI Interoperability work group for the 10 Gigabit Ethernet Alliance. For all of his efforts related to Ethernet, Mr. D’Ambrosia was recognized by Network World in 2006, as part of its “50 Most Powerful People in Networking” list. He also acted as secretary for the High Speed Backplane Initiative and chair of the Optical Internetworking Forum's Market Awareness & Education committee. Prior to joining Force10, Mr. D’Ambrosia was with Tyco Electronics for 17 years.

**About Force10 Networks**

Force10 Networks is the global technology leader that data center, service provider and enterprise customers rely on when the network is their business. Force10’s products deliver the scalability, reliability and application awareness to cost-effectively provide content from the enterprise or converged network to the mobile business user or consumer. For more information on Force10 Networks, please visit [www.force10networks.com](http://www.force10networks.com).

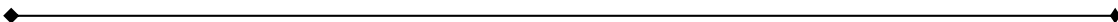


**Bob Flanagan, Managing Director, Technology Investment Banking, Oppenheimer & Co. Inc.**

Bob Flanagan manages the technology hardware banking practice of Oppenheimer & Co. Inc. During the past 17 years, Mr. Flanagan has worked on a variety of merger advisory and capital raising transactions with leading companies in the telecommunications, semiconductor and photonic technology industries. He holds an MBA from the Stanford Graduate School of Business, and a B.A. in Economics from UCLA.

**About Oppenheimer & Co. Inc.**

Oppenheimer & Co. Inc. is a leading investment bank and full-service investment firm that provides financial services and advice to high net worth investors, individuals, businesses and institutions. The firm has been an active advisor to and financier of leading photonics companies in the consumer, communications, energy and industrial markets. Selected clients of the firm include Canadian Solar, Cree, Emcore, Finisar, GSI Lumonics, JDS Uniphase, Oplink, Opnext, JASolar, LDK Solar, Rubicon Technologies, Stratos Lightwave, and Yingli Solar.

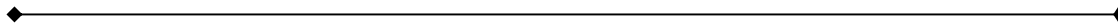


**Philip Gadd, Vice President and General Manager, Fiber Optics Products Division, Avago Technologies**

Philip Gadd has served as Avago Technologies' vice president and general manager of its Fiber Optics Products Division since September 2009. He oversees the overall development, production, marketing and sales of Avago's fiber optic products used in high-speed wired datacom and telecom applications. Prior to his current position, Mr. Gadd was vice president of sales and marketing for Quellan, Inc., a start up with technology in the noise and signal cancellation market which was acquired by Intersil Corporation. Prior to that assignment, he was senior director of marketing for Avago's Wireless Semiconductor Division (WSD) until early 2008. Prior to his role as WSD's director of marketing, Mr. Gadd had a long association with Agilent and HP, performing a number of key engineering, marketing, sales and management positions which included managing tactical marketing for the Fiber Optics division.

**About Avago Technologies**

Avago Technologies (Nasdaq: AVGO) is a leading designer, developer and global supplier of a broad range of analog semiconductor devices with a focus on compound III-V semiconductor-based products. The company differentiates themselves through their high performance design and integration capabilities. Their product portfolio is extensive and includes more than 6,500 products in four primary target markets: wireless communications, wired infrastructure, industrial and automotive electronics, and consumer and computing peripherals. Applications for Avago's products in these target markets include cellular phones, consumer appliances, data networking and telecommunications equipment, enterprise storage and servers, factory automation, displays, optical mice and printers. Avago has a 40-year history of innovation. Over the years, the company has assembled a team of more than 1,000 design and product engineers, and they maintain highly collaborative design and product development resources around the world. Avago's locations include two design centers in the United States, four in Asia and three in Europe.



**Hong Q. Hou, Chief Executive Officer, EMCORE Corporation**

Hong Hou, chief executive officer, joined EMCORE in March 1998 and has served in a variety of leadership roles. He co-started EMCORE's Photovoltaics Division, and subsequently managed the Fiber Optics Division. He was executive vice president of business development and product strategy before becoming vice president and general manager of EMCORE's Ortel Division. From 1995 to 1998 he was a principal member of the Technical Staff at Sandia National Laboratories in Albuquerque, NM. Prior to that, he served with AT&T Bell Laboratories, engaging in research on high-speed optoelectronic devices. He holds a Ph.D. in Electrical Engineering from the University of California at San Diego and a B.S. from Jilin University in China. He has published more than 150 journal articles and holds seven U.S. patents.

**About EMCORE Corporation**

EMCORE Corporation is a leading provider of compound semiconductor-based components and subsystems for the broadband, fiber optic, satellite and terrestrial solar power markets. EMCORE was established in 1984 as a New Jersey corporation. The company has two reporting segments: Fiber Optics and Photovoltaics. EMCORE's Fiber Optics segment offers optical components, subsystems and systems that enable the transmission of video, voice and data over high-capacity fiber optic cables for high-speed data and telecommunications, cable television ("CATV") and fiber-to-the-premises ("FTTP") networks. EMCORE's Photovoltaics segment provides solar products for

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satellite and terrestrial applications. For satellite applications, EMCORE offers high-efficiency compound semiconductor-based gallium arsenide (“GaAs”) solar cells, covered interconnect cells (“CICs”) and fully integrated solar panels. For terrestrial applications, EMCORE offers concentrating photovoltaic (“CPV”) systems for utility scale solar applications as well as offering its high-efficiency GaAs solar cells and CPV components for use in solar power concentrator systems. For specific information about the company, its products or the markets they serve, please visit <http://www.emcore.com>.

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**Bikash Koley, Senior Network Architect, Google**

Bikash Koley is currently senior network architect at Google, where he is focused on network infrastructure scaling, optimization and reliability. Prior to Google, Dr. Koley was the CTO of Qstreams Networks, a company he co-founded. He also spent several years at Ciena Corporation in various technical roles developing DWDM and Ethernet technologies. Dr. Koley received a BTech from IIT, India; and a M.S and Ph.D. from the University of Maryland at College Park, all in Electrical Engineering.

**About Google**

Google's mission is to organize the world's information and make it universally accessible and useful. Google's innovative search technologies connect millions of people around the world with information every day. Founded in 1998 by Stanford Ph.D. students Larry Page and Sergey Brin, Google today is a top web property in all major global markets. Google's targeted advertising program – the largest and fastest growing in the industry – provides businesses of all sizes with measurable results, while enhancing the overall web experience for users. Google is headquartered in Silicon Valley with offices throughout North America, Europe, and Asia. For more information, visit [www.google.com](http://www.google.com).

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**Donn Lee, Senior Network Engineer, Facebook Inc.**

Donn Lee is a senior network engineer at Facebook. His duties include designing networks, evaluating products, optimizing performance, and performing escalation troubleshooting. Previous to Facebook, Mr. Lee worked in Google's Network Architecture group for four years and during tremendous growth of Google's backbone, optical, and datacenter networks. While working as a consulting systems engineer at Cisco Systems (CCIE #3262), he worked on large global networks and wrote his book, *Enhanced IP Services for Cisco Networks*, which is published by Cisco Press. He holds a B.S. in Electrical Engineering from UCLA.

**About Facebook Inc.**

Founded in February 2004, Facebook is a social utility that helps people communicate more efficiently with their friends, family and co-workers. The company develops technologies that facilitate the sharing of information through the social graph, the digital mapping of people's real-world social connections. Anyone can sign up for Facebook and interact with the people they know in a trusted environment. Facebook is a part of millions of people's lives all around the world. Facebook is a privately-held company and is headquartered in Palo Alto, Calif.



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**Javed Patel, President and CEO, *Sierra Monolithics, Inc.***

Javed Patel joined Sierra Monolithics as president and CEO in October 2006. Prior to this he was with Quake Technologies, a 10Gb Ethernet semiconductor company which was acquired by AMCC. During the course of his career, Mr. Patel has spent several years in senior management positions at ANADIGICS, Tropician, and WJ Communications addressing wireless handset and infrastructure markets, as well as the optical communications and CATV markets. He holds BSEE and MSEE degrees from University of Kansas and an MBA from Drexel University.

**About Sierra Monolithics, Inc.**

Sierra Monolithics, Inc. (SMI) designs and develops high speed analog and RF solutions for a variety of end applications--defense, wireline and wireless communications. The company solves the growing problem of dearth of frequency bandwidth along with increasingly complex modulations – they make it simple and highly integrated. SMI addresses infrastructure markets – long product life cycles, higher performance requirements, better margins and less competition. Specifically they design ICs and sub systems for leading edge high performance communications systems utilizing their deep systems knowledge, backed by high speed analog and mixed signal IC design, and the ability to package and test these highly complex and high frequency solutions in a manufacturing environment. For example, they are sole suppliers of SERDES for 40 Gb/sec and 100 Gb/sec NGN driven by increasing video traffic over the internet (IPTV, Youtube, HDTV, VOD, etc.). SMI employs approximately 110 people and was founded in 1998.

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**Jerry S. Rawls, Executive Chairman, *Finisar***

Jerry Rawls was elected Chairman of the Board in 2006. He has also served as president, chief executive officer, and a member of the Board of Directors for Finisar Corporation from 1989 to 2008. From 1968 to 1989, he was employed by Raychem Corporation, a materials science and engineering company. At Raychem he held various management positions including manager of product marketing, national sales manager, general manager of the Aerospace Products Division, and general manager of the Interconnection Systems Division. Mr. Rawls holds a B.S. in Mechanical Engineering from Texas Tech University and an M.S. in Industrial Administration from the Krannert Graduate School of Management at Purdue University. He is a member of Tau Beta Pi and Pi Tau Sigma engineering honorary societies.

**About Finisar**

With over 20 years of experience, Finisar is a global technology leader in optical communications subsystems and components that enable high-speed voice, video and data communications for networking, storage, wireless, and cable TV applications. During this time, not only has Finisar provided critical breakthroughs in optics technologies, but it has supplied system manufacturers with the production volumes needed to meet the exploding demand for network bandwidth and storage. Finisar's industry-leading optical products include transceivers/transponders, ROADMs and passive and active components for enterprise networking and storage, telecom and CATV applications. In 2008, Finisar merged with Optium Corporation, creating the world's largest supplier of optical communication components and subsystems. By combining Finisar's vertically integrated business model ideally suited for delivering massive production volumes with that of Optium's quick-turn mass customization capabilities for lower volume solutions, the company now delivers the industry's broadest product portfolio backed by world-class quality and reliability. With more

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than 5,000 employees, Finisar has sales, channel, and support offices worldwide. Corporate headquarters are located in Sunnyvale, California (USA), with product development and manufacturing facilities located in California, Pennsylvania and Texas (USA), Australia, China, Israel, Malaysia, and Singapore.

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**Kiminori Sato, Deputy General Manger, Global Telecommunication Strategy and Marketing Division, *Fujikura Ltd.***

Kiminori Sato is a deputy general manager of the global telecommunication strategy and marketing division at Fujikura Ltd. since July 2009. He is responsible for making strategy and marketing decisions for all products for the telecommunication market worldwide. Mr. Sato began his career at Nippon Telegraph and Telephone Corporation (NTT) developing optical fiber and related products. He was previously the vice president, global business office, technology innovation department at NTT West Corporation. In most of his 30 year career at NTT, he had been engaged in the R&D of optical fiber and outside plant technologies. He had also been very active in international standardization work and played an important role in both ITU-T and IEC.

**About Fujikura Ltd.**

Fujikura is a leading global supplier of telecommunications, electronics and automobile components and metal cable and systems. Since its founding in 1885, Fujikura has contributed to the betterment of society by providing advanced technologies backed by uncompromising reliability. Fujikura positioned 2005, its 120th anniversary, as a year of rebirth - the beginning of the Third 60 years of Leadership - and declared its intent to start anew.

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**Hans-Juergen Schmidtke, Head of Fixed Network Business, North America, *Nokia Siemens Networks***

Hans-Juergen Schmidtke is Head of the Fixed Network Operator Business in North America for Nokia Siemens Networks located in Mountain View, Calif. He leads an account team, technical sales, product management and logistics team and serves more than 250 customers. Over the past years at Nokia Siemens Networks and before Siemens Communications, Inc., he has held positions in product management and general management in both Germany and the U.S. Dr. Schmidtke has more than 18 years experience in the optical industry. He worked on various aspects of optical physics from advanced research, to product development, to real-world large-scale deployments. He studied physics at the University of Dusseldorf and at the Max-Planck Institute of Quantum Optics, and received his Ph.D. from the University of Wurzburg. Dr. Schmidtke is member of IEEE, OSA and the German Physical Society.

**About Nokia Siemens Networks**

Nokia Siemens Networks is a leading global enabler of telecommunications services. With its focus on innovation and sustainability, the company provides a complete portfolio of mobile, fixed and converged network technology, as well as professional services including consultancy and systems integration, deployment, maintenance and managed services. It is one of the largest telecommunications hardware, software and professional services companies in the world. Operating in 150 countries, its headquarters are in Espoo, Finland. Visit them at: [www.nokiasiemensnetworks.com](http://www.nokiasiemensnetworks.com). Engage in conversation about Nokia Siemens Networks' aim to

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reinvent the connected world at <http://unite.nokiasiemensnetworks.com> and talk about its news at <http://blogs.nokiasiemensnetworks.com>. Find out if your country is exploiting the full potential of connectivity at <http://connectivityscorecard.org>.

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**Natarajan ‘Subu’ Subrahmanyam, Managing Director, *The Juda Group, a Division of Sanders Morris Harris, Inc.***

Natarajan ‘Subu’ Subrahmanyam, CFA, is a managing director and lead research analyst for communications equipment companies at Sanders Morris Harris Group. Mr. Subrahmanyam’s research focuses on leading data and optical networking companies. He was featured on the Wall Street Journal’s Best of the Street Analyst List in 2007, and was named the best up-and-comer in telecom equipment in the 2001 Institutional Investor polls. Mr. Subrahmanyam joined Sanders Morris in January 2003. Prior to joining Sanders Morris, Mr. Subrahmanyam was lead research analyst for data and optical networking companies at Goldman Sachs. He has also worked at Sutro & Co., where he covered the optical networking space and at First Union Securities prior to that. Mr. Subrahmanyam holds an MBA from the Owen School at Vanderbilt University and a B.S. in Electrical and Electronics Engineering from Madras University.

**About The Juda Group, a Division of Sanders Morris Harris, Inc.**

TheJudaGroup, a division of Sanders Morris Harris, Inc., is a full service broker dealer focusing on the institutional market. TheJudaGroup provides investment research on various sectors within technology, including the semiconductor and telecom equipment sectors. Its trading department executes block orders on behalf mutual funds, pension funds and hedge funds. The investment banking group provides advisory services, raises capital and provides other capital market services and likewise focuses on the technology sector. Sanders Morris Harris, Inc., the parent company of TheJudaGroup, is primarily an asset and wealth management company with over \$10.5 Billion assets under management. The wealth management segment provides investment advisory, wealth and investment management, and financial planning services to high net worth and mass affluent individuals and institutions, including investment strategies and alternatives, tax efficient estate and financial planning, trusts, and agent/fiduciary investment management services, throughout their financial life cycle, as well as private client brokerage services. In addition, we provide specialized asset management products and services in specific investment styles to corporations and institutions both through internal marketing efforts and externally through formal sub-advisory relationships and other distribution arrangements with third parties.

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**Hiroshi Uchida, Vice President of Engineering, Operation, Carrier Relations, Service Delivery, Procurement and Corporate Security Divisions, *KDDI America, Inc.***

Hiroshi Uchida is vice president of network engineering and network operation at KDDI America since 2008. He contributes to developing the internet, MPLS IP-VPN, VPLS Ethernet, and DWDM network with a focus on the Americas. He also directed the virtual server infrastructure projects for the internet and intranet system. His work focuses on providing scalable, reliable, flexible and 'operable' networks. Before joining KDDI America, he worked as a principal network engineer responsible for the development of MPLS IP-VPN service in KDDI Corporation in Tokyo. Prior to be involved in MPLS, he was a network system consultant for multinational enterprise customers from 1991-1999.

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**About KDDI America, Inc.**

KDDI America is the U.S. division of the KDDI Group of companies, a leading provider of international telecommunications and collocation facilities around the world. KDDI America provides high-quality network solutions to clients with telecommunication needs throughout Asia-Pacific, where it is particularly strong. KDDI Group is a pioneer and innovator in wireless and wired network including the international submarine cables, satellite systems, MPLS and VPLS world. KDDI is also a leading provider in international data centers and value-added services through its group company, TELEHOUSE, in the United States, Europe and Asia. For more information, visit <http://www.kddia.com/eng/index.html>

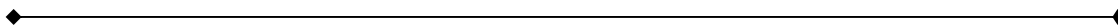


**Terry F. Unter, President and CEO, *Mintera Corporation***

Terry Unter joined Mintera Corporation as president and CEO in early 2004 and since then, has built a world-class team which has made Mintera a market leader delivering high bit-rate optical transport sub-systems. Prior to joining Mintera, Dr. Unter was chief operating officer at Corvis Corporation, where he played a key role in transitioning the company from the R&D stage to a successful supplier of ultra long-haul optical communications systems. Before joining Corvis, Dr. Unter held a number of executive management positions at companies in the communications industry including Alcatel where he was responsible for managing the creation of Alcatel's "Optronics" subsidiary and, as CEO, led a multinational organization headquartered in France. Dr. Unter also worked in Shanghai, People's Republic of China, where he had the lead role in establishing a joint venture between a number of partners including Alcatel Bell and the Chinese Ministry of Electronics; the JV produced complex VLSI components for telecom applications. In the early part of his career, Dr. Unter held various engineering, management and operations positions with Northern Telecom, Alcatel Mietec and Sprague Electric. Dr. Unter holds a BSc (Honors) and a Ph.D. in Electronic Engineering from the University Southampton UK.

**About Mintera Corporation**

Mintera is a high bit-rate optical transport systems solution leader enabling migration to 40 and 100 Gbps in metro-core, regional, long-haul, and ultra long-haul networks. Mintera's flexible multi-service product-set enables service providers to upgrade their existing infrastructure in an evolutionary and seamless fashion. Mintera continues to gain customer traction since demonstrating the world's fastest ultra long-haul optical transport connection in June 2004. The company is working on higher bit-rate solutions with multiple research and development labs at carriers, systems suppliers, component manufacturers, research institutes and universities to further drive down optical transmission costs.



**Mike Vildibill, Director, High Performance Computing, *Sun Microsystems***

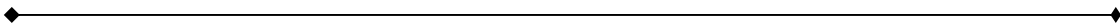
Mike Vildibill is director of HPC strategic engagements and collaborative development programs at Sun Microsystems. In this capacity he has been responsible for raising over \$100M in public sector funding for collaborative R&D, and has led a team that designed and sold four of the world's top 15 most powerful high performance computing (HPC) systems today as reported by <http://www.top500.org>. Optical technologies remain at the core of many of Mr. Vildibill's activities, including the successful adoption of optical devices in Sun's HPC products, and in programs that are conducting ground-breaking advances in silicon photonics. Before coming to Sun in early 2002,

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Mr. Vildibill was director of the High-End Computing and Communications at UCSD's San Diego Supercomputer Center (SDSC). He retains affiliation with UCSD through the SDSC Senior Industrial Fellows program. Mr. Vildibill was SDSC's TeraGrid Site Lead and principal investigator and founding director of the California Next Generation Internet Application Center (CaINGI). He was also UCSD Principal Investigator on several state and federal agency projects including SDSC's Internet2 connection project funded by the NSF's Division of Advanced Networking Infrastructure and Research, and an LTER biological databases project, funded by the NSF's Division of Biological Infrastructure. Mr. Vildibill was a member of the Corporation for Education Network Initiatives in California (CENIC) Board of Directors and a member of the State of California's Next Generation Internet Advisory Council. He also sat on the National University Institute for Community Research & Civic Entrepreneurship advisory board, and is a member of the San Diego State University (SDSU) School of Business Alumni Advisory Council. Mr. Vildibill was named as one of HPCwire's "People to Watch" in 2002.

### **About Sun Microsystems**

Sun Microsystems, Inc. (NASDAQ: JAVA) provides network computing infrastructure solutions that include computer systems, software, storage and services. Its core brands include the Java technology platform, the Solaris operating system, MySQL, StorageTek and the UltraSPARC processor. By investing in research and development, Sun creates products and services that address the complex issues that customers face today, including increasing demands for network access, bandwidth and storage being driven by explosive growth in network participation and sharing. Sun innovates at all levels of the system and partners with market leaders to provide value and choice for its customers. Sun's network computing infrastructure solutions are used in a wide range of industries including technical/scientific, business, engineering, telecommunications, financial services, manufacturing, retail, government, life sciences, media and entertainment, transportation, energy/utilities and healthcare. Guided by a singular vision -- "The Network is the Computer" -- Sun drives network participation through shared innovation, community development and open source leadership. Sun shares technology in order to grow its communities, increase participation and build new markets and maintains partnerships with some of the most innovative technology companies in the world including AMD, Dell, Google, IBM, Intel, Oracle, Microsoft and Red Hat.



### **Glenn Wellbrock, Director Optical Transport Network – Architecture & Design, Verizon**

Glenn Wellbrock is the director of optical transport network architecture and design at Verizon, where he is responsible for the development of new technologies for both the metro and long haul transport infrastructure. Previous positions include running the advanced technology lab, establishing evaluation criteria, and setting engineering guidelines for all backbone transport equipment as well as various positions within network operations. In addition to his 20+ years at Verizon (1984–2001 and 2004–present), Mr. Wellbrock was responsible for Product Architecture within the U.S. focused optical networks group at Marconi and Product Planning at Qplus Networks with a specific focus on developing alternative modulation techniques.

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**About Verizon**

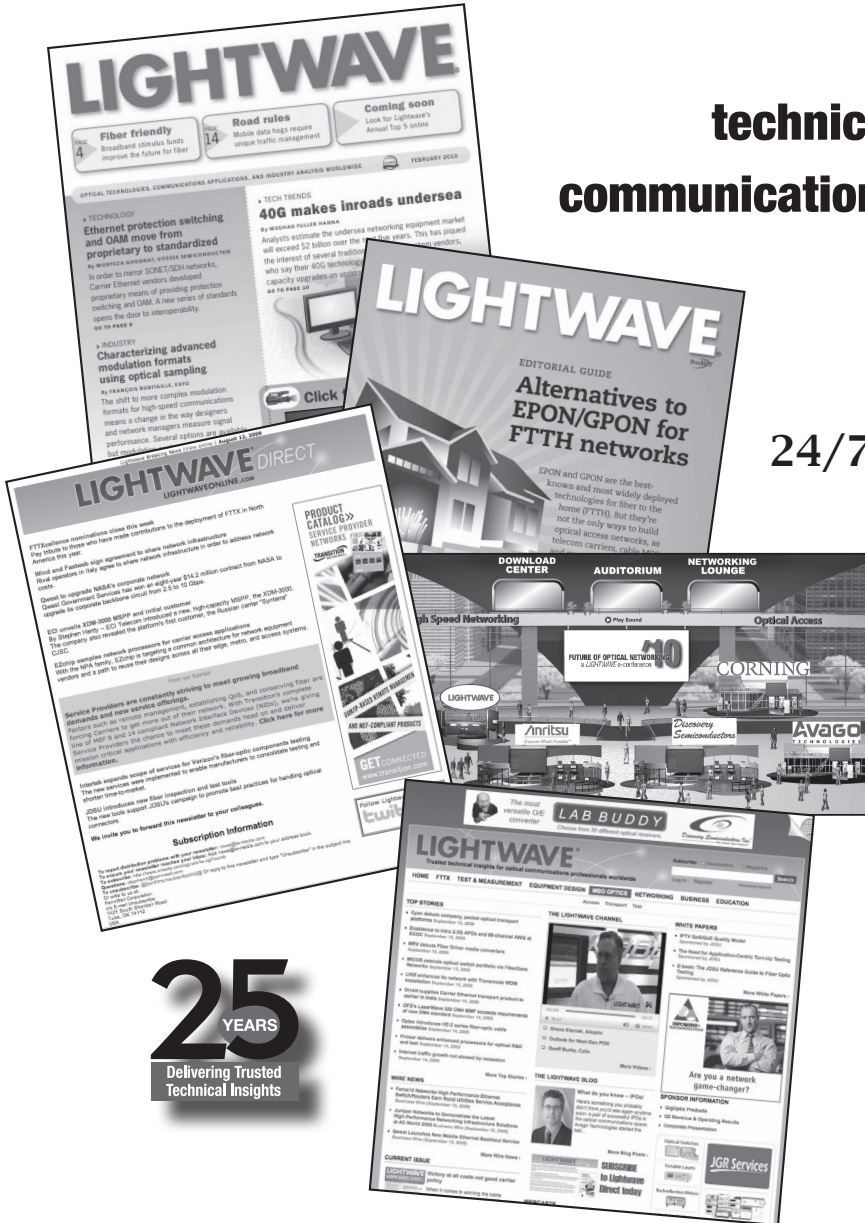
Verizon Communications Inc. (NYSE:VZ), headquartered in New York, is a global leader in delivering broadband and other wireless and wireline communications services to mass market, business, government and wholesale customers. Verizon Wireless operates America's most reliable wireless network, serving more than 87 million customers nationwide. Verizon's Wireline operations provide converged communications, information and entertainment services over the nation's most advanced fiber-optic network. Wireline also includes Verizon Business, which delivers innovative and seamless business solutions to customers around the world. A Dow 30 company, Verizon employs a diverse workforce of more than 235,000 and last year generated consolidated operating revenues of more than \$97 billion. For more information, visit [www.verizon.com](http://www.verizon.com).

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