IPG PHOTONICS CORP
Form 10-K
March 15, 2011

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
Form 10-K

(Mark One)

þ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2010

OR

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission File Number: 001-33155

IPG PHOTONICS CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	**04-3444218**
(State or other jurisdiction of incorporation or organization)	*(IRS Employer Identification No.)*
50 Old Webster Road, Oxford, Massachusetts	**01540**
(Address of principal executive offices)	*(Zip Code)*

Registrant s telephone number, including area code:
(508) 373-1100
Securities registered pursuant to Section 12(b) of the Act:

Title of Class	**Name of Exchange on Which Registered**
Common Stock, Par Value $0.0001 per share	**The NASDAQ Stock Market LLC**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No þ

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes o No þ

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes þ No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes o No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o Accelerated filer þ Non-accelerated filer o Smaller reporting company o
(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes o No þ

As of June 30, 2010, the aggregate market value of the registrant s common stock held by non-affiliates of the registrant was approximately $384 million, calculated based upon the closing price of our common stock of $15.23 per share as reported by the Nasdaq Global Market on June 30, 2010.

As of March 8, 2011, 47,215,469 shares of the registrant s common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant s Proxy Statement for its 2010 Annual Meeting of Stockholders to be filed pursuant to Regulation 14A within 120 days of the end of the registrant s fiscal year ended December 31, 2009 are incorporated by reference into Part III of this Annual Report on Form 10-K.

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This Annual Report on Form 10-K contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, and we intend that such forward-looking statements be subject to the safe harbors created thereby. For this purpose, any statements contained in this Annual Report on Form 10-K except for historical information are forward-looking statements. Without limiting the generality of the foregoing, words such as may, will, expect, believe, anticipate, intend, could, continue or the negative or other variations thereof or comparable terminology are intended to identify forward-looking statements. In addition, any statements that refer to projections of our future financial performance, trends in our businesses, or other characterizations of future events or circumstances are forward-looking statements.

The forward-looking statements included herein are based on current expectations of our management based on available information and involve a number of risks and uncertainties, all of which are difficult or impossible to accurately predict and many of which are beyond our control. As such, our actual results may differ significantly from those expressed in any forward-looking statements. Factors that may cause or contribute to such differences include, but are not limited to, those discussed in more detail in Item 1 (Business) and Item 1A (Risk Factors) of Part I and Item 7 (Management s Discussion and Analysis of Financial Condition and Results of Operations) of Part II of this Annual Report on Form 10-K. Readers should carefully review these risks, as well as the additional risks described in other documents we file from time to time with the Securities and Exchange Commission (the SEC). In light of the significant risks and uncertainties inherent in the forward-looking information included herein, the inclusion of such information should not be regarded as a representation by us or any other person that such results will be achieved, and readers are cautioned not to rely on such forward-looking information. We undertake no obligation to revise the forward-looking statements contained herein to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

PART I

ITEM 1. *BUSINESS*

Our Company

IPG Photonics Corporation (IPG, the Company, the Registrant, we , us or our) was incorporated in Delaware i
We are the leading developer and manufacturer of a broad line of high-performance fiber lasers for diverse applications in numerous markets. Fiber lasers are a new generation of lasers that combine the advantages of semiconductor diodes, such as long life and high efficiency, with the high amplification and precise beam qualities of specialty optical fibers to deliver superior performance, reliability and usability.

Our diverse lines of low, mid and high-power lasers and amplifiers are used in materials processing, advanced, communications and medical applications. We sell our products globally to original equipment manufacturers, or original equipment manufacturers (OEMs), system integrators and end users. We market our products internationally primarily through our direct sales force and also through agreements with independent sales representatives and distributors. We have sales offices in the United States, Germany, Italy, the United Kingdom, France, Japan, China, South Korea, Singapore, India and Russia.

We are vertically integrated. We design and manufacture most key components used in our finished products, including semiconductor diodes, optical fiber preforms and cables, finished fiber lasers and amplifiers. We also manufacture certain complementary products used with our lasers including optical heads, beam splitters and chillers. Our vertically integrated operations allow us to reduce manufacturing costs, ensure access to critical components, rapidly develop and integrate advanced products and protect our proprietary technology.

Industry Background

Conventional Laser Technologies

Since the laser was invented over 50 years ago, laser technology has revolutionized a broad range of applications and products in various industries, including automotive, medical, research, consumer products,

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electronics, semiconductors and communications. Lasers provide flexible, non-contact and high-speed ways to process and treat various materials. They are widely used to transmit large volumes of data in optical communications systems, in various medical applications and in test and measurement systems. For a wide variety of applications, lasers provide superior performance and a more cost-effective solution than non-laser technologies.

Lasers emit an intense light beam that can be focused on a small area, causing metals and other materials to melt, vaporize or change their character. These properties are utilized in applications requiring very high-power densities, such as marking, printing, welding, cutting, drilling, cladding and other materials processing procedures. Lasers are well-suited for imaging and inspection applications, and the ability to confine laser light to narrow wavelengths makes them particularly effective in medical and sensing applications. A laser works by converting electrical energy to optical energy. In a laser, an energy source excites or pumps a lasing medium, which converts the energy from the source into an emission consisting of particles of light, called photons, at a particular wavelength. Lasers are used as an energy or light source for various applications. They are also incorporated into manufacturing, medical and other systems by OEMs, system integrators and end users.

Historically, CO_2 gas lasers and crystal lasers have been the two principal laser types used in materials processing and many other applications. They are named for the materials used to create the lasing action. A CO_2 laser produces light by electrically stimulating a gas-filled tube. A crystal laser uses an arc lamp, pulsed flash lamp, or diode stack or array to optically pump a special crystal. The most common crystal lasers use yttrium aluminum garnet (YAG) crystals infused with neodymium or ytterbium.

Introduction of Fiber Lasers

Fiber lasers use semiconductor diodes as the light source to pump specialty optical fibers, which are infused with rare earth ions. These fibers are called active fibers and are comparable in diameter to a human hair. The laser emission is created within optical fibers and delivered through a flexible optical fiber cable. As a result of their different design and components, fiber lasers are more reliable, efficient, robust and portable, and easier to operate than conventional lasers. In addition, fiber lasers free the end users from fine mechanical adjustments and the high maintenance costs that are typical for conventional lasers.

Although low-power fiber lasers have existed for approximately four decades, their increased recent adoption has been driven primarily by our improvements in their performance, increases in output power levels and decreased costs including technological improvements in optical components such as active fibers that have increased their power capacities and improved their performance. Fiber lasers now offer output powers that exceed those of conventional lasers in many categories. Also, semiconductor diodes historically have represented the majority of the cost of fiber lasers. The high cost of diodes meant that fiber lasers could not compete with conventional lasers on price and limited their use to high value-added applications. Over the last several years, however, our semiconductor diodes have become more affordable and reliable due, in part, to substantial advancements in semiconductor diode technology and increased production volumes. As a result, the average cost per watt of output power has decreased dramatically over the last decade. Because of these improvements, our fiber lasers can now effectively compete with conventional lasers over a wide range of output powers and applications. As a pioneer in the development and commercialization of fiber lasers, we have contributed to many advancements in fiber laser technology and products.

Advantages of Fiber Lasers over Conventional Lasers

We believe that fiber lasers provide a combination of benefits that include:

Superior Performance. Fiber lasers provide high beam quality over the entire power range. In most conventional laser solutions, the beam quality is sensitive to output power, while in fiber lasers, the output

beam is virtually non-divergent over a wide power range, meaning the beam can be focused to achieve high levels of precision, increased power densities and greater distances over which processing can be completed. The superior beam quality and greater intensity of a fiber laser s beam allow tasks to be accomplished rapidly and with lower-power units than comparable conventional lasers.

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Lower Cost. Fiber lasers offer strong value to customers because of their generally lower total cost of ownership due to their lower required maintenance costs, high reliability and energy efficiency. The initial purchase price for fiber lasers is generally below that of YAG lasers and comparable to that of conventional CO_2 lasers. Fiber lasers convert electrical energy to optical energy approximately 2 to 3 times more efficiently than diode-pumped YAG lasers, approximately 3 times more efficiently than conventional CO_2 lasers and approximately 15 to 30 times more efficiently than lamp-pumped YAG lasers. Because fiber lasers are much more energy-efficient and place lower levels of thermal stress on their internal components, they have substantially lower cooling requirements compared to those of conventional lasers and lower or no maintenance costs.

Ease of Use. Many features of fiber lasers make them easier to operate, maintain and integrate into laser-based systems as compared to conventional lasers.

Compact Size and Portability. Fiber lasers are typically smaller and lighter in weight than conventional lasers, saving valuable floor space. While conventional lasers are delicate due to the precise alignment of mirrors, fiber lasers are more durable and able to perform in variable environments.

Choice of Wavelengths and Precise Control of Beam. The design of fiber lasers generally provides a broad range of wavelength choices, allowing users to select the precise wavelength that best matches their application and materials.

Fiber amplifiers are similar in design to fiber lasers, use many of the same components, such as semiconductor diodes and specialty optical fibers, and provide many of the same advantages in the applications that require amplification.

Notwithstanding the benefits offered by fiber lasers, there remain applications and processes where conventional laser technologies may provide superior performance with respect to particular features. For example, crystal lasers can provide higher peak power pulses and fiber lasers do not generate the deep ultraviolet light that is used for photolithography in many semiconductor applications. In addition, CO_2 lasers operate at wavelengths that are optimal for use on many non-metallic materials, including plastics.

Our Competitive Strengths

We believe that our key strengths and competitive advantages include the following:

Differentiated Proprietary Technology Platform. At the core of our products is our proprietary pumping technology platform that allows our products to have higher output powers and superior beam quality than are achievable through other techniques. Our technology platform is modular, scalable, robust and electrically efficient.

Leading Market Position. As a pioneer and technology leader in fiber lasers, we have built leading positions in our various end markets with a large and diverse customer base. Based on our leadership positions, we are driving the proliferation of fiber lasers in existing and new applications.

Breadth and Depth of Expertise. Since the founding of our company in 1990, our core business has been developing, designing, manufacturing and marketing advanced fiber lasers and amplifiers. We have extensive know-how in materials sciences, which enables us to make our specialty optical fibers, semiconductor diodes and other critical components.

Vertically Integrated Development and Manufacturing. We develop and manufacture all of our key high-volume specialty components, including semiconductor diodes, active fibers, passive fibers and specialty optical components. Our proprietary components are capable of handling the stress of the high optical powers from our products and we believe many of them exceed the performance of commercially available components. We believe that our vertical integration and our high-volume production enhances our ability to meet customer requirements, accelerate development, manage costs, improve component yields and protect our intellectual property, while maintaining high performance and quality standards.

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Diverse Customer Base, End Markets and Applications. Our diverse customer base, end markets and applications provide us with many growth opportunities. Our products are used in a variety of applications and end markets worldwide. Our principal end markets and representative applications within those markets include:

Materials Processing		
	General manufacturing	Marking, engraving and printing Welding, hybrid welding and cutting Prototyping, cladding and stripping
	Automotive	High-strength steel cutting and welding Welding tailored metal blanks, frames, seats and transmissions Cutting frames, sheets and plastic bumpers
	Heavy industry	Hardening and welding pipes in nuclear, wind turbine and pipeline industries Welding and cutting thick plates for ships and rail cars Drilling concrete and rock
	Aerospace	Welding titanium air frames Cladding parts Percussion drilling of parts
	Consumer	Electronics and credit card marking Diamond marking and cutting Welding razor blades and batteries Stent and pacemaker manufacturing
	Semiconductor and electronics	Computer disk manufacturing and texturing Photovoltaic manufacturing Memory repair and trim
Advanced Applications		Directed energy Obstacle warning and light detecting and ranging Materials destruction testing Research, sensing and instrumentation

Communications	Broadband fiber to premises Broadband cable video signal transport Metro and long-haul wire-line DWDM transport
Medical	Skin rejuvenation and wrinkle removal General surgery and urology Dental Fat removal

Broad Product Portfolio and Ability to Meet Customer Requirements. We offer a broad range of standard and custom fiber lasers and amplifiers that operate between 0.5 and 2 microns. Our vertically integrated manufacturing and broad technology expertise enable us to design, prototype and commence high-volume production of our products rapidly, allowing our customers to meet their time-to-market requirements.

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Our Strategy

Our objective is to maintain and extend our leadership position by pursuing the following key elements of our strategy:

Leverage Our Technology to Gain Market Share. As fiber lasers become more widely accepted, we plan to continue to leverage our brand and position as the leader in developing and commercializing fiber lasers to increase our position in the broader market. Our lasers continue to displace conventional lasers in numerous low and mid-power materials processing applications, such as marking, engraving, printing and sintering. Our high-power lasers also have been penetrating several applications that use conventional lasers, such as welding, cutting and cladding of metal parts.

Target New Applications for Lasers. We intend to continue to enable and penetrate additional applications where lasers have not traditionally been used. We believe that fiber laser technology can overcome many of the limitations that have hindered the adoption of conventional lasers. We target applications where higher power, portability, efficiency, size and flexible fiber cable delivery can lead customers to adopt fiber lasers instead of non-laser solutions. Examples of such targeted new applications include solar cell processing and hybrid and robotic spot welding.

Expand Our Product Portfolio. We continue to invest in research and development to add additional wavelengths, power levels and other parameters while also improving beam quality. In 2010, we: (i) acquired welding tool technology that integrates seamlessly with our fiber laser, enabling IPG to provide turnkey robotic laser welding solutions for automotive and other materials processing applications; (ii) acquired a producer of active and passive laser materials and middle-infrared lasers for scientific, biomedical and technological applications; (iii) introduced new quasi-pulsed CW lasers and green pulsed lasers; and (iv) introduced a retro-fit service that allows customers to replace YAG and CO_2 lasers with fiber laser sources in their existing laser systems.

Optimize Our Manufacturing Capabilities. We plan to seek further increases in the automation of our component manufacturing processes and device assembly to improve component yields and increase the power outputs and capacities of the various components that we make. We intend to leverage our technology and operations expertise to manufacture additional components in order to reduce costs, ensure component quality and ensure supply. In 2010, we redesigned the electronics of certain of our low and mid-power products to simplify manufacturing, improve quality and decrease costs. In addition, we expanded production of our lower cost internally developed optical delivery systems. These initiatives, in addition to optimizing our manufacturing capabilities and maintaining efficient labor costs, are intended to improve margins.

Expand Global Reach to Attract Customers Worldwide. In 2010, almost 80% of our sales came from international customers. Last year, we opened application and development centers in Italy and South Korea and we expanded our sales office and application development center in Chubu, Japan. We intend to capitalize on and grow our global customer base by opening new application development centers as well as sales and service offices in Russia, Asia, Europe and South America.

Products

We design and manufacture a broad range of high-performance optical fiber-based lasers and amplifiers. We also make packaged diodes, direct diode laser systems and communications systems that utilize our optical fiber-based products. Many of our products are designed to be used as general purpose energy or light sources, making them useful in diverse applications and markets.

Our products are based on a common proprietary technology platform using many of the same core components, such as semiconductor diodes and specialty fibers, which we configure to our customers specifications. Our engineers and scientists work closely with OEMs and end users to develop and customize our products for their needs. Because of our flexible and modular product architecture, we offer products in different configurations according to the desired application, including modules, rack-mounted units and tabletop units. Our engineers and other technical experts work directly with the customer in our application

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and development centers to develop and configure the optimal solution for each customer s manufacturing requirements. We also make complementary products and components that are used with our ultra-high power products, such as fiber couplers, beam switches, optical beam delivery cables and chillers. In addition, we make laser marking and welding systems for certain applications and geographic markets. .

Lasers

Our laser products include low (1 to 99 watts), medium (100 to 999 watts) and high (1,000 watts and above) output power lasers from 0.5 to 2 microns in wavelength. These lasers either may be continuous wave (CW) or may be modulated at different rates. We offer several different types of lasers, which are defined by the type of gain medium they use. These are ytterbium, erbium, thulium and Raman. We also sell fiber pigtailed packaged diodes and fiber coupled direct diode laser systems that use semiconductor diodes rather than optical fibers as their gain medium. In addition, we offer high-energy pulsed lasers, multi-wavelength lasers, tunable lasers, single-polarization and single-frequency lasers, as well as other versions of our products.

We believe that we produce the highest power solid-state lasers in the industry. Our ytterbium fiber lasers reach power levels up of to 50,000 watts. We also make single-mode output ytterbium fiber lasers with power levels of up to 10,000 watts and single-mode output erbium and thulium fiber lasers with power levels of up to 400 watts. Our compact, durable design and integrated fiber optic beam delivery allows us to offer versatile laser energy sources and simple laser integration for complex production processes without compromising quality, speed or power.

We also sell laser diode chips and packaged laser diodes operating at 9XX nanometers. Recently, we started to sell our own family of high power optical fiber delivery cables, fiber couplers, beam switches, chillers and other accessories for our fiber lasers.

IPG introduced a retrofit service which replaces CO_2 and YAG lasers sources with fiber lasers in the many welding, cutting, drilling and other systems allowing customers to retain their existing laser systems. IPG is also developing systems capabilities for special customer projects and for certain international markets. IPG makes a welding seam stepper and picker, which is an automated welding tool, that integrate with our fiber lasers. The seam stepper and picker can be used in automotive assembly, sheet metal production and other materials processing applications. IPG also makes active and passive laser materials and tunable lasers in the middle-infrared region.

Amplifiers

Our amplifier products range from milliwatts to up to 1,500 watts of output power from 1 to 2 microns in wavelength. We offer erbium-doped fiber amplifiers, commonly called EDFAs, Raman amplifiers and integrated communications systems that incorporate our amplifiers. These products are predominantly deployed in broadband networks such as fiber to the home (FTTH), fiber to the curb (FTTC) and passive optical networks (PON), and dense wavelength division multiplexing, or DWDM, networks. We also offer ytterbium and thulium specialty fiber amplifiers and broadband light sources that are used in advanced applications. In addition, we sell single-frequency, linearly polarized and polarization-maintaining versions of our amplifier products. As with our fiber lasers, our fiber amplifiers offer some of the highest output power levels and highest number of optical outputs in the industry. We believe our line of fiber amplifiers offers the best commercially available output power and performance.

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The following summarizes some of our product offerings by product family, primary markets and representative applications for each product family:

Product Family Lasers	Primary Markets	Representative Applications
Short Pulse Ytterbium Fiber Lasers	Manufacturing Semiconductor Solar Display Panels Microelectronics Jewelry	Marking and engraving Coating removal Cutting Diamond marking Scribing
Multi-Mode Output Ytterbium Fiber Lasers	Automobiles Shipbuilding Aerospace Heavy Industry Construction Defense	Welding of automotive tailored blanks and transmissions Remote welding of automotive frames, doors and seats Cutting of hydro-formed automotive frames Cladding of blades and drill bits Materials destruction testing Plate welding and cutting
Single-Mode Output Ytterbium Fiber Lasers	Manufacturing Printing Consumer Medical Devices Microelectronics Defense	Engraving of printing rolls and plates Stent cutting Welding Ceramic scribing Optical trapping of cells Cutting
Long Pulse Ytterbium Fiber Lasers	Manufacturing Aerospace Medical	Welding Drilling Medical device welding
Diode Lasers	Manufacturing Computers Aerospace Medical Defense	Welding and bending of disk drive flexure Plastic welding Urology and dental Optical pumping
Erbium Fiber Lasers	Medical Manufacturing Aerospace Rapid Prototyping Scientific Research Communications	Skin rejuvenation and stretch mark removal Pumping of crystal lasers Photonic Doppler velocimetry Interferometry Remote sensing Non-wireline communications
Tunable, Ytterbium,	Scientific Research Medical	Spectroscopy Optical fiber and component characterization

Erbium and Thulium Fiber Lasers	Instrumentation	Component stress-testing Diagnostic equipment
Pulsed Erbium Fiber Lasers	Aerospace Manufacturing Scientific Research	Obstacle detection LIDAR and 3-D mapping Atmospheric and remote sensing
Thulium Fiber Lasers	Aerospace Manufacturing Scientific Research Medical	Optical pumping of lasers Pollution sensing Medical treatments Micromachining of plastics
Raman Fiber Lasers	Communications Scientific Research	Distributed Raman amplification Remote amplifier pumping Optical pumping of lasers
Picosecond Pulsed Lasers	Scientific Research Manufacturing	Hole drilling Memory repair
Green Fiber Lasers	Semiconductor Consumer Medical	LCD display processing Scribing Marking

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Product Family Amplifiers	Primary Markets	Representative Applications
Erbium Fiber Amplifiers	Broadband Access Cable TV DWDM Instrumentation Scientific Research	Telephony, video on demand and high-speed internet Ultra-long-haul transmission Non-wireline optical communications Coherent and spectral beam combining High-power component testing
Raman Fiber Amplifiers	DWDM Instrumentation Scientific Research	Distributed Raman amplification Remote amplifier pumping Repeaterless submarine systems WDM Raman amplifiers
Communications Systems	DWDM	200Km to 400Km long-span transmissions 2.5 and 10 gbit/second transmissions
Ytterbium Fiber Amplifiers	Scientific Research Life Sciences	Coherent and spectral beam combining Detection and sensing systems Non-linear frequency conversion

Materials Processing

The most significant materials processing applications for fiber lasers are marking, printing, welding and cutting. Other applications include micromachining, surface treatment, drilling, soldering, annealing, rapid prototyping and laser-assisted machining.

Marking, Engraving and Printing Applications. With the increasing need for source traceability, component identification and product tracking as a means of reducing product liability and preventing falsification, as well as the demand for modern robotic production systems, industrial manufacturers are increasingly demanding marking systems capable of applying serialized alphanumeric, graphic or bar code identifications directly onto their manufactured components. Laser engraving is similar to marking but forms deeper grooves in the material. In contrast to conventional acid etching and ink-based technologies, lasers can mark a wide variety of metal and non-metal materials, such as ceramic, glass and plastic surfaces, at high speeds and without contact by changing the surface structure of the material or by engraving. Laser marking systems can be easily integrated into a customer s production process and do not subject the item being marked to mechanical stress.

In the semiconductor industry, lasers typically are used to mark wafers and integrated circuits. In the electronics industry, lasers typically are used to mark electrical components such as contactors and relays, printed circuit boards and keyboards. With the increase in marking speed in the past few years, the cost of laser marking has decreased. In the photovoltaic (solar panel) industry, pulsed lasers increasingly are used to remove materials and to scribe (cut) solar cells. The high beam quality, increased peak output powers, flexible fiber delivery and competitive price of fiber lasers have accelerated the adoption of fiber lasers in these low-power applications.

Historically, the printing industry has depended upon silver-halide films and chemicals to engrave printing plates. This chemical engraving process requires several time-consuming steps. In recent years, we have worked closely with

OEMs in the printing industry to employ fiber lasers for alternative computer-to-plate, or CTP, processes. As a result, our ytterbium fiber lasers are now widely used for CTP printing, an environmentally friendly process that saves production time by writing directly to plates and greatly reduces chemical waste.

Welding Applications. Laser welding offers several important advantages over conventional welding technology as it is non-contact, easy to automate, provides high process speed and results in narrow-seamed, high quality welds that generally require little or no post-processing machining. Parts can be accurately machined before welding because laser welding does not overly heat or otherwise damage or distort the material being processed. The high beam quality of our fiber lasers coupled with high CW power offers deep

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penetration welding as well as shallow conduction mode welding. High modulation frequencies offer very high throughput in pulsed applications. In addition, fiber lasers can be focused to a small spot with extremely long focal lengths, enabling remote welding on the fly, a flexible method of three-dimensional welding in which the laser beam is positioned by a robot-guided scanner. Such remote welding stations equipped with fiber lasers are used for welding door panels and the multiple welding of spot and lap welds over the entire auto body frame. Typically, mid to high-power ytterbium fiber lasers and long pulse quasi-continuous wave ytterbium fiber lasers are used in welding applications.

Cutting Applications. Laser-based cutting technology has several advantages compared to alternative technologies. Laser cutting is fast, flexible, and highly precise and can be used to cut complex contours on flat, tubular or three-dimensional materials. The laser source can be programmed to process many different kinds of materials such as steel, aluminum, brass, copper, glass, ceramic and plastic at various thicknesses. Laser cutting technology is a non-contact process that is easy to integrate into an automated production line and is not subject to wear of the cutting medium. We sell low, mid and high-power ytterbium fiber lasers for laser cutting. The operating wavelength, high beam quality, wide operating power range, power stability and small spot size are some of the qualities offered by fiber lasers for most cutting applications.

Advanced Applications

Our fiber lasers and amplifiers are utilized by commercial firms and by academic and government institutions worldwide for manufacturing of commercial systems and for research in advanced technologies and products. These markets may use specialty products developed by us or commercial versions of our products.

Directed Energy. Our high-power fiber lasers and amplifiers have been used in variety of demonstrations.

Obstacle Warning and Mapping. Our products are used aboard aircraft for obstacle warning and 3-dimensional mapping of earth surfaces.

Special Projects. Due to the high power, compactness, performance, portability, ruggedness and electrical efficiency of our fiber lasers and amplifiers, we sell our commercial products for government research and projects. These include materials testing, ordnance destruction, coherent beam combining, advanced communications and research.

Research and Development. Our products are used in a variety of applications for research and development by scientists and industrial researchers, including for example atom trapping. In addition, our lasers and amplifiers are used to design, test and characterize components and systems in a variety of markets and applications.

Optical Pumping and Harmonic Generation. Several types of our lasers are used to optically pump other solid-state lasers and for harmonic generation and parametric converters to support research in sensing, medical and other scientific research in the infrared and visible wavelength domains. Our lasers are used as a power source for these other lasers. Green visible lasers are used to pump titanium sapphire lasers. Visible lasers can be used in optical displays, planetariums and light shows.

Optical Communication. We provide high-power EDFAs and ytterbium fiber amplifiers for deployment in both point-to-point and point-to-multipoint free space optical networks. These networks permit communications between two or more points on land or in the sky without the use of fiber optic lines or radio or microwaves.

Remote Sensing. Our products are used in light detection and ranging, also called LIDAR, a laser technique for remote sensing. Optical fiber can be used as a sensor for measuring changes in temperature, pressure and gas concentration in oil wells, atmospheric and pollution measurements and seismic exploration.

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Communications

We design and manufacture a DWDM transport system with varying output power and wavelengths and a full range of fiber amplifiers and Raman pump lasers that enhance data transmission in broadband access and DWDM optical networks. We are leveraging our high-power diode and fiber technology through the qualification and sale of high-value integrated solutions for network suppliers.

DWDM. DWDM is a technology that expands the capacity of optical networks, allowing service providers to extend the life of existing fiber networks and reduce operating and capital costs by maximizing bandwidth capacity. We provide a broad range of high-power products for DWDM applications including EDFAs and Raman lasers. We provide a DWDM transport system that offers service providers and private network operators a simple, flexible, optical layer solution scalable from 8 to 40 channels that operates at 10 gigabits per second per channel. We also have introduced a DWDM system capable of wavelengths operating at 40 gigabits per second per channel with OTN multiplexing capabilities.

Broadband Access. The delivery to subscribers of television programming and Internet- based information and communication services is converging, driven by advances in IP technology and by changes in the regulatory and competitive environment. Fiber optic lines offer connection speeds of up to 1 gigabit per second, or 100 times faster than digital subscriber lines (DSL) or cable links. We offer a series of specialty multi-port EDFAs and cable TV nodes and transmitters that support different types of passive optical network architectures, enabling high speed data, voice, video on demand and high definition TV. We provide an EDFA that supports up to 64 ports, which allows service providers to support a high number of customers in a small space, reducing overall power consumption and network cost. End users for our products include communications network operators for video wavelength division multiplexing overlay solutions, operators of metro and long-haul networks for DWDM and amplification solutions, as well as cable and multiple system operators for optical amplification solutions.

Medical

We sell our commercial fiber and diode lasers to OEMs that incorporate our products into their medical laser systems. Continuous wave and pulsed lasers from 1 to 150 watts and diode laser systems can be used in medical and biomedical applications. Aesthetic applications addressed by lasers include skin rejuvenation, skin resurfacing and stretch mark removal. Purchasers use our diode lasers in dental, skin tightening and fat removal procedures. Surgical applications include prostate surgery. Fiber lasers have the ability to fine-tune optical penetration depth and absorption characteristics and can be used for ear, nose and throat, urology, gynecology and other surgical procedures.

Technology

Our products are based on our proprietary technology platform that we have developed and refined since our formation. The following technologies are key elements in our products.

Specialty Optical Fibers

We have extensive expertise in the disciplines and techniques that form the basis for the multi-clad active and passive optical fibers used in our products. Active optical fibers form the laser cavity or gain medium in which lasing or amplification of light occurs in our products. Passive optical fibers deliver the optical energy created in our products. Our active fibers consist of an inner core that is infused with the appropriate rare earth ion, such as ytterbium, erbium or thulium, and outer cores of un-doped glass having different indices of refraction. We believe that our large portfolio of specialty active and passive optical fibers has a number of advantages as compared to other commercially available optical fibers. These advantages include higher concentrations of rare earth ions, fibers that will not degrade at the

high power levels over the useful life of the product, high lasing efficiency, ability to achieve single-mode outputs at high powers, ability to withstand high optical energies and temperatures and scalable side-pumping capability.

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Semiconductor Diode Laser Processing and Packaging Technologies

Another key element of our technology platform is that we use multiple multi-mode, or broad area, single-emitter diodes rather than diode bars or stacks as a pump source. We believe that multi-mode single-emitter diodes are the most efficient and reliable pumping source presently available, surpassing diode bars and stacks in efficiency, brightness and reliability. Single-emitter diodes have substantially reduced cooling requirements and typically have estimated lifetimes of more than 100,000 hours at high operating currents, compared to typical lifetimes of 10,000 to 20,000 hours for diode bars.

We developed advanced molecular beam epitaxy techniques to grow alumina indium gallium arsenide wafers for our diodes. This method yields high-quality optoelectronic material for low-defect density and high uniformity of optoelectronic parameters. In addition, we have developed numerous proprietary wafer processes and testing and qualification procedures in order to create a high energy output in a reliable and high-power diode. We package our diodes in hermetically sealed pump modules in which the diodes are combined with an optical fiber output. Characteristics such as the ability of the package to dissipate heat produced by the diode and withstand vibration, shock, high temperature, humidity and other environmental conditions are critical to the reliability and efficiency of the products.

Specialty Components and Combining Techniques

We developed a wide range of advanced optical components that are capable of handling high optical power levels and contribute to the superior performance, efficiency, reliability and uniqueness of our products. In addition to fibers and diodes, our optical component portfolio includes fiber gratings, isolators and combiners. We also developed special methods and expertise in splicing fibers together with low optical energy loss and on-line loss testing. We believe that our internal development and manufacturing of key optical components allows us to lower our manufacturing costs and improve product performance.

Side Pumping of Fibers and Fiber Block Technologies

Our technology platform allows us to efficiently combine a large number of multi-mode single-emitter semiconductor diodes with our active optical fibers that are used in all of our products. A key element of this technology is that we pump our fiber lasers through the cladding surrounding the active core. We splice our specialty active optical fibers with other optical components and package them in a sealed box, which we call a fiber block. The fiber blocks are compact and eliminate the risk of contamination or misalignment due to mechanical vibrations and shocks as well as temperature or humidity variations. Our design is scalable and modular, permitting us to make products with high output power by coupling a large number of diodes with fiber blocks, which can be combined in parallel and serially.

High-Stress Testing

We employ high-stress techniques in testing components and final products that help increase reliability and accelerate product development. For example, we test all of our diodes with high current and temperatures to accelerate aging. We also have built a large database of diode test results that allows us to predict the estimated lifetime of our diodes. This testing allows us to eliminate defective diodes prior to further assembly and thus increase reliability.

Customers

We sell our products globally to OEMs, system integrators and end users in a wide range of diverse markets who have the in-house engineering capability to integrate our products into their own systems. We have hundreds of customers

worldwide. Our end markets include materials processing (comprised of general manufacturing, automotive, heavy industry, aerospace, consumer products and medical device manufacturing, photovoltaic semiconductor and electronics customers), advanced applications (comprised of commercial companies, universities, research entities and government entities), communications (comprised of system integrators, utilities and municipalities) and medical (medical laser systems manufacturers and researchers).

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We believe that our customer and end-market diversification minimizes dependence on any single industry or group of customers.

The following table shows the allocation of our net sales (in thousands) among our principal markets:

	Year Ended December 31,					
	2010		2009		2008	
Materials Processing	$ 252,014	84.2%	$ 140,864	75.8%	$ 187,720	81.9%
Advanced Applications	25,196	8.4	26,557	14.3	24,670	10.8
Communications	14,020	4.7	10,867	5.8	12,904	5.6
Medical	8,026	2.7	7,606	4.1	3,782	1.7
Total	$ 299,256	100.0%	$ 185,894	100.0%	$ 229,076	100.0%

None of our customers accounted for 10% or more of our net sales for the years ended December 31, 2010, 2009 or 2008.

Our net sales (in thousands) were derived from customers in the following geographic regions:

	Year Ended December 31,					
	2010		2009		2008	
North America(1)	$ 61,706	20.6%	$ 45,668	24.6%	$ 52,018	22.7%
Europe	112,456	37.6	70,413	37.9	94,077	41.1
Asia and Australia	124,254	41.5	66,100	35.5	77,582	33.9
Rest of World	840	0.3	3,713	2.0	5,399	2.3
Total	$ 299,256	100.0%	$ 185,894	100.0%	$ 229,076	100.0%

(1) The substantial majority of sales in North America are to customers in the United States.

Backlog

At December 31, 2010, our backlog of orders (generally scheduled for shipment within one year) was approximately $171.6 million compared to $68.1 million at December 31, 2009. At December 31, 2010, our backlog included $98.6 million of orders with firm shipment dates and $73.0 million of frame agreements that we expect to ship within one year, compared to $47.8 million of orders with firm shipment dates and $20.3 million of frame agreements at December 31, 2009. Frame agreements generally are agreements without committed shipment dates. Orders used to compute backlog are generally cancelable without substantial penalties. Historically, the rate of cancellation experienced by us has not been significant. We manage the risk of cancellation by establishing the right to charge a cancellation fee that generally covers a portion of the purchase price, any materials and development costs incurred prior to the order being cancelled. Our ability to enforce this right depends on many factors including, but not limited to, the customer s requested length of delay, the number of other outstanding orders with the customer and our ability

to quickly convert the cancelled order to another sale.

We anticipate shipping a substantial majority of the present backlog during fiscal year 2011. However, our backlog at any given date is not necessarily indicative of actual sales for any future period.

Sales, Marketing and Support

We market our products internationally primarily through our direct sales force and also through agreements with independent sales representatives and distributors. We have sales offices in the United States, Germany, Russia, Italy, China, Japan, South Korea, India, the United Kingdom, Singapore and France. Our independent sales representatives and distributors are located in the United States, Russia, Japan, Brazil, Mexico and other parts of the world. Only one of these arrangements is on an exclusive basis. Foreign sales to customers are generally priced in local currencies and are therefore subject to currency exchange fluctuations.

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We maintain a customer support and field service staff in our major markets. We work closely with customers, customer groups and independent representatives to service equipment, train customers to use our products and explore additional applications for our technologies. We have materials processing application centers in the United States, Germany, Russia, China, Italy, Japan and South Korea, which we use to demonstrate our products and develop new applications. We may expand our support and field service, particularly in locations where customer concentration or volume requires local service capabilities. We repair products at our facilities or at customer sites.

We typically provide one to three-year parts and service warranties on our lasers and amplifiers. Most of our sales offices provide support to customers in their respective geographic areas. Warranty reserves have generally been sufficient to cover product warranty repair and replacement costs.

Manufacturing

Vertical integration is one of our core business strategies through which we control our proprietary processes and technologies as well as the supply of key components and assemblies. We believe that our vertically integrated business model gives us the following advantages:

maintaining a technological lead over competitors;

reducing component and final product costs compared to market prices available to competitors;

ensuring access to critical components, enabling us to better meet customer demands;

controlling performance, quality and consistency; and

enabling rapid development and deployment of new products and technologies.

Our vertically integrated manufacturing operations include optical preform making, specialty fiber drawing, semiconductor wafer growth, diode processing and packaging, specialty optical component manufacturing, fiber block and fiber module assembly for different power units, software and electronics development, final assembly, as well as testing, tool manufacturing and automated production systems. Over the last several years, we added additional production capabilities, including three multi-wafer growth reactors, diode test stations, fiber pre-form and fiber drawing equipment, low, mid and high-power production and testing, in order to increase our capacity as well as reduce the risks associated with our production process.

We operate our own semiconductor foundry for the production of the multi-mode single-emitter diodes. Diodes are the pumps that are used as the light source in each device we make. We also process, package and extensively test all of our diodes. Because pump diodes represent a significant component cost of the final laser or amplifier, we have chosen to develop internal manufacturing capabilities for diodes. As a result of our high volume production levels of pump diodes, proprietary processes and use of limited chip designs, we have been able to increase yields, lower component costs and assure high quality. We also design, manufacture and optimize many of our own test instruments, diode test racks, robotic and automated assembly tools and machines.

We developed these proprietary components, manufacturing tools, equipment and techniques over many years in an effort to address the major issues that had been inhibiting the development of fiber laser technology and to provide products that differentiate us from our competitors. We believe that the proprietary components, manufacturing tools, equipment, techniques and software utilized in all of our product lines provide extensive barriers to potential competitors. Generally, we do not sell our proprietary components to third parties, except that in 2008, we started selling our diodes to third parties. Using our technology platform, we configure standard products based upon each

customer s specifications. Through our vertically integrated manufacturing operations, we can develop, test and produce new products and configurations with higher performance and reliability and in less time than by working with external vendors. We have developed proprietary testing methodologies that allow us to develop higher power components and products in short

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periods of time, enable us to introduce products to the market more quickly, capitalize on new opportunities and provide superior service to our customers.

Our in-house manufacturing generally includes only those operations and components that are critical to the protection of our intellectual property, the reduction of our costs or the achievement of performance and quality standards. We purchase from vendors common and specialized mechanical, electrical and optical parts and raw materials, such as printed circuit boards, wafer substrates and various optical components.

Research and Development

We have extensive research and development experience in laser materials, fiber and optoelectronic components. We have assembled a team of scientists and engineers with specialized experience and extensive knowledge in fiber lasers and amplifiers, critical components, testing and manufacturing process design.

We focus our research and development efforts on designing and introducing new and improved standard and customized products and the mass production of components that go into our products. In addition to our cladding-pumped specialty fiber platform, we have core competencies in high-power multi-mode semiconductor laser diodes, diode packaging, specialty active and passive optical fibers, high-performance optical components, fiber gain blocks and fiber modules, as well as splicing and combining techniques and high-stress test methods. Our research and development efforts are aided by our vertical integration and our proprietary high-stress testing techniques that result in accelerated development cycles. The strategy of developing our proprietary components has allowed us to leverage our optical experience and large volume requirements to lower the cost of our products. We concentrate our research and development efforts on advancements in performance as well as capacity to hold and produce higher optical power levels.

Our research and development efforts are also directed at expanding our product line by increasing power levels, improving beam quality and electrical efficiency, decreasing the size of our products and lowering the cost per watt. We also are engaged in research projects to expand the spectral range of products that we offer. Our team of experienced scientists and engineers work closely with many of our customers to develop and introduce custom products that address specific applications and performance requirements.

We incurred research and development costs of approximately $19.2 million in 2010, $18.5 million in 2009 and $15.8 million in 2008. We plan to continue our commitment to research and development and to introduce new products, systems and complementary products that would allow us to maintain our competitive position. See Item 7, Management s Discussion and Analysis of Financial Condition of Results of Operations.

Intellectual Property

We seek to protect our proprietary technology primarily through U.S. and foreign laws affording protection for trade secrets, and to seek U.S. and foreign patent, copyright and trademark protection of our products and processes where appropriate. Historically, we relied primarily on trade secrets, technical know-how and other unpatented proprietary information relating to our product development and manufacturing activities. We seek to protect our trade secrets and proprietary information, in part, by requiring our employees to enter into agreements providing for the maintenance of confidentiality and the assignment to us of rights to inventions that they make while we employ them. We also enter into non-disclosure agreements with our consultants and suppliers to protect confidential information delivered to them. We believe that our vertical integration, including our long experience in making a wide range of specialty and high-power capacity components, as well as our technology platform make it difficult for others to reverse engineer our products.

We have increased our efforts to expand our patent portfolio. We now have over 100 patents issued and over 60 pending patent applications in the United States relating to optical fiber lasers, amplifiers, bulk optics, semiconductors, and laser and telecommunications systems. We also have patents and patent applications in certain other countries. In February 2008, we purchased a portfolio of photonics patents from British Telecommunications plc in the fields of optical fiber lasers and amplifiers, semiconductor devices, integrated optics, fiber gratings, high-speed systems and optical networking. Intellectual property rights, including those

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that we own and those of others, involve significant risks. See Item 1A, Risk Factors-Our inability to Protect Our Intellectual Property and Proprietary Technologies Could Result in the Unauthorized Use of Our Technologies by Third Parties, Hurt Our Competitive Position and Adversely Affect Our Operating Results.

Competition

Our markets are competitive and characterized by rapidly changing technology and continuously evolving customer requirements. We believe that the primary competitive factors in our markets are:

product performance and reliability;

quality and service support;

price and value to the customer;

ability to manufacture and deliver products on a timely basis;

ability to achieve qualification for and integration into OEM systems;

ability to meet customer specifications; and

ability to respond quickly to market demand and technological developments.

We believe we compete favorably with respect to these criteria. In the materials processing market, the competition is fragmented and includes a large number of competitors. We compete with makers of high-power CO_2 and solid-state lasers, including Fanuc, Rofin-Sinar Technologies, Inc. and Trumpf GmbH + Co. KG, and makers of mid and low-power CO_2 and solid-state lasers such as Coherent, Inc., GSI Group Inc., Newport Corporation and Rofin-Sinar Technologies, Inc. We also compete with fiber laser makers, including Rofin-Sinar Technologies, Inc., Trumpf GmbH + Co. KG, GSI Group Inc., Coherent Inc., Newport Corporation, The Furukawa Electric Co., Ltd., Keopsys SA, Mitsubishi Cable Industries, Ltd., Miyachi Unitek Corporation, MPB Communications Inc., and JDS Uniphase Corporation. We believe that we compete favorably with other makers of fiber lasers on price, service, installed base and performance.. We currently have limited competition in high-power fiber lasers, but recently some competitors introduced fiber lasers or announced plans to introduce fiber lasers that compete with our high power products. We also compete in the materials processing, advanced and medical applications markets with end users that produce their own solid-state and gas lasers as well as with manufacturers of non-laser methods and tools, such as resistance welding and cutting dies in the materials processing market and scalpels in the medical market.

In the communications market, our principal competitors are manufacturers of mid-power fiber amplifiers and DWDM systems, such as Oclaro Inc., the Scientific-Atlanta division of Cisco Systems, Inc. (Scientific-Atlanta), Emcore Corporation, JDS Uniphase Corporation, Huawei Corporation and MPB Communications Inc. We believe that we compete favorably with other high-power fiber amplifier producers with respect to price, product performance and output power. The fiber amplifier market is more established than the fiber laser market and technological change has not occurred as rapidly as it has in the case of fiber lasers.

Many of our competitors are larger than we are and have substantially greater financial, managerial and technical resources, more extensive distribution and service networks, greater sales and marketing capacity, and larger installed customer bases than we do.

Employees

As of December 31, 2010, we had approximately 1,760 full-time employees, including 140 in research and development, 1,370 in manufacturing operations, 100 in sales, service and marketing, and 150 in general and administrative functions. Of our total full-time employees at our principal facilities, approximately 490 were in the United States, 600 were in Germany, 500 were in Russia and 60 were in China. We have never experienced a work stoppage and none of our employees is subject to a collective bargaining agreement. We believe that our current relations with our employees are good.

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Government Regulation

Regulatory Compliance

The majority of our laser and amplifier products sold in the United States are classified as Class IV Laser Products under the applicable rules and regulations of the Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration. The same classification system is applied in the European markets. Safety rules are formulated with Deutsche Industrie Norm (i.e., German Industrial Standards) or ISO standards, which are internationally harmonized.

CDRH regulations generally require a self-certification procedure pursuant to which a manufacturer must submit a filing to the CDRH with respect to each product incorporating a laser device, make periodic reports of sales and purchases and comply with product labeling standards, product safety and design features and informational requirements. Our products applications can result in injury to human tissue if directed at an individual or otherwise misused. The CDRH is empowered to seek fines and other remedies for violations of their requirements. We believe that our products are in material compliance with applicable laws and regulations relating to the manufacture of laser devices.

Environmental Regulation

Our operations are subject to various federal, state, local and international laws governing the environment, including those relating to the storage, use, discharge, disposal, product composition and labeling of, and human exposure to, hazardous and toxic materials. We believe that our operations are in material compliance with applicable environmental protection laws and regulations.

Although we believe that our safety procedures for using, handling, storing and disposing of such materials comply with the standards required by federal and state laws and regulations, we cannot completely eliminate the risk of accidental contamination or injury from these materials. In the event of such an accident involving such materials, we could be liable for damages and such liability could exceed the amount of our liability insurance coverage and the resources of our business.

Availability of Reports

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to such reports are available free of charge on our web site at www.ipgphotonics.com as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the Securities and Exchange Commission (www.sec.gov). We will also provide electronic or paper copies of such reports free of charge, upon request made to our Corporate Secretary.

ITEM 1A. *RISK FACTORS*

The factors described below are the principal risks that could materially adversely affect our operating results and financial condition. Other factors may exist that we do not consider significant based on information that is currently available. In addition, new risks may emerge at any time, and we cannot predict those risks or estimate the extent to which they may affect us.

Downturns in the markets we serve, particularly materials processing, could have a material adverse effect on our sales and profitability.

Our business depends substantially upon capital expenditures by our customers, particularly by manufacturers in the materials processing market, which includes automotive, marking, electronics and photovoltaic applications. Approximately 84% of our revenues in 2010 were from customers in the materials processing market. Although applications in this market are broad, sales for these applications are cyclical and have historically experienced sudden and severe downturns and periods of oversupply, resulting in significantly reduced demand for capital equipment, including the products that we manufacture and market. In 2009, our sales decreased by approximately 25% in the materials processing market as a result of the global economic recession. In 2010, sales in this market rebounded with a 79% increase. For the foreseeable future, our

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operations will continue to depend upon capital expenditures by customers in this market, which, in turn, depend upon the demand for their products or services. Decreased demand for products and services from customers for these applications during an economic downturn may lead to decreased demand for our products, which would reduce our sales and margins. We may not be able to respond by decreasing our expenses quickly enough, due in part, to our fixed overhead structure related to our vertically-integrated operations and our commitments to continuing investment in research and development.

Uncertainty and adverse changes in the general economic conditions of markets in which we participate negatively affect our business.

Current and future conditions in the economy have an inherent degree of uncertainty. As a result, it is difficult to estimate the level of growth or contraction for the economy as a whole. It is even more difficult to estimate growth or contraction in various parts, sectors and regions of the economy, including the materials processing, telecommunications, advanced and medical markets and applications in which we participate. Because all components of our budgeting and forecasting are dependent upon estimates of growth or contraction in the markets and applications we serve and demand for our products, the prevailing economic uncertainties render estimates of future income and expenditures very difficult to make. Adverse changes have occurred and may occur in the future as a result of declining or flat global or regional economic conditions, fluctuations in currency and commodity prices, wavering confidence, capital expenditure reductions, unemployment, declines in stock markets, contraction of credit availability, declines in real estate values, or other factors affecting economic conditions generally. These changes may negatively affect the sales of our lasers and amplifiers, increase exposure to losses from bad debts, increase the cost and decrease the availability of financing, increase the risk of loss on investments, or increase costs associated with manufacturing and distributing products. A prolonged economic downturn could have a material adverse effect on our business, financial condition and results of operations.

Our sales depend upon our ability to penetrate new applications for fiber lasers and increase our market share in existing applications.

Our level of sales will depend on our ability to generate sales of fiber lasers in applications where conventional lasers, such as CO_2 and yttrium aluminum garnet (YAG) lasers, have been used or in new and developing markets and applications for lasers where they have not been used previously. To date, a significant portion of our revenue growth has been derived from sales of fiber lasers primarily for applications where CO_2 and YAG lasers historically have been used. In order to maintain or increase market demand for our fiber laser products, we will need to devote substantial resources to:

- demonstrate the effectiveness of fiber lasers in new applications;
- increase our direct and indirect sales efforts;
- effectively service and support our installed product base.
- extend our product line to address new applications for our products;
- continue to reduce our manufacturing costs and enhance our competitive position; and

If we are unable to implement our strategy to develop new applications for our products, our revenues, operating results and financial condition could be adversely affected. We cannot assure you that we will be able to successfully implement our business strategy. In addition, our newly developed or enhanced products may not achieve market acceptance or may be rendered obsolete or less competitive by the introduction of new products by other companies.

If fiber lasers do not achieve broader market acceptance or if market penetration occurs more slowly than we expect, sales and profitability may be negatively impacted.

Fiber lasers are relatively new when compared to conventional lasers and our future success depends on the development and broader acceptance of fiber lasers. Potential customers may be reluctant to adopt fiber

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lasers as an alternative to conventional lasers, such as CO_2 and YAG, and non-laser methods, such as mechanical tools. Such potential customers may have substantial investments and know-how related to their existing laser and non-laser technologies, and may perceive risks relating to the reliability, quality, usefulness and cost-effectiveness of fiber lasers when compared to other laser or non-laser technologies available in the market. Many of our target markets, such as the automotive, machine tool and other manufacturing, communications and medical industries, have historically adopted new technologies slowly. These markets often require long test and qualification periods or lengthy government approval processes before adopting new technologies. As a result, we may expend significant resources and time to qualify our products for a new customer application, and we cannot assure that our products will be qualified or approved for such markets. If acceptance of fiber laser technology and of our fiber lasers in particular does not continue to grow within the markets that we serve, then the opportunities to maintain or increase our revenues and profitability may be severely limited.

Our vertically integrated business results in high levels of fixed costs and inventory levels that may adversely impact our gross profits and our operating results in the event that demand for our products declines or we maintain excess inventory levels.

We have a high fixed cost base due to our vertically integrated business model, including the fact that approximately 78% of our 1,760 employees as of December 31, 2010 were employed in our manufacturing operations. We may not adjust these fixed costs quickly enough to adapt to rapidly changing market conditions. Our gross profit, in absolute dollars and as a percentage of net sales, is impacted by our sales volume, the corresponding absorption of fixed manufacturing overhead expenses and manufacturing yields. In addition, because we are a vertically integrated manufacturer and design and manufacture our key specialty components, insufficient demand for our products may subject us to the risks of high inventory carrying costs and increased inventory obsolescence. If our capacity and production levels are not properly sized in relation to expected demand, we may need to record write-downs for excess or obsolete inventory. Because we are vertically integrated, the rate at which we turn inventory has historically been low when compared to our cost of sales. We do not expect this to change significantly in the future and believe that we will have to maintain a relatively high level of inventory compared to our cost of sales. As a result, we continue to expect to have a significant amount of working capital invested in inventory. Changes in our level of inventory lead to an increase in cash generated from our operations when inventory is sold or a decrease in cash generated from our operations at times when the amount of inventory increases.

Our manufacturing capacity and operations may not be appropriate for future levels of demand and may adversely affect our gross margins.

In response to an increase in demand for our fiber lasers, we added substantial manufacturing capacity at our facilities in the United States, Germany and Russia in the period from 2005 to 2008. Beginning in 2010, we entered another phase of expanding capacity at those manufacturing facilities. A significant portion of our manufacturing facilities and production equipment, such as our semiconductor production and processing equipment, diode packaging equipment and diode burn-in stations, are special-purpose in nature and cannot be adapted easily to make other products. If the demand for fiber lasers or amplifiers does not increase or decreases from current levels, we may have significant excess manufacturing capacity and under-absorption of our fixed costs, which could in turn adversely affect our gross margins and profitability.

To maintain our competitive position as the leading developer and manufacturer of fiber lasers and to meet anticipated demand for our products, we invested significantly in the expansion of our manufacturing and operations throughout the world and may do so in the future. We incurred in the past and will incur significant costs associated with the acquisition, build-out and preparation of our facilities. We had capital expenditures of $28.4 million and $10.5 million in 2010 and 2009, respectively, and we expect to incur approximately $50 million in capital expenditures, excluding acquisitions, in 2011. In connection with these projects, we may incur cost overruns, construction delays, labor

difficulties or regulatory issues which could cause our capital expenditures to be higher than what we currently anticipate, possibly by a material amount, which would in turn adversely impact our operating results. Moreover, we may experience higher costs due to yield loss,

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production inefficiencies and equipment problems until any operational issues associated with the opening of new manufacturing facilities are resolved.

The laser and amplifier industries are experiencing declining average selling prices, which could cause our gross margins to decline and harm our operating results.

Products in the laser and amplifier industries generally, and our products specifically, are experiencing and may in the future continue to experience a decline in average selling prices (ASPs) as a result of new product and technology introductions, increased competition and price pressures from significant customers. If the ASPs of our products decline further and we are unable to increase our unit volumes, introduce new or enhanced products with higher margins or reduce manufacturing costs to offset anticipated decreases in the prices of our existing products, our operating results may be adversely affected. In addition, because of our significant fixed costs, we are limited in our ability to reduce total costs quickly in response to any revenue shortfalls. Because of these factors, we have experienced and we may experience in the future material adverse fluctuations in our operating results on a quarterly or annual basis if the ASPs of our products continue to decline.

Because we lack long-term purchase commitments from our customers, our sales can be difficult to predict, which could lead to excess or obsolete inventory and adversely affect our operating results.

We generally do not enter into long-term agreements with our customers obligating them to purchase our fiber lasers or amplifiers. Our business is characterized by short-term purchase orders and shipment schedules and, in some cases, orders may be cancelled or delayed without significant penalty. As a result, it is difficult to forecast our revenues and to determine the appropriate levels of inventory required to meet future demand. In addition, due to the absence of long-term volume purchase agreements, we forecast our revenues and plan our production and inventory levels based upon the demand forecasts of our OEM customers, end users, and distributors, which are highly unpredictable and can fluctuate substantially. This could lead to increased inventory levels and increased carrying costs and risk of excess or obsolete inventory due to unanticipated reductions in purchases by our customers. In this regard, we recorded provisions for inventory totaling $2.7 million, $5.3 million and $3.8 million in 2010, 2009 and 2008, respectively. These provisions were recorded as a result of changes in market prices of certain components, the value of those inventories that was realizable through finished product sales and uncertainties related to the recoverability of the value of inventories due to technological changes and excess quantities. If our OEM customers, end users or distributors fail to accurately forecast the demand for our products, fail to accurately forecast the timing of such demand, or are unable to consistently negotiate acceptable purchase order terms with customers, our results of operations may be adversely affected.

We may experience lower than expected manufacturing yields, which would adversely affect our gross margins.

The manufacture of semiconductor diodes and the packaging of them is a highly complex process. Manufacturers often encounter difficulties in achieving acceptable product yields from diode and packaging operations. We have from time to time experienced lower than anticipated manufacturing yields for our diodes and packaged diodes. This occurs during the production of new designs and the installation and start-up of new process technologies. If we do not achieve planned yields, our product costs could increase resulting in lower gross margins, and key component availability would decrease.

We are subject to litigation alleging that we are infringing third-party intellectual property rights. Intellectual property claims could result in costly litigation and harm our business.

In recent years, there has been significant litigation involving intellectual property rights in many technology-based industries, including our own. We face risks and uncertainties in connection with such litigation, including the risk

that patents issued to others may harm our ability to do business; that there could be existing patents of which we are unaware that could be pertinent to our business; and that it is not possible for us to know whether there are patent applications pending that our products might infringe upon, since

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patent applications often are not disclosed until a patent is issued or published. Moreover, the frequency with which new patents are granted and the diversity of jurisdictions in which they are granted make it impractical and expensive for us to monitor all patents that may be relevant to our business.

From time to time, we have been notified of allegations and claims that we may be infringing patents or intellectual property rights owned by third parties. In 2007, we settled two patent infringement lawsuits filed against us and in 2010 we settled another patent infringement lawsuit filed against us. We are presently defending one patent infringement lawsuit.

In November 2006, IMRA America, Inc. filed an action against us alleging that certain products we produce, including but not limited to our continuous wave and pulsed fiber lasers and fiber amplifiers, which account for a significant portion of our revenues, infringe one U.S. patent allegedly owned by IMRA America. IMRA America alleged willful infringement and sought damages of at least $10 million, treble damages and injunctive relief. IMRA America also alleged inducement of infringement and contributory infringement. We filed an answer in which we denied infringement and raised additional defenses that the patent is invalid and unenforceable. In addition, we filed declaratory judgment counterclaims based on these three defenses. This lawsuit concerns products made, used, sold or offered for sale in or imported into the United States and therefore the lawsuit affects products that account for a substantial portion of our revenues. This lawsuit does not affect revenues that are derived from products that are not made, used, sold or offered for sale in or imported into the United States. In June 2008, the U.S. Patent and Trademark Office (USPTO) ordered re-examination of the patent claims asserted by IMRA America against the Company based on several prior art references that we submitted in an ex parte re-examination request. In July 2009, the USPTO confirmed the patentability of all of the claims in the IMRA America patent over the prior art cited in the re-examination, as well as of new claims added during the re-examination. In August 2009, we submitted an additional re-examination request, which was denied by the USPTO. The USPTO issued a re-examination certificate in October 2009. As a result, the U.S. District Court for the Eastern District of Michigan lifted the stay on the litigation. The District Court adopted the claim construction of IMRA on one of the four claim terms, but did not decide the others. In March 2011, the District Court granted our motion for summary judgment of no marking, precluding IMRA from seeking damages for any alleged infringing products sold prior to November 16, 2006, the date the lawsuit was filed, with the exception of four particular alleged infringing products, as to which IMRA is precluded from seeking damages for sales prior to August 6, 2006. The District Court denied our motions for summary judgment on non-infringement, invalidity, no willful infringement and laches, and granted IMRA s for summary judgment on no invalidity for derivation and no equitable misconduct. The trial date has not been scheduled. IMRA America has informed us that it has patents and applications in foreign jurisdictions directed to similar subject matter as the patent subject to this lawsuit, but has not asserted them against us. The Company has filed oppositions to two IMRA patents in Japan and Germany. In Japan, the patent office invalidated two claims and maintained 49 claims of the IMRA patent. The German opposition is still pending.

There can be no assurance that we will be able to dispose without a material effect the litigation with IMRA America, claims or other allegations made against us and claims that may be asserted in the future. The outcome of any litigation, including the pending litigation, is uncertain. Even if we ultimately are successful on the merits of any such litigation or re-examination, legal and administrative proceedings related to intellectual property are typically expensive and time-consuming, generate negative publicity and divert financial and managerial resources. Some litigants may have greater financial resources than we have and may be able to sustain the costs of complex intellectual property litigation more easily than we can.

If we do not prevail in any intellectual property litigation brought against us, including the lawsuits brought by IMRA America, it could affect our ability to sell our products and materially harm our business, financial condition and results of operations. These developments could adversely affect our ability to compete for customers and increase our revenues. Plaintiffs in intellectual property cases often seek, and sometimes obtain, injunctive relief. Intellectual

property litigation commenced against us, including the lawsuit brought

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by IMRA America that we are presently defending, could force us to take actions that could be harmful to our business, competitive position, results of operations and financial condition, including the following:

- stop selling our products or using the technology that contains the allegedly infringing intellectual property;
- pay actual monetary damages, royalties, lost profits or increased damages and the plaintiff s attorneys fees, which individually or in the aggregate may be substantial;
- attempt to obtain a license to use the relevant intellectual property, which may not be available on reasonable terms or at all; and
- attempt to redesign the products that allegedly infringed upon intellectual property of others, which may be costly or impractical.

In addition, intellectual property lawsuits can be brought by third parties against OEMs and end users that incorporate our products into their systems or processes. In some cases, we indemnify OEMs against third-party infringement claims relating to our products and we often make representations affirming, among other things, that our products do not infringe on the intellectual property rights of others. As a result, we may incur liabilities in connection with lawsuits against our customers. Any such lawsuits, whether or not they have merit, could be time-consuming to defend, damage our reputation or result in substantial and unanticipated costs.

Our inability to protect our intellectual property and proprietary technologies could result in the unauthorized use of our technologies by third parties, hurt our competitive position and adversely affect our operating results.

We rely on patents, trade secret laws, contractual agreements, technical know-how and other unpatented proprietary information to protect our products, product development and manufacturing activities from unauthorized copying by third parties. Although we acquired a patent portfolio in 2008 and started a program in 2007 to increase the number of patent applications we file, our patents do not cover all of our technologies, systems, products and product components and may not prevent third parties from unauthorized copying of our technologies, products and product components. We seek to protect our proprietary technology under laws affording protection for trade secrets. We also seek to protect our trade secrets and proprietary information, in part, by requiring employees to enter into agreements providing for the maintenance of confidentiality and the assignment of rights to inventions made by them while employed by us. We have significant international operations and we are subject to foreign laws which differ in many respects from U.S. laws. Policing unauthorized use of our trade secret technologies throughout the world and proving misappropriation of our technologies are particularly difficult, especially due to the number of our employees and operations in numerous foreign countries. The steps that we take to acquire ownership of our employees inventions and trade secrets in foreign countries may not have been effective under all such local laws, which could expose us to potential claims or the inability to protect intellectual property developed by our employees. Furthermore, any changes in, or unexpected interpretations of, the trade secret and other intellectual property laws in any country in which we operate may adversely affect our ability to enforce our trade secret and intellectual property positions. Costly and time-consuming litigation could be necessary to determine the scope of our confidential information and trade secret protection. We also enter into confidentiality agreements with our consultants and other suppliers to protect our confidential information that we deliver to them. However, there can be no assurance that our confidentiality agreements will not be breached, that we will be able to effectively enforce them or that we will have adequate remedies for any breach.

Given our reliance on trade secret laws, others may independently develop similar or alternative technologies or duplicate our technologies and commercialize discoveries that we have made. Therefore, our intellectual property efforts may be insufficient to maintain our competitive advantage or to stop other parties from commercializing

similar products or technologies. Many countries outside of the United States afford little or no protection to trade secrets and other intellectual property rights. Intellectual property litigation can be time-consuming and expensive, and there is no guarantee that we will have the resources to fully enforce our rights. If we are unable to prevent misappropriation or infringement of our intellectual property rights, or

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the independent development or design of similar technologies, our competitive position and operating results could suffer.

We depend upon internal production and on outside single or limited-source suppliers for many of our key components and raw materials. Any interruption in the supply of these key components and raw materials could adversely affect our results of operations.

We rely exclusively on our own production capabilities to manufacture certain of our key components, such as semiconductor diodes, specialty optical fibers and optical components. We do not have redundant production lines for some of our components, such as our diodes and some other components, which are made at a single manufacturing facility. These may not be readily available from other sources at our current costs. If our manufacturing activities were obstructed or hampered significantly, it could take a considerable length of time, or it could increase our costs, for us to resume manufacturing or find alternative sources of supply. Many of the tools and equipment we use are custom-designed, and it could take a significant period of time to repair or replace them. Our three major manufacturing facilities are located in Oxford, Massachusetts; Burbach, Germany; and Fryazino, Russia. If, as a result of a flood, fire, natural disaster, political unrest, act of terrorism, war, outbreak of disease or other similar event, any of our three major manufacturing facilities or equipment should become inoperable, inaccessible, damaged or destroyed, our business could be adversely affected to the extent that we do not have redundant production capabilities.

Also, we purchase certain raw materials used to manufacture our products and other components, such as semiconductor wafer substrates, diode packages, modulators, micro-optics, bulk optics and high-power beam delivery products, from single or limited-source suppliers. In general, we have no long-term contractual supply arrangements with these suppliers. Some of our suppliers are also our competitors. Some of our suppliers reduced their inventory levels and manufacturing capacity because of the recent recession. As a result, we experienced and may in the future experience longer lead times or delays in fulfillment of our orders. Furthermore, other than our current suppliers, there are a limited number of entities from whom we could obtain these supplies. We do not anticipate that we would be able to purchase these components or raw materials that we require in a short period of time or at the same cost from other sources in commercial quantities or that have our required performance specifications. Any interruption or delay in the supply of any of these components or materials, or the inability to obtain these components and materials from alternate sources at acceptable prices and within a reasonable amount of time, could adversely affect our business. If our suppliers face financial or other difficulties, if our suppliers do not maintain sufficient inventory on hand or if there are significant changes in demand for the components and materials we obtain from them, they could limit the availability of these components and materials to us, which in turn could adversely affect our business.

We rely on the significant experience and specialized expertise of our senior management and scientific staff and if we are unable to retain these key employees and attract other highly skilled personnel necessary to grow our business successfully, our business and results of operations could suffer.

Our future success is substantially dependent on the continued service of our executive officers, particularly our founder and chief executive officer, Dr. Valentin P. Gapontsev, age 72, and the managing director of our German subsidiary IPG Laser GmbH, Dr. Eugene Shcherbakov, age 63, our highly trained team of scientists, many of whom have numerous years of experience and specialized expertise in optical fibers, semiconductors and optical component technology, and other key engineering, sales, marketing, manufacturing and support personnel, any of whom may leave, which could harm our business. The members of our scientific staff who are expected to make significant individual contributions to our business are also members of our executive management team as disclosed under Item 10, Directors, Executive Officers and Corporate Governance below. Furthermore, our business requires scientists and engineers with experience in several disciplines, including physics, optics, materials sciences, chemistry and electronics. We will need to continue to recruit and retain highly skilled scientists and engineers for certain functions.

Our future success also depends on our ability to identify, attract, hire, train, retain and motivate highly skilled research and development, managerial, operations, sales, marketing and customer service personnel. If we fail to attract, integrate and retain the necessary personnel, our ability to extend and maintain our scientific expertise and grow our business could suffer significantly.

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Failure to effectively build and expand our direct field service and support organization could have an adverse effect on our business.

We believe that it will become increasingly important for us to provide rapid, responsive service directly to our customers throughout the world and to build and expand our own personnel resources to provide these services. Any actual or perceived lack of direct field service in the locations where we sell or try to sell our products may negatively impact our sales efforts and, consequently, our revenues. Accordingly, we have an ongoing effort to develop our direct support systems worldwide. This requires us to recruit and train additional qualified field service and support personnel as well as maintain effective and highly trained organizations that can provide service to our customers in various countries. We may not be able to attract and train additional qualified personnel to expand our direct support operations successfully. We may not be able to find and engage additional qualified third-party resources to supplement and enhance our direct support operations. Further, we may incur significant costs in providing these direct field and support services. Failure to implement our direct support operation effectively could adversely affect our relationships with our customers, and our operating results may suffer.

A few customers account for a significant portion of our sales, and if we lose any of these customers or they significantly curtail their purchases of our products, our results of operations could be adversely affected.

We rely on a few customers for a significant portion of our sales. In the aggregate, our top five customers accounted for 19%, 12% and 17% of our consolidated net sales in 2010, 2009 and 2008, respectively. Our largest customer accounted for 7%, 3% and 7% of sales in 2010, 2009 and 2008, respectively. We generally do not enter into agreements with our customers obligating them to purchase our fiber lasers or amplifiers. Our business is characterized by short-term purchase orders and shipment schedules. If any of our principal customers discontinues its relationship with us, replaces us as a vendor for certain products or suffers downturns in its business, our business and results of operations could be adversely affected.

We have experienced, and expect to experience in the future, fluctuations in our quarterly operating results. These fluctuations may increase the volatility of our stock price.

We have experienced, and expect to continue to experience, fluctuations in our quarterly operating results. We believe that fluctuations in quarterly results may cause the market price of our common stock to fluctuate, perhaps substantially. Factors which may have an influence on our operating results in a particular quarter include:

- the increase, decrease, cancellation or rescheduling of significant customer orders;
- the timing of revenue recognition based on the installation or acceptance of certain products shipped to our customers;
- seasonality attributable to different purchasing patterns and levels of activity throughout the year in the areas where we operate;
- the timing of customer qualification of our products and commencement of volume sales of systems that include our products;
- our ability to obtain export licenses for our products on a timely basis or at all;
- the rate at which our present and future customers and end users adopt our technologies;
- the gain or loss of a key customer;

product or customer mix;

competitive pricing pressures;

the relative proportions of our U.S. and international sales;

our ability to design, manufacture and introduce new products on a cost-effective and timely basis;

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our ability to manage our inventory levels and any inventory write-downs;

the incurrence of expenses to develop and improve application and support capabilities, the benefits of which may not be realized until future periods, if at all;

different capital expenditure and budget cycles for our customers, which affect the timing of their spending;

foreign currency fluctuations; and

our ability to control expenses.

These factors make it difficult for us to accurately predict our operating results. In addition, our ability to accurately predict our operating results is complicated by the fact that many of our products have long sales cycles, some lasting as long as twelve months. Once a sale is made, our delivery schedule typically ranges from four weeks to four months, and therefore our sales will often reflect orders shipped in the same quarter that they are received and will not enhance our ability to predict our results for future quarters. In addition, long sales cycles may cause us to incur significant expenses without offsetting revenues since customers typically expend significant effort in evaluating, testing and qualifying our products before making a decision to purchase them. Moreover, customers may cancel or reschedule shipments, and production difficulties could delay shipments. Accordingly, our results of operations are subject to significant fluctuations from quarter to quarter, and we may not be able to accurately predict when these fluctuations will occur.

Foreign currency transaction risk may negatively affect our net sales, cost of sales and operating margins and could result in exchange losses.

We conduct our business and incur costs in the local currency of most countries in which we operate. In 2010, our net sales outside the United States represented a significant portion of our total sales. We incur currency transaction risk whenever one of our operating subsidiaries enters into either a purchase or a sales transaction using a different currency from the currency in which it receives revenues. Changes in exchange rates can also affect our results of operations by changing the U.S. dollar value of sales and expenses denominated in foreign currencies. We cannot accurately predict the impact of future exchange rate fluctuations on our results of operations. Further, given the volatility of exchange rates, we may not be able to effectively manage our currency transaction or translation risks, and any volatility in currency exchange rates may increase the price of our products in local currency to our foreign customers, which may have an adverse effect on our financial condition, cash flows and profitability.

We depend on our OEM customers and system integrators and their ability to incorporate our products into their systems.

Our sales depend in part on our ability to maintain existing and secure new OEM customers. Our revenues also depend in part upon the ability of our current and potential OEM customers and system integrators to develop and sell systems that incorporate our laser and amplifier products. The commercial success of these systems depends to a substantial degree on the efforts of these OEM customers and system integrators to develop and market products that incorporate our technologies. Relationships and experience with traditional laser makers, limited marketing resources, reluctance to invest in research and development and other factors affecting these OEM customers and third-party system integrators could have a substantial impact upon our financial results. If OEM customers or integrators are not able to adapt existing tools or develop new systems to take advantage of the features and benefits of fiber lasers, then the opportunities to increase our revenues and profitability may be severely limited or delayed. Furthermore, if our OEM customers or third-party system integrators experience financial or other difficulties that adversely affect their

operations, our financial condition or results of operations may also be adversely affected.

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The markets for our products are highly competitive and increased competition could increase our costs, reduce our sales or cause us to lose market share.

The industries in which we operate are characterized by significant price and technological competition. Our fiber laser and amplifier products compete with conventional laser technologies and amplifier products offered by several well-established companies, some of which are larger and have substantially greater financial, managerial and technical resources, more extensive distribution and service networks, greater sales and marketing capacity, and larger installed customer bases than we do. Also, we compete with widely used non-laser production methods, such as resistance welding. We believe that competition will be particularly intense from makers of CO_2, YAG and disc lasers, as these makers of conventional solutions may lower prices to maintain current market share and have committed significant research and development resources to pursue opportunities related to these technologies.

In addition, we face competition from a growing number of fiber laser makers, including Rofin-Sinar Technologies, Inc., Trumpf GmbH + Co. KG, GSI Group Inc., Coherent Inc., Newport Corporation, The Furukawa Electric Co., Ltd., Keopsys SA, Mitsubishi Cable Industries, Ltd., Miyachi Unitek Corporation, MPB Communications Inc. and JDS Uniphase Corporation. Competition from other fiber laser makers has increased and some have introduced fiber lasers or announced plans to introduce fiber lasers that compete with our products. We may not be able to successfully differentiate our current and proposed products from our competitors products and current or prospective customers may not consider our products to be superior to competitors products. To maintain our competitive position, we believe that we will be required to continue a high level of investment in research and development, application development and customer service and support, and to react to market pricing conditions. We may not have sufficient resources to continue to make these investments and we may not be able to make the technological advances or price adjustments necessary to maintain our competitive position. We also compete against our OEM customers internal production of competitive laser technologies.

Our inability to manage risks associated with our international customers and operations could adversely affect our business.

Our have significant facilities in and our products aresold in numerous countries. The United States, Germany, Japan, Russia and China are our principal markets. A significant amount of our revenues are derived from customers, and we have substantial tangible assets, outside of the United States. We anticipate that foreign sales will continue to account for a significant portion of our revenues in the foreseeable future. Our operations and sales in these markets are subject to risks inherent in international business activities, including:

longer accounts receivable collection periods;

fluctuations in the values of foreign currencies;

changes in a specific country s or region s economic conditions, such as recession;

compliance with a wide variety of domestic and foreign laws and regulations and unexpected changes in those laws and regulatory requirements, including uncertainties regarding taxes, tariffs, quotas, export controls, export licenses and other trade barriers;

certification requirements;

environmental regulations;

less effective protection of intellectual property rights in some countries;

potentially adverse tax consequences;

different capital expenditure and budget cycles for our customers, which affect the timing of their spending;

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political, legal and economic instability, foreign conflicts, and the impact of regional and global infectious illnesses in the countries in which we and our customers, suppliers, manufacturers and subcontractors are located;

preference for locally produced products;

difficulties and costs of staffing and managing international operations across different geographic areas and cultures;

seasonal reductions in business activities; and

fluctuations in freight rates and transportation disruptions.

Political and economic instability and changes in governmental regulations could adversely affect both our ability to effectively operate our foreign sales offices and the ability of our foreign suppliers to supply us with required materials or services. Any interruption or delay in the supply of our required components, products, materials or services, or our inability to obtain these components, materials, products or services from alternate sources at acceptable prices and within a reasonable amount of time, could impair our ability to meet scheduled product deliveries to our customers and could cause customers to cancel orders.

We are also subject to risks of doing business in Russia through our subsidiary, NTO IRE-Polus, which provides components and test equipment to us and sells finished fiber devices to customers in Russia and neighboring countries. The results of operations, business prospects and facilities of NTO IRE-Polus are subject to the economic and political environment in Russia. Recently, a Russian investor purchased a minority interest in NTO IRE-Polus. As a minority investor, they have rights under Russian law, as well as under our negotiated agreements with them. Even though we control a supermajority of the shares and a majority of the board, certain actions require unanimous shareholder approval, including changes to capital, additional investments, use of proceeds other than initially agreed to uses and amounts, distributions, transactions in excess of agreed upon amounts and related party transactions. In recent years Russia has undergone substantial political, economic and social change. As is typical of an emerging market, Russia does not possess a well-developed business, legal and regulatory infrastructure that would generally exist in a more mature free market economy. In addition, the tax, currency and customs legislation within Russia is subject to varying interpretations and changes, which can occur frequently. The future economic direction of Russia remains largely dependent upon the effectiveness of economic, financial and monetary measures undertaken by the government, together with tax, legal, regulatory and political developments. Our failure to manage the risks associated with NTO IRE-Polus and our other existing and potential future international business operations could have a material adverse effect upon our results of operations.

Our products could contain defects, which may reduce sales of those products, harm market acceptance of our fiber laser products or result in claims against us.

The manufacture of our fiber lasers and amplifiers involves highly complex and precise processes. Despite testing by us and our customers, errors have been found, and may be found in the future, in our products. These defects may cause us to incur significant warranty, support and repair costs, incur additional costs related to a recall, divert the attention of our engineering personnel from our product development efforts and harm our relationships with our customers. These problems could result in, among other things, loss of revenues or a delay in revenue recognition, loss of market share, harm to our reputation or a delay or loss of market acceptance of our fiber laser products. Defects, integration issues or other performance problems in our fiber laser and amplifier products could also result in personal injury or financial or other damages to our customers, which in turn could damage market acceptance of our

products. Our customers could also seek damages from us for their losses. A product liability claim brought against us, even if unsuccessful, could be time-consuming and costly to defend.

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We may pursue acquisitions and investments in new businesses, products, patents or technologies. These may involve risks which could disrupt our business and may harm our financial condition.

We currently have no binding commitments or agreements to make any acquisitions and have limited experience in making acquisitions. In the future, we may make acquisitions of and investments in new businesses, products, patents, technologies and geographic areas, or we may acquire operations, products or technologies that expand our current capabilities. Acquisitions present a number of potential risks and challenges that could, if not met, disrupt our business operations, increase our operating costs and reduce the value of the acquired company, asset or technology to us. For example, if we identify an acquisition candidate, we may not be able to successfully negotiate or finance the acquisition on favorable terms. Even if we are successful, we may not be able to integrate the acquired businesses, products, patents or technologies into our existing business and products. As a result of the rapid pace of technological change in our industry, we may misjudge the long-term potential of an acquired business, product, patent or technology, or the acquisition may not be complementary to our existing business. Furthermore, potential acquisitions and investments, whether or not consummated, may divert our management s attention and require considerable cash outlays at the expense of our existing operations. In addition, to complete future acquisitions, we may issue equity securities, incur debt, assume contingent liabilities or have amortization expenses and write-downs of acquired assets, which could adversely affect our profitability and result in dilution to our existing and future stockholders.

We are subject to various environmental laws and regulations that could impose substantial costs upon us and may adversely affect our business, operating results and financial condition.

Some of our operations use substances regulated under various federal, state, local and international laws governing the environment, including those relating to the storage, use, discharge, disposal, product composition and labeling of, and human exposure to, hazardous and toxic materials. We could incur costs, fines and civil or criminal sanctions, third-party property damage or personal injury claims, or could be required to incur substantial investigation or remediation costs, if we were to violate or become liable under environmental laws. Liability under environmental laws can be joint and several and without regard to comparative fault. Compliance with current or future environmental laws and regulations could restrict our ability to expand our facilities or require us to acquire additional expensive equipment, modify our manufacturing processes, or incur other significant expenses in order to remain in compliance with such laws and regulations. At this time, we do not believe the costs to maintain compliance with current environmental laws to be material. Although we do not currently anticipate that such costs will become material, if such costs were to become material in the future, whether due to unanticipated changes in environmental laws, unanticipated changes in our operations or other unanticipated changes, we may be required to dedicate additional staff or financial resources in order to maintain compliance. There can be no assurance that violations of environmental laws or regulations will not occur in the future as a result of the lack of obtain permits, human error, accident, equipment failure or other causes.

We are subject to export control regulations that could restrict our ability to increase our international sales and may adversely affect our business.

A significant part of our business involves the export of our products to other countries. The U.S. government has in place a number of laws and regulations that control the export, re-export or transfer of U.S.-origin products, software and technology. The governments of other countries in which we do business have similar regulations regarding products, software and technology originating in those countries. These laws and regulations may require that we obtain a license before we can export, re-export or transfer certain products, software or technology. The requirement to obtain a license could put us at a competitive disadvantage by restricting our ability to sell products to customers in certain countries or by giving rise to delays or expenses related to obtaining a license. In applying for a license and responding to questions from licensing authorities, we have experienced and, in the future, may experience delays in obtaining export licenses based on issues solely within the control of the applicable government agency. Under the

discretion of the issuing government agency, an export license may permit the export of one unit to a single customer or multiple units to one or more customers. Licenses may also include conditions that limit the use, resale, transfer, re-export,

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modification, disassembly, or transfer of a product, software or technology after it is exported without first obtaining permission from the relevant government agency. Failure to comply with these laws and regulations could result in government sanctions, including substantial monetary penalties, denial of export privileges, debarment from government contracts and a loss of revenues. Delays in obtaining or failure to obtain required export licenses may require us to defer shipments for substantial periods or cancel orders. Any of these circumstances could adversely affect our operations and, as a result, our financial results could suffer.

Our ability to access financial markets to finance a portion of our working capital requirements and support our liquidity needs may be adversely affected by factors beyond our control and could negatively impact our ability to finance our operations, meet certain obligations or implement our operating strategy.

We occasionally borrow under our existing credit facilities to fund operations, including working capital investments. Our major credit lines in the U.S. and Germany expire in June 2015 and June 2012, respectively. Market disruptions such as those currently being experienced in the United States and abroad have materially impacted liquidity in the credit and debt markets, making financing terms for borrowers less attractive, and, in certain cases, have resulted in the unavailability of certain types of financing. Continued uncertainty in the financial markets may negatively impact our ability to access additional financing or to refinance our existing credit facilities or existing debt arrangements on favorable terms or at all, which could negatively affect our ability to fund current and future expansion as well as future acquisitions and development. These disruptions may include turmoil in the financial services industry, unprecedented volatility in the markets where our outstanding securities trade, and general economic downturns in the areas where we do business. If we are unable to access funds at competitive rates, or if our short-term or long-term borrowing costs increase, our ability to finance our operations, meet our short-term obligations and implement our operating strategy could be adversely affected.

Our ability to raise capital in the future may be limited, and our failure to raise capital when needed could prevent us from growing.

We may in the future be required to raise capital through public or private financing or other arrangements. Such financing may not be available on acceptable terms, or at all, and our failure to raise capital when needed could harm our business. Additional equity financing may be dilutive to the holders of our common stock, and debt financing, if available, may involve restrictive covenants and could reduce our profitability. If we cannot raise funds on acceptable terms, we may not be able to grow our business or respond to competitive pressures.

Dr. Valentin P. Gapontsev, our Chairman and Chief Executive Officer and two trusts he created control approximately 42% of our voting power and have a significant influence on the outcome of director elections and other matters requiring stockholder approval, including a change in corporate control.

Dr. Valentin P. Gapontsev, our Chairman and Chief Executive Officer, and IP Fibre Devices (UK) Ltd. (IPFD), of which Dr. Gapontsev is the managing director, together with two trusts he created beneficially own approximately 42% of our common stock. Trustees of the trusts are officers or employees of the Company. Dr. Gapontsev and the trusts have a significant influence on the outcome of matters requiring stockholder approval, including:

election of our directors;

amendment of our certificate of incorporation or by-laws; and

approval of mergers, consolidations or the sale of all or substantially all of our assets.

Dr. Gapontsev and the trusts may vote their shares of our common stock in ways that are adverse to the interests of other holders of our common stock. These significant ownership interests could delay, prevent or cause a change in control of our company, any of which could adversely affect the market price of our common stock.

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Anti-takeover provisions in our charter documents and Delaware law could prevent or delay a change in control of our company, even if a change in control would be beneficial to our stockholders.

Provisions of our certificate of incorporation and by-laws, including certain provisions that will take effect when Dr. Valentin P. Gapontsev (together with his affiliates and associates) ceases to beneficially own an aggregate of 25% or more of our outstanding voting securities, may discourage, delay or prevent a merger, acquisition or change of control, even if it would be beneficial to our stockholders. The existence of these provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock. These provisions include:

authorizing the issuance of blank check preferred stock;

establishing a classified board;

providing that directors may only be removed for cause;

prohibiting stockholder action by written consent;

limiting the persons who may call a special meeting of stockholders;

establishing advance notice requirements for nominations for election to the board of directors and for proposing matters to be submitted to a stockholder vote; and

supermajority stockholder approval to change these provisions.

Provisions of Delaware law may also discourage, delay or prevent someone from acquiring or merging with our company or obtaining control of our company. Specifically, Section 203 of the Delaware General Corporation Law, which will apply to our company following such time as Dr. Gapontsev (together with his affiliates and associates) ceases to beneficially own 25% or more of the total voting power of our outstanding shares, may prohibit business combinations with stockholders owning 15% or more of our outstanding voting stock.

Substantial sales of our common stock, including shares issued upon the exercise of currently outstanding options or pursuant to our universal shelf registration statement, could cause our stock price to decline.

Sales of a substantial number of shares of common stock, or the perception that sales could occur, could adversely affect the market price of our common stock. As of December 31, 2010, we had 46,988,566 shares of common stock outstanding and approximately 2,736,000 shares subject to outstanding options. We have registered all shares of common stock that we may issue under our stock option plans and our employee stock ownership plan. In addition, all of our unregistered shares of our common stock are now eligible for sale under Rule 144, or Rule 701. As these shares are issued, they may be freely sold in the public market, and subject, in the case of any awards under our stock-based compensation plans, to applicable vesting requirements.

We currently have the ability to offer and sell common stock, preferred stock, warrants, debt and convertible securities under a currently effective universal shelf registration statement. In the future, we may issue additional options, warrants or other securities convertible into our common stock. Sales of substantial amounts of shares of our common stock or other securities under our universal shelf registration statement could lower the market price of our common stock and impair our ability to raise capital through the sale of equity securities.

If securities analysts stop publishing research or reports about our business, or if they downgrade our stock, the price of our stock could decline.

The trading market for our common stock relies in part on the research and reports that industry or financial analysts publish about us. If one or more of these analysts who do cover us downgrade our stock, our stock price would likely decline. Further, if one or more of these analysts cease coverage of our company, we could lose visibility in the market, which in turn could cause our stock price to decline.

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ITEM 1B. ***UNRESOLVED STAFF COMMENTS***

None.

ITEM 2. ***PROPERTIES***

Our main facilities at December 31, 2010 include the following:

Location	Owned or Leased	Lease Expiration	Approximate Size (sq. ft.)	Primary Activity
Oxford, Massachusetts	Owned		261,000	Diodes, components, complete device manufacturing, administration
Burbach, Germany	Owned		206,000	Optical fiber, components, final assembly, complete device manufacturing, administration
Fryazino, Russia	Leased		69,000	Components, complete device
	Owned		35,000	manufacturing, administration
Beijing, China	Owned		38,000	Administration, service
Novi, Michigan	Owned		16,000	Administration, service
Legnano, Italy	Leased	June 2011	12,000	Complete device manufacturing, administration
Yokohama, Japan	Leased	November 2011	22,000	Administration, service

* Subject to ongoing renewal discussions.

We maintain our corporate headquarters in Oxford, Massachusetts, and conduct research and development in Oxford, Massachusetts, Burbach, Germany and Fryazino, Russia. We operate four manufacturing facilities for lasers, amplifiers and components, which are located in the United States, Germany, Russia and Italy. We also manufacture certain optical components and systems in India and China. We are committed to meeting internationally recognized manufacturing standards. Our facilities in the United States and Germany are ISO 9001 certified and we have ISO certification in Russia for specific products. We have sales personnel at each of our manufacturing facilities, and at offices in Novi, Michigan; Santa Clara, California; London, England; Illkirch, France; Yokohama and Chubu, Japan; Daejeon, South Korea; Bangalore, India; Beijing, China; and Singapore.

We plan to expand our operations in Russia, Germany, China, Italy and the United States to meet the demand for our products and our sales and support needs. We believe that we will be able to obtain additional land or commercial space as needed.

ITEM 3. ***LEGAL PROCEEDINGS***

From time to time, we are party to various legal proceedings and other disputes incidental to our business, including those described below. For a discussion of the risks associated with these legal proceedings and other disputes, see Item 1A. Risk Factors We are subject to litigation alleging that we are infringing third-party intellectual property rights. Intellectual property claims could result in costly litigation and harm our business.

In November 2006, IMRA America, Inc. filed an action against us alleging that certain products we produce, including but not limited to our continuous wave and pulsed fiber lasers and fiber amplifiers, which account for a significant portion of our revenues, infringe one U.S. patent allegedly owned by IMRA America. IMRA America alleged willful infringement and sought damages of at least $10 million, treble damages and injunctive relief. IMRA America also alleged inducement of infringement and contributory infringement. This lawsuit concerns products made, used, sold or offered for sale in or imported into the United States and therefore the lawsuit affects products that account for a substantial portion of our revenues. We filed an answer

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in which we denied infringement and raised additional defenses that the patent is invalid and unenforceable. In addition, we filed declaratory judgment counterclaims based on these three defenses. This lawsuit does not affect revenues that are derived from products that are not made, used, sold or offered for sale in or imported into the United States. IMRA America has informed us that it has patents and applications in foreign jurisdictions directed to similar subject matter as the patent subject to this lawsuit, but has not asserted them against us. In June 2008, the USPTO ordered re-examination of the patent claims asserted by IMRA America, Inc. against the Company based on several prior art references that we submitted in an ex parte re-examination request. In July 2009, the USPTO confirmed the patentability of all of the claims in the IMRA America Inc., patent over the prior art cited in the re-examination, as well as of new claims added during the re-examination. In August 2009, we submitted an additional re-examination request, which was denied by the USPTO. The USPTO issued a re-examination certificate in October 2009. As a result, the U.S. District Court for the Eastern District of Michigan lifted the stay on the litigation. The District Court adopted the claim construction of IMRA on one of the four claim terms, but did not decide the others. In March 2011, the District Court granted our motion for summary judgment of no marking, precluding IMRA from seeking damages for any alleged infringing products sold prior to November 16, 2006, the date the lawsuit was filed, with the exception of four particular alleged infringing products, as to which IMRA is precluded from seeking damages for sales prior to August 6, 2006. The District Court denied our motions for summary judgment on non-infringement, invalidity, no willful infringement and laches, and granted IMRA s for summary judgment on no invalidity for derivation and no equitable misconduct. The trial date has not been scheduled. We intend to vigorously contest the claims against us, but we cannot predict the outcome of the proceeding.

ITEM 4. ***[REMOVED AND RESERVED]***

PART II

ITEM 5. ***MARKET FOR THE REGISTRANT S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES***

Price Range of Common Stock

Our common stock is quoted on the Nasdaq Global Market under the symbol IPGP . The following table sets forth the quarterly high and low sale prices of our common stock as reported on the Nasdaq Global Market.

	Common Stock Price	
	High	**Low**
First Quarter ended March 31, 2009	$ 13.56	$ 6.79
Second Quarter ended June 30, 2009	$ 11.80	$ 8.36
Third Quarter ended September 30, 2009	$ 15.35	$ 9.48
Fourth Quarter ended December 31, 2009	$ 17.62	$ 12.98
First Quarter ended March 31, 2010	$ 17.42	$ 13.32
Second Quarter ended June 30, 2010	$ 19.20	$ 14.57
Third Quarter ended September 30, 2010	$ 25.29	$ 13.93
Fourth Quarter ended December 31, 2010	$ 33.43	$ 19.87

As of March 8, 2011, there were 47,215,469 shares of our common stock outstanding held by approximately 60 holders of record, which does not include beneficial owners of common stock whose shares are held in the names of various securities brokers, dealers and registered clearing agencies.

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Stock Price Performance Graph

The following Stock Price Performance Graph and related information includes comparisons required by the SEC. The Graph does not constitute soliciting material and should not be deemed filed or incorporated by reference into any other filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that we specifically incorporate this information by reference into such filing.

The following graph presents the cumulative shareholder returns for our Common Stock compared with the NASDAQ Composite Index and the S&P Technology Sector Index. We selected these comparative groups due to industry similarities and the fact that they contain several direct competitors.

COMPARISON OF CUMULATIVE TOTAL RETURN
AMONG THE COMPANY, THE NASDAQ COMPOSITE INDEX AND S&P 500 TECHNOLOGY SECTOR INDEX

	12/13/2006	12/31/2006	12/31/2007	12/31/2008	12/31/2009	12/31/2010
IPG Photonics Corporation	$ 100.00	$ 93.75	$ 78.09	$ 51.48	$ 65.35	$ 123.52
Nasdaq Composite (U.S. & Foreign)	$ 100.00	$ 99.30	$ 109.04	$ 64.83	$ 93.29	$ 109.06
S&P 500 Technology Sector Index	$ 100.00	$ 99.74	$ 113.91	$ 66.14	$ 98.14	$ 107.53

The above graph represents and compares the value, through December 31, 2010, of a hypothetical investment of $100 made at the closing price on December 13, 2006 (which was the date that our common stock began trading on the Nasdaq Global Market) in each of (i) our common stock, (ii) the NASDAQ Composite Stock Index and (iii) the S&P 500 Technology Sector Index, in each case assuming the reinvestment of dividends. The stock price performance shown in this graph is not necessarily indicative of, and not is intended to suggest, future stock price performance.

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Dividends

We have never declared or paid any cash dividends on our capital stock. We anticipate that we will retain any future earnings to support operations and to finance the growth and development of our business. Therefore, we do not expect to pay cash dividends in the foreseeable future. Our payment of any future dividends will be at the discretion of our Board of Directors after taking into account any business conditions, any contractual and legal restrictions on our payment of dividends, and our financial condition, operating results, cash needs and growth plans. In addition, current agreements with certain of our lenders contain, and future loan agreements may contain, restrictive covenants that generally prohibit us from paying cash dividends, making any distribution on any class of stock or making stock repurchases.

Recent Sales of Unregistered Securities; Use of Proceeds from Registered Securities

During the past three years, we have sold and issued the following unregistered securities:

1. In December 2008, we issued 50,680 unregistered shares of common stock as partial payment of the purchase price for the 20% noncontrolling interest in IPG Photonics (Italy), S.r.l. that we did not previously own. IPG Photonics (Italy), S.r.l. is now 100% owned by us. The shares were valued at $13.05 per share, the closing price on November 17, 2008.

2. In March 2009, we issued 293,146 unregistered shares of common stock as payment of the purchase price for a 31.6% noncontrolling interest in NTO IRE-Polus. The aggregate sale price for the shares was $6,117,973.

3. In May 2009, we issued 75,000 unregistered shares of common stock as partial payment of the purchase price for the 20% noncontrolling interest in IPG Photonics (Japan), Ltd. IPG Photonics (Japan), Ltd. is now 100% owned by us. The aggregate sale price for the shares was $848,000.

The sales of securities described above were deemed to be exempt from registration pursuant to Section 4(2) of the Securities Act and Regulation D promulgated thereunder as transactions by an issuer not involving a public offering. Each of these sales was to accredited investors, as such term is defined in Rule 501 of Regulation D. Each of the recipients of securities in the transactions deemed to be exempt from registration pursuant to Section 4(2) of the Securities Act received written disclosures that the securities had not been registered under the Securities Act and that any resale must be made pursuant to a registration or an available exemption from such registration. None of the sales of the securities described above involved the use of an underwriter, and no commissions were paid in connection with the sale of any of the securities that we issued. The sales of these securities were made without general solicitation or advertising.

Issuer Purchases of Equity Securities

During the quarter ended December 31, 2010, there were no repurchases made by us or on our behalf, or by any affiliated purchasers, of shares of our common stock.

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Information Regarding Equity Compensation Plans

The following table sets forth information with respect to securities authorized for issuance under our equity compensation plans as of December 31, 2010:

Equity Compensation Plan Information

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity Compensation Plans Approved by Security Holders	2,736,443	$ 10.33	1,526,358
Equity Compensation Plans Not Approved by Security Holders			
Total	2,736,443		1,526,358

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ITEM 6. ***SELECTED FINANCIAL DATA***

The following selected consolidated financial data should be read in conjunction with, and is qualified by reference to, our consolidated financial statements and related notes and Item 7, Management s Discussion and Analysis of Financial Condition and Results of Operations included elsewhere in this Annual Report on Form 10-K. The data as of December 31, 2010 and 2009, and for the years ended December 31, 2010, 2009 and 2008, is derived from our audited consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. The data as of December 31, 2008, 2007 and 2006, and for the years ended December 31, 2007 and 2006, is derived from our audited consolidated financial statements and related notes not included in this Annual Report on Form 10-K. Our historical results are not necessarily indicative of the results for any future period.

	2010	2009	2008	2007	2006
	(In thousands, except per share data)				
Consolidated Statement of Operations Data:					
Net sales	$ 299,256	$ 185,894	$ 229,076	$ 188,677	$ 143,225
Cost of sales	152,798	121,626	121,776	103,695	79,931
Gross profit	146,458	64,268	107,300	84,982	63,294
Operating expenses:					
Sales and marketing	19,100	15,157	13,900	10,103	6,222
Research and development	19,160	18,543	15,804	9,527	6,544
General and administrative	28,645	20,489	23,198	20,203	13,757
(Gain) loss on foreign exchange	(848)	1,022	(2,798)	(1,175)	765
Total operating expenses	66,057	55,211	50,104	38,658	27,288
Operating income	80,401	9,057	57,196	46,324	36,006
Interest (expense) income, net	(1,188)	(1,252)	(777)	674	(1,493)
Fair value adjustment to series B warrants(1)					(7,444)
Other income (expense), net	39	(36)	145	612	1,050
Income before (provision for) benefit from income taxes	79,252	7,769	56,564	47,610	28,119
(Provision for) benefit from income taxes	(24,900)	(2,485)	(18,111)	(15,522)	2,995
Net income	54,352	5,284	38,453	32,088	31,114
Less: Net income (loss) attributable to noncontrolling interests	361	(135)	1,799	2,193	1,881
Net income attributable to IPG Photonics Corporation	53,991	5,419	36,654	29,895	29,233
Accretion of series B preferred stock					(1,994)
Beneficial conversion feature					(18,267)
	$ 53,991	$ 5,419	$ 36,654	$ 29,895	$ 8,972

Net income attributable to common shareholders					
Net income per share:					
Basic	$ 1.16	$ 0.12	$ 0.82	$ 0.69	$ 0.27
Diluted	$ 1.13	$ 0.12	$ 0.79	$ 0.65	$ 0.26
Weighted-average shares outstanding:					
Basic	46,424	45,489	44,507	43,269	27,896
Diluted	47,594	46,595	46,223	45,749	33,005

(1) The change in value of the series B warrants is a non-cash charge related to recording the increase or decrease in the fair value of the warrants prior to their conversion in December 2006. The change in fair value for this derivative instrument was directly related to the probability that the warrants would be

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exercised prior to their expiration in April 2008. We used a portion of the net proceeds from our IPO to repurchase the series B warrants.

	As of December 31,				
	2010	2009	2008	2007	2006
	(In thousands)				
Consolidated Balance Sheet Data:					
Cash and cash equivalents	$ 147,860	$ 82,920	$ 51,283	$ 37,972	$ 75,667
Working capital, excluding cash and cash equivalents	70,171	61,163	80,714	83,237	40,001
Total assets	441,855	312,636	313,218	263,321	232,492
Revolving line-of-credit facilities	6,841	6,007	19,769	11,218	2,603
Long-term debt, including current portion	16,977	18,000	19,330	20,000	38,367
Redeemable noncontrolling interests	24,903				
Stockholders equity	$ 316,600	$ 256,430	$ 238,172	$ 200,180	$ 158,594

ITEM 7. *MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS*

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with Item 6, Selected Consolidated Financial Data and our consolidated financial statements and related notes included in this Annual Report of Form 10-K. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors including, but not limited to, those discussed under Item 1A, Risk Factors.

Overview

We develop and manufacture a broad line of high-performance fiber lasers for diverse applications in numerous markets. Fiber lasers are a new generation of lasers that combine the long life and high efficiency of semiconductor diodes with the high amplification and precise beam qualities of specialty optical fibers. Fiber lasers deliver superior performance, reliability and usability at a generally lower total cost of ownership compared to CO_2 and crystal lasers. Our products are displacing conventional lasers in many current applications and also enable new applications for lasers.

Our diverse lines of low, mid and high-power lasers and amplifiers are used in materials processing, advanced, communications and medical applications. We sell our products globally to original equipment manufacturers, or OEMs, system integrators and end users. We market our products internationally primarily through our direct sales force and also through agreements with independent sales representatives and distributors. We have sales offices in the United States, Germany, Italy, France, the United Kingdom, Japan, China, South Korea, Singapore, India and Russia.

We are vertically integrated. We design and manufacture most key components used in our finished products, including semiconductor diodes, optical fiber preforms and cables, finished fiber lasers and amplifiers. We also manufacture certain complementary products used with our lasers including optical heads, beam splitters and chillers. Our vertically integrated operations allow us to reduce manufacturing costs, ensure access to critical components, rapidly develop and integrate advanced products and protect our proprietary technology.

Since our formation in Russia in 1990, we have been focused on developing and manufacturing high-power fiber lasers and amplifiers. We established manufacturing and research operations in Germany in 1994 and in the United States in 1998. In the following years, we developed numerous OEM customer relationships for our advanced, active fiber-based products and generated a substantial majority of our sales from

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communications companies. During 2001, 2002 and 2003, we invested in developing and manufacturing our own semiconductor diodes, one of our highest-cost components, rather than purchasing them from third-party vendors. Also, we developed new products with higher output levels, targeting new applications and markets outside of the communications industry, particularly materials processing, which is now the largest market for our products.

Description of Our Net Sales, Costs and Expenses

Net sales. We derive net sales primarily from the sale of fiber lasers and amplifiers. We also sell diode lasers, communications systems and complementary products. We sell our products through our direct sales organization and our network of distributors and sales representatives, as well as system integrators. We sell our products to OEMs that supply materials processing laser systems, communications systems and medical laser systems to end users. We also sell our products to end users that build their own systems which incorporate our products or use our products as an energy or light source. Our scientists and engineers work closely with OEMs and end users to analyze their system requirements and match appropriate fiber laser or amplifier specifications. Our sales cycle varies substantially, ranging from a period of a few weeks to as long as one year or more.

Sales of our products generally are recognized upon shipment, provided that no obligations remain and collection of the receivable is reasonably assured. Our sales typically are made on a purchase order basis rather than through long-term purchase commitments.

We develop our products to standard specifications and use a common set of components within our product architectures. Our major products are based upon a common technology platform. We continually enhance these and other products by improving their components as well as by developing new components. Although it is difficult to predict the life cycles of our products and what stage of the life cycle our products are in, we estimate that our major products are in the early stages of their life cycles.

The average selling prices of our products generally decrease as the products mature. These decreases result from factors such as increased competition, the introduction of new products, increases in unit volumes and market share considerations. In the past, we have lowered our selling prices in order to penetrate new markets and applications in which previously it was not economically feasible for customers to deploy our products. Furthermore, we offer volume discounts to customers who buy multiple units. We cannot predict the timing and degree of these price declines.

Cost of sales. Our cost of sales consists primarily of the cost of raw materials and components, direct labor expenses and manufacturing overhead. We are vertically integrated and currently manufacture all critical components for our products as well as assemble finished products. We believe our vertical integration allows us to increase efficiencies, leverage our scale and lower our cost of sales. Cost of sales also includes personnel costs and overhead related to our manufacturing and engineering operations, related occupancy and equipment costs, shipping costs and reserves for inventory obsolescence and for warranty obligations. Inventories are written off and charged to cost of sales when identified as excess or obsolete.

Due to our vertical integration strategy, we maintain a relatively high fixed manufacturing overhead. We may not adjust these fixed costs quickly enough to adapt to rapidly changing market conditions. Our gross margin is therefore significantly affected by our sales volume and the corresponding absorption of fixed manufacturing overhead expenses. Additionally, because many of our products are customized, we are frequently required to devote significant engineering resources to the sales process, which we also include in cost of product sales as incurred.

Sales and marketing. Our sales and marketing expense consists primarily of costs related to compensation, trade shows, professional and technical conferences, travel, facilities, depreciation of equipment used for demonstration

purposes and other marketing costs.

Research and development. Our research and development expense consists primarily of compensation, development expenses related to the design of our products and certain components, and facilities costs. We

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use a common research and development platform for our products. Costs related to product development are recorded as research and development expenses in the period in which they are incurred.

General and administrative. Our general and administrative expense consists primarily of compensation and associated costs for executive management, finance, legal and other administrative personnel, outside legal and professional fees, allocated facilities costs and other corporate expenses.

Factors and Trends That Affect Our Operations and Financial Results

Management believes that the following factors and trends are important in understanding our financial statements and overall financial performance.

Net sales Our net sales grew from $60.7 million in 2004 to $299.3 million in 2010, representing a compound annual growth rate of approximately 30%. Net sales growth was driven by (i) increasing demand for our products, fueled by the decreasing average cost per watt of output power and resulting increased cost competitiveness compared to traditional lasers, (ii) the introduction of new products, including our high-power lasers with higher output power levels, (iii) the growing market acceptance of fiber lasers and (iv) the development of new applications for our products and new OEM customer relationships. Our annual revenue growth rates have varied. Net Sales increased by 61% in 2010. In 2009, our net sales decreased by 19% primarily due to the global economic downturn. Prior to 2009, our growth rates were 21% in 2008, 32% in 2007 and 49% in 2006.

Our business depends substantially upon capital expenditures by our customers, particularly by manufacturers in the materials processing market, which include automotive, marking, electronics and photovoltaic applications. Approximately 84% of our revenues in 2010 were from customers in the materials processing market. Although applications in this market are broad, the capital equipment market in general is cyclical and historically has experienced sudden and severe downturns. For the foreseeable future, our operations will continue to depend upon capital expenditures by customers in the materials processing market and will be subject to the broader fluctuations of capital equipment spending.

Our net sales have historically fluctuated from quarter to quarter. The increase or decrease in sales from a prior quarter can be affected by the timing of orders received from customers, the shipment, installation and acceptance of products at our customers facilities, the mix of OEM orders and one-time orders for products with large purchase prices, and seasonal factors such as the purchasing patterns and levels of activity throughout the year in the regions where we operate. Historically, our net sales have been higher in the second half of the year than in the first half of the year. Furthermore, net sales can be affected by the time taken to qualify our products for use in new applications in the end markets that we serve. The adoption of our products by a new customer or qualification in a new application can lead to an increase in net sales for a period, which may then slow until we penetrate new markets or obtain new customers.

Gross margin. Our total gross margin in any period can be significantly affected by total net sales in any period, by product mix, that is, the percentage of our revenue in the period that is attributable to higher or lower-power products, and by other factors, some of which are not under our control.

Our product mix affects our margins because the selling price per watt is generally higher for low and mid-power devices than for high-power devices. The overall cost of high-power lasers may be partially offset by improved absorption of fixed overhead costs associated with sales of larger volumes of higher-power products.

Due to our vertical integration, we have significant fixed costs and our costs are difficult to adjust in response to changes in demand. Significant decreases in net sales, such as those experienced during 2009, will negatively affect gross margins. Gross margin can also vary from quarter to quarter based on changes in manufacturing activity levels,

which may not be consistent with changes in net sales. In periods where work in process and finished goods levels increase, there is generally greater absorption of manufacturing overhead relative to sales volume, which can improve gross margins in those periods. In periods where work in process and finished goods levels decrease, there is generally less absorption of manufacturing overhead relative to sales volume, which can reduce gross margins in those periods.

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We also regularly review our inventory for items that are slow-moving, have been rendered obsolete or determined to be excess. Any write-off of such slow-moving, obsolete or excess inventory affects our gross margins. For example, we recorded provisions for inventory totaling $2.7 million, $5.3 million and $3.8 million in 2010, 2009 and 2008, respectively.

The factors that can influence the gross margins derived from sales of any individual product include the following:

- factors that affect the prices we can charge, including the features and performance of our products, their output power, the nature of the end user and application, and competitive pressures;
- factors that affect the cost of our net sales, including the cost of raw materials and components, manufacturing costs and shipping costs;
- production volumes and yields of specific product lines or components; and
- in the case of our OEM customers, the type of market that they serve and the competitive pricing pressures faced by our OEM customers.

Sales and marketing expense. We have expanded our worldwide direct sales organization, opened applications centers around the world, hired additional personnel involved in marketing in our existing and new geographic locations, increased the number of units used for demonstration purposes, and otherwise increased expenditures on sales and marketing activities in order to support the growth in our net sales. We expect to continue to invest in our sales and marketing resources and such costs may increase in the aggregate. However, the rate of growth in such costs is not expected to be as high as rates experienced in previous years.

Research and development expense. We plan to continue to invest in research and development to improve our existing components and products and develop new components and products, such as diodes, gas lasers and visible lasers. The amount of research and development expense we incur may vary from period to period. Although, if net sales continue to increase we would expect research and development expense to increase in the aggregate.

General and administrative expense. We have increased our general and administrative expenses and expanded headcount to support the growth of our company and to comply with public company reporting obligations and regulatory requirements, incurred higher insurance expenses related to directors and officers insurance and invested in our financial reporting systems. In the future, we expect general and administrative expenses to increase as we invest to support the growth in net sales. In addition, the timing and amount of litigation-related expenses may vary substantially from quarter to quarter in response to the level of litigation activity and other unforeseen circumstances and events.

Major customers. We have historically depended on a few customers for a large percentage of our annual net sales. The composition of this group can change from year to year. Net sales derived from our five largest customers as a percentage of our annual net sales were 19% in 2010, 12% in 2009 and 17% in 2008. Sales to our largest customer accounted for 7%, 3% and 7% of our net sales in 2010, 2009 and 2008, respectively. We seek to add new customers and to expand our relationships with existing customers. We anticipate that the composition of our net sales to our significant customers will continue to change. If any of our significant customers were to substantially reduce their purchases from us, our results would be adversely affected.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of net sales and expenses. By their nature, these estimates and judgments are subject to an inherent degree of uncertainty. On an ongoing basis we re-evaluate our judgments and estimates including those related to inventories, income taxes and the fair value of certain debt and equity instruments including stock-based compensation. We base our estimates and judgments on our historical experience and on

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other assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making the judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from those estimates, which may materially affect our operating results and financial position. The accounting policies described below are those which, in our opinion, involve the most significant application of judgment, or involve complex estimation, and which could, if different judgments or estimates were made, materially affect our reported results of operations and financial position.

Revenue recognition. Our net sales are generated from sales of fiber lasers, fiber amplifiers, diode lasers and complementary products. Our products are used in a wide range of applications by different types of end users or used as components integrated into systems by OEMs or system integrators. We also sell communications systems that include our fiber lasers and amplifiers as components.

We recognize revenue when four basic criteria are met: (i) persuasive evidence of an arrangement exists; (ii) delivery has occurred or services have been rendered; (iii) the fee is fixed or determinable; and (iv) collectability is reasonably assured. Revenue from the sale of our products is generally recognized upon shipment, provided that the other revenue recognition criteria have been met. We have no obligation to provide upgrades, enhancements or customer support subsequent to the sale, other than warranty.

Revenue from orders with multiple deliverables is divided into separate units of accounting when certain criteria are met. The consideration for the arrangement is then allocated to the separate units of accounting based on their relative fair values. We defer the revenue on multiple element arrangements if the fair values of all the undelivered elements are not known or if customer acceptance is contingent on delivery of specified items or performance conditions, if the performance conditions cannot be satisfactorily tested prior to shipment or if we have not met such conditions in the past. Applicable revenue recognition criteria are then applied separately to each separate unit of accounting.

Returns and customer credits are infrequent and are recorded as a reduction to revenue. Rights of return are generally not included in sales arrangements. We receive a customer purchase order or contract as evidence of an arrangement and product shipment terms are typically free on board (F.O.B.) shipping point. Periodically, our revenue arrangements include customer acceptance clauses. If an acceptance clause defines a performance requirement in a process or application that we cannot effectively test prior to delivery or that has not been accepted previously, we defer recognition of revenue until the performance requirement has been proved.

Inventory. Inventory is stated at the lower of cost (first-in, first-out method) or market value. Inventory includes parts and components that may be specialized in nature and subject to rapid obsolescence. We maintain a reserve for inventory items to provide for an estimated amount of excess or obsolete inventory. The reserve is based upon a review of inventory materials on hand, which we compare with estimated future usage and age. In addition, we review the inventory and compare recorded costs with estimates of current market value. Write-downs are recorded to reduce the carrying value to the net realizable value with respect to any part with costs in excess of current market value. Estimating demand and current market values is inherently difficult, particularly given that we make unique components and products. We determine the valuation of excess and obsolete inventory by making our best estimate considering the current quantities of inventory on hand and our forecast of the need for this inventory to support future sales of our products. We often have limited information on which to base our forecasts. If future sales differ from these forecasts, the valuation of excess and obsolete inventory may change and additional inventory provisions may be required. Because of our vertical integration, a significant or sudden decrease in sales could result in a significant change in the estimates of excess or obsolete inventory. We recorded inventory charges of $2.7 million, $5.3 million and $3.8 million in 2010, 2009 and 2008, respectively.

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Stock-based compensation. Stock-based compensation is included in the following financial statement captions as follows:

	Year Ended December 31,		
	2010	2009	2008
	(In thousands)		
Cost of sales	$ 727	$ 578	$ 328
Sales and marketing	801	727	407
Research and development	446	344	490
General and administrative	1,222	1,118	849
Total	$ 3,196	$ 2,767	$ 2,074

We allocate and record stock-based compensation expense on a straight-line basis over the requisite service period.

We calculate the fair value of stock option grants using the Black-Scholes option pricing model. Determining the appropriate fair value model and calculating the fair value of stock-based payment awards require the use of highly subjective assumptions, including the expected life of the stock-based payment awards and stock price volatility. The assumptions used to calculate the fair value of stock-based payment awards represent management s best estimates, but the estimates involve inherent uncertainties and the application of management judgment. As a result, if factors change and we use different assumptions, our stock-based compensation expense could be materially different in the future. The weighted average assumptions used in the Black-Scholes model or the calculation of compensation were as follows:

	Year Ended December 31,		
	2010	2009	2008
Expected Term	2.9-5.9 years	1.74-7.10 years	4.33-7.23 years
Volatility	42%-48%	46%-65%	39%-65%
Risk Free Rate of Return	0.34%-2.68%	0.56%-2.78%	2.51%-5.20%
Dividend Yield	0%	0%	0%
Forfeiture Rate	0%-5.0%	2%-6.6%	2%-5%

For options granted with an expected term shorter than the history of Company-specific trading data, the Company-specific historical and implied volatility was used to calculate expected volatility. For options granted with an expected term longer than the available history of Company-specific trading data, the trading data of similar entities whose share prices are publicly available was used to calculate expected volatility. We used the following factors to identify similar public entities: industry, stage of life cycle, size and profitability. We intend to continue to consistently apply this process using the same or similar entities until a sufficient amount of historical information regarding the volatility of its own share price becomes available, or unless circumstances change such that the identified entities are no longer similar to us. In this latter case, more suitable, similar entities whose share prices are publicly available would be utilized in the calculation.

As stock-based compensation expense recorded in our statements of operations is based on options ultimately expected to vest, it has been reduced for estimated forfeitures. We estimate forfeitures at the time of grant and revise

these estimates, if necessary, in subsequent periods if actual forfeitures differ from the estimates.

We have offered an employee stock purchase plan covering our U.S. and German employees. The plan allows employees who participate to purchase shares of common stock through payroll deductions at a 15% discount to the lower of the stock price on the first day or last day of the six-month purchase period. Payroll deductions may not exceed 10% of the employee s compensation. Compensation expense related to the employee stock purchase plan for the years ended December 31, 2010 and 2009, was approximately $206,000 and $205,000, respectively.

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Income Taxes and Deferred Taxes. Our annual tax rate is based on our income, statutory tax rates and tax planning opportunities available to us in the various jurisdictions in which we operate.

We file federal and state income tax returns in the United States and tax returns in nine international jurisdictions. We must estimate our income tax expense after considering, among other factors, intercompany transactions on an arms length basis, differing tax rates between jurisdictions, allocation factors, tax credits, nondeductible items and changes in enacted tax rates. Significant judgment is required in determining our annual tax expense and in evaluating our tax positions. As we continue to expand globally, there is a risk that, due to complexity within and diversity among the various jurisdictions in which we do business, a governmental agency may disagree with the manner in which we have computed our taxes. Additionally, due to the lack of uniformity among all of the foreign and domestic taxing authorities, there may be situations where the tax treatment of an item in one jurisdiction is different from the tax treatment in another jurisdiction or that the transaction causes a tax liability to arise in another jurisdiction.

Deferred taxes arise because of the different treatment between financial statement accounting and tax accounting, known as temporary differences. The tax effects of these temporary differences are recorded as deferred tax assets and deferred tax liabilities on the consolidated balance sheet. At December 31, 2010, we recorded a net deferred tax asset of $9,692,000. If insufficient evidence of our ability to generate future taxable income arises, we may be required to record a valuation allowance against these assets, which will result in additional income tax expense. On a quarterly basis, we evaluate whether the deferred tax assets may be realized in the future and assess the need for a valuation allowance.

We provide reserves for potential payments of tax to various tax authorities related to uncertain tax positions and other issues. Reserves recorded are based on a determination of whether and how much of a tax benefit taken by us in our tax filings or positions is more likely than not to be realized following resolution of any potential contingencies present related to the tax benefit, assuming that the matter in question will be raised by the tax authorities. Potential interest and penalties associated with such uncertain tax positions is recorded as a component of income tax expense. At December 31, 2010, we had unrecognized tax benefits of approximately $2,951,000 that, if recognized, would be recorded as a reduction in income tax expense.

Deferred tax liabilities are not recorded for undistributed earnings of a foreign subsidiary that are deemed to be indefinitely reinvested in the foreign jurisdiction. We have formulated a specific plan for reinvestment of undistributed earnings of our foreign subsidiaries which demonstrates that such earnings will be indefinitely reinvested in the applicable tax jurisdictions.

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Results of Operations

The following table sets forth selected statement of operations data for the periods indicated in dollar amounts and expressed as a percentage of net sales.

	Year Ended December 31,					
	2010		2009		2008	
	(In thousands, except percentages and per share data)					
Net sales	$ 299,256	100.0%	$ 185,894	100.0%	$ 229,076	100.0%
Cost of sales	152,798	51.1	121,626	65.4	121,776	53.2
Gross profit	146,458	48.9	64,268	34.6	107,300	46.8
Operating expenses:						
Sales and marketing	19,100	6.4	15,157	8.2	13,900	6.1
Research and development	19,160	6.4	18,543	10.0	15,804	6.9
General and administrative	28,645	9.6	20,489	11.0	23,198	10.1
(Gain) loss on foreign exchange	(848)	(0.3)	1,022	0.5	(2,798)	(1.2)
Total operating expenses	66,057	22.1	55,211	29.7	50,104	21.9
Operating income	80,401	26.9	9,057	4.9	57,196	25.0
Interest expense, net	(1,188)	(0.4)	(1,252)	(0.7)	(777)	(0.3)
Other income (expense), net	39	0.0	(36)	(0.0)	145	0.1
Income before provision for income taxes	79,252	26.5	7,769	4.2	56,564	24.7
Provision for income taxes	(24,900)	(8.3)	(2,485)	(1.3)	(18,111)	(7.9)
Net income	54,352	18.2	5,284	2.8	38,453	16.8
Less: Net income (loss) attributable to noncontrolling interests	361	0.1	(135)	(0.1)	1,799	0.8
Net income attributable to IPG Photonics Corporation	$ 53,991	18.0%	$ 5,419	2.9%	$ 36,654	16.0%
Net income attributable to IPG Photonics Corporation per share:						
Basic	$ 1.16		$ 0.12		$ 0.82	
Diluted	$ 1.13		$ 0.12		$ 0.79	
Weighted-average shares outstanding:						
Basic	46,424		45,489		44,507	
Diluted	47,594		46,595		46,223	

Comparison of Year Ended December 31, 2010 to Year Ended December 31, 2009

Net sales. Net sales increased by $113.4 million, or 61.0%, to $299.3 million in 2010 from $185.9 million in 2009. The table below sets forth sales by application (in thousands, except for percentages):

Market	Year Ended December 31, 2010	% of Total	Year Ended December 31, 2009	% of Total	Change	%
Materials Processing	$ 252,014	84.2%	$ 140,864	75.8%	$ 111,150	78.9%
Telecommunications	14,020	4.7%	10,867	5.8%	3,153	29.0%
Medical	8,026	2.7%	7,606	4.1%	420	5.5%
Advanced Applications	25,196	8.4%	26,557	14.3%	(1,361)	(5.1)%
Total	$ 299,256		$ 185,894		$ 113,362	61.0%

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Sales for materials processing applications increased due to substantially increased sales of pulsed lasers used in marking and engraving applications and high power lasers used in cutting and welding applications. Sales for communications applications increased due to increased sales of amplifiers in Russia. Sales for medical applications increased due to increased demand from our established customer in the United States and sales to new customers in Europe and Asia. The decrease in sales of advanced applications was due to lower sales of high-power lasers used in government applications partially offset by increased sales for optical pumping and research and development applications.

Cost of sales and gross margin. Cost of sales increased by $31.2 million, or 25.6%, to $152.8 million in 2010 from $121.6 million in 2009. Our gross margin increased to 48.9% in 2010 from 34.6% in 2009. The increase in gross margin was the result of an increase in net sales and more favorable absorption of our fixed manufacturing costs due to an increase in production volume. In addition, cost of sales benefited from a reduction in the cost per watt of our diodes and lower costs associated with greater use of internally manufactured components and accessories. Expenses related to inventory reserves and other valuation adjustments decreased by $2.6 million to $2.7 million, or 0.9% of sales, for the year ended December 31, 2010, as compared to $5.3 million, or 2.9% of sales, for the year ended December 31, 2009.

Sales and marketing expense. Sales and marketing expense increased by $3.9 million, or 26.0%, to $19.1 million in 2010 from $15.2 million in 2009, primarily as a result of an increase in personnel costs due to an increase in headcount and bonus accruals. As a percentage of sales, sales and marketing expense decreased to 6.4% in 2010 from 8.2% in 2009. As we continue to expand our worldwide sales organization, we expect expenditures on sales and marketing to continue to increase in the aggregate.

Research and development expense. Research and development expense increased by $0.7 million, or 3.3%, to $19.2 million in 2010 from $18.5 million in 2009. This increase was primarily the result of an increase in personnel and consultant costs, partially offset by a decrease in materials used in research and development activities. The increase in personnel costs was driven primarily by bonus accruals. Research and development activity continues to focus on enhancing the performance of our internally manufactured components, refining production processes to improve manufacturing yields, developing new products operating at different wavelengths and higher output powers and new complementary accessories used with our products. As a percentage of sales, research and development expense decreased to 6.4% in 2010 from 10.0% in 2009. We expect that research and development expenses will increase moderately in 2011.

General and administrative expense. General and administrative expense increased by $8.1 million, or 39.8%, to $28.6 million in 2010 from $20.5 million in 2009, primarily due to a $3.6 million increase in personnel and contractor expenses attributable to higher bonuses and $2.5 million increase in accounting and legal fees related to defending a patent infringement action brought against us. The amount and timing of legal expenses we will incur in future quarters will depend on the outcome and timing of court motions and the trial. As a percentage of sales, general and administrative expense decreased to 9.6% in 2010 from 11.0% in 2009. In the future, we expect general and administrative expenses to increase as we invest to support the growth in net sales.

Effect of exchange rates on sales, gross margin and operating expenses. We estimate that if exchange rates had been the same as one year ago, sales in 2010 would have been $4.5 million higher, gross margin would have been $1.6 million higher and operating expenses in total would have been $0.3 million higher. The measures that assume constant exchange rates between fiscal year 2010 and fiscal year 2009 are calculated using the average exchange rates for the twelve-month period ended December 31, 2009 for the respective currencies, which were Euro 1=US$1.39, Japanese Yen 1= US$0.01 and Russian Ruble 1=US$0.03.

Gain (loss) on foreign exchange. We incurred a foreign exchange gain of $0.8 million in 2010 as compared to a loss of $1.0 million in 2009. The change was primarily attributable to the depreciation of the Euro against the U.S. Dollar and Japanese Yen.

Interest expense net. Interest expense, net was $1.2 million in 2010 compared to $1.3 million in 2009.

Provision for income taxes. Provision for income taxes was $24.9 million in 2010 compared to $2.5 million in 2009, representing an effective tax rate of 31.4% in 2010 and 32.0% 2009. The increase in the

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provision for income taxes was due to an increase in income before the provision for income taxes, while the decrease in the effective rate was due to the proportion of income earned in countries with lower enacted tax rates.

Net income. Net income attributable to IPG Photonics Corporation increased by $48.6 million to $54.0 million in 2010 from $5.4 million in 2009. Net income attributable to IPG Photonics Corporation as a percentage of our net sales increased by 15.1 percentage points to 18.0% in 2010 from 2.9% in 2009 due to the factors described above.

Comparison of Year Ended December 31, 2009 to Year Ended December 31, 2008

Net sales. Net sales decreased by $43.2 million, or 18.9%, to $185.9 million in 2009 from $229.1 million in 2008. The table below sets forth sales by application (in thousands, except for percentages):

Market	Year Ended December 31, 2009	% of Total	Year Ended December 31, 2008	% of Total	Change	%
Materials Processing	$ 140,864	75.8%	$ 187,720	81.9%	$ (46,856)	(25.0)%
Telecommunications	10,867	5.8%	12,904	5.6%	(2,037)	(15.8)%
Medical	7,606	4.1%	3,782	1.7%	3,824	101.1%
Advanced Applications	26,557	14.3%	24,670	10.8%	1,887	7.6%
Total	$ 185,894		$ 229,076		$ (43,182)	(18.9)%

The decrease in materials processing applications sales resulted from substantially decreased sales of pulsed lasers and medium-power lasers used in marking, engraving and drilling applications due to the global economic downturn. The decrease in communications applications sales resulted primarily from decreased sales of amplifiers, particularly in Russia. The increase in medical application sales was due to the increased demand from our established customers in the United States and new OEM customers. The increase in sales of advanced applications was due to higher sales of high-power lasers used in government and defense research and pulsed and low-power lasers used for sensing and optical pumping applications.

Cost of sales and gross margin. Cost of sales decreased by $0.2 million, or 0.1%, to $121.6 million in 2009 from $121.8 million in 2008. Our gross margin decreased to 34.6% in 2009 from 46.8% in 2008. The decrease in gross margin was the result of less favorable absorption of our fixed manufacturing costs due to a decline in sales volume, less favorable product mix due to proportionately lower sales of medium-power lasers, a reduction in inventory, increases in charges related to inventory write-downs and lower prices due to pricing pressure caused by the industry-wide reduction in demand. These costs of sales increases were offset partially by a reduction in manufacturing expenses in the period, primarily related to reduced salary and benefits expense and lower costs for other manufacturing supplies. Expenses related to inventory reserves and other valuation adjustments increased by $1.5 million to $5.3 million, or 2.9% of sales, in 2009 as compared to $3.8 million, or 1.7% of sales, in 2008. The increase in inventory reserves in 2009 was due in part to the decline in sales and corresponding usage of inventory as well as to the impact of a new generation of diodes on usage levels of the previous generation.

Sales and marketing expense. Sales and marketing expense increased by $1.3 million, or 9.0%, to $15.2 million in 2009 from $13.9 million in 2008, primarily as a result of an increase in depreciation costs of products used for demonstration purposes and travel expenses. As a percentage of sales, sales and marketing expense increased to 8.2%

in 2009 from 6.1% in 2008.

Research and development expense. Research and development expense increased by $2.7 million, or 17.3%, to $18.5 million in 2009 from $15.8 million in 2008. This increase was primarily due to increases of $1.5 million in material costs, $0.5 million in salaries and benefits and $0.5 million in depreciation. As a percentage of sales, research and development expense increased to 10.0% in 2009 from 6.9% in 2008.

General and administrative expense. General and administrative expense decreased by $2.7 million, or 11.7%, to $20.5 million in 2009 from $23.2 million in 2008, primarily due to a $0.6 million decrease in

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accounting and legal defense fees and a $1.6 million decrease in personnel and contractor expenses primarily attributable to lower incentive compensation. As a percentage of sales, general and administrative expense increased to 11.0% in 2009 from 10.1% in 2008.

Effect of exchange rates on sales, gross margin and operating expenses. We estimate that if exchange rates had been the same in 2009 as in 2008, sales in 2009 would have been $1.5 million higher, gross margin would have been $2.1 million higher and operating expenses in total would have been $0.9 million higher. The measures that assume constant exchange rates between fiscal year 2009 and fiscal year 2008 are calculated using the average exchange rates for the twelve-month period ended December 31, 2008 for the respective currencies, which were Euro 1=US$1.47, Japanese Yen 1= US$0.01 and Russian Ruble 1=US$0.04.

Gain (loss) on foreign exchange. We incurred a foreign exchange loss of $1.0 million in 2009 as compared to a gain of $2.8 million in 2008. The change was primarily attributable to the appreciation of the Euro against the U.S. Dollar.

Interest expense, net. Interest expense, net was $1.3 million in 2009 compared to $0.8 million in 2008. Interest expense increased in 2009 because of higher drawings on our credit lines, particularly during the first half of the year.

Provision for income taxes. Provision for income taxes was $2.5 million in 2009 compared to $18.1 million in 2008, representing an effective tax rate of 32.0% in both 2009 and 2008.

Net income. Net income attributable to IPG Photonics Corporation decreased by $31.3 million to $5.4 million in 2009 from $36.7 million in 2008. Net income attributable to IPG Photonics Corporation as a percentage of our net sales decreased by 13.0 percentage points to 3.0% in 2009 from 16.0% in 2008 due to the factors described above.

Liquidity and Capital Resources

Our principal sources of liquidity as of December 31, 2010 consisted of cash and cash equivalents of $147.9 million, unused credit lines and overdraft facilities of $51.5 million and working capital (excluding cash) of $70.2 million. This compares to cash and cash equivalents of $82.9 million, unused credit lines and overdraft facilities of $53.8 million and working capital (excluding cash) of $61.2 million as of December 31, 2009. The increase in cash and cash equivalents of $65.0 million from December 31, 2009 relates primarily to cash provided by operating activities in 2010 of $63.4 million and a non-controlling equity investment of $25.0 million in our Russian subsidiary by The Russian Corporation of Nanotechnologies (Rusnano), offset by capital expenditures of $28.4 million. Cash provided by the Rusnano investment will be used to fund the anticipated expansion of our business in Russia, including operating expenses, investments in working capital and capital expenditures. This funding is not available for use outside of Russia. Terms of this investment are more fully described below.

Our long-term debt consists of an $18.0 million secured variable-rate note that matures in June 2015. The outstanding balance of this note as of December 31, 2010 was $16.7 million. The note is secured by a mortgage on real estate and buildings that we own in Massachusetts.

We expect that the existing cash and marketable securities, our cash flows from operations and our existing lines of credit will be sufficient to meet our liquidity and capital needs for the foreseeable future. Our future long-term capital requirements depend on many factors including our level of sales, the impact of economic recessions on our sales levels, the timing and extent of spending to support development efforts, the expansion of our sales and marketing activities, the timing and introductions of new products, the need to ensure access to adequate manufacturing capacity and the continuing market acceptance of our products. We

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have made no arrangements to obtain additional financing, and there is no assurance that such additional financing, if required or desired, will be available in amounts or on terms acceptable to us, if at all.

The following table details our line-of-credit facilities as of December 31, 2010:

Description	Available Principal	Interest Rate	Maturity	Security
U.S. Revolving Line of Credit(1)	Up to $35.0 million	LIBOR plus 1.125% to 1.625%, depending on our performance	June 2015	Unsecured
Euro Credit Facility (Germany)(2)	Euro 15.0 million ($19.9 million)	Euribor + 0.85% or EONIA + 1.2%	June 2012	Unsecured, guaranteed by parent company
Euro Overdraft Facilities	Euro 2.6 million ($3.4 million)	2.5%-6.5%	September 2011	Common pool of assets of German and Italian subsidiaries

(1) $12.0 million of this credit facility is available to our foreign subsidiaries including those in India, China, Japan and South Korea. Total drawings at December 31, 2010 were $5.0 million with a weighted average interest rate of 1.9%.

(2) $4.0 million of this credit facility is available to our Russian subsidiary and $4.0 million is available to our Italian subsidiary.

Our largest committed credit lines are with Bank of America and Deutsche Bank in the amounts of $35.0 million and $19.9 million, respectively, and neither of them is syndicated.

We are required to meet certain financial covenants associated with our U.S. revolving line of credit and long-term debt facilities. These covenants, tested quarterly, include a debt service coverage ratio and a funded debt to earnings before interest, taxes, depreciation and amortization (EBITDA) ratio. The debt service coverage covenant requires that we maintain a trailing twelve month ratio of cash flow to debt service that is greater than 1.5:1. Debt service is defined as required principal and interest payments during the period. Cash flow is defined as EBITDA less unfunded capital expenditures. The funded debt to EBITDA covenant requires that the sum of all indebtedness for borrowed money on a consolidated basis be less than two times our trailing twelve-month EBITDA. We were in compliance with all such financial covenants as of and for the year ended December 31, 2010.

The financial covenants in our loan documents may cause us to not take or to delay investments and actions that we might otherwise undertake because of limits on capital expenditures and amounts that we can borrow or lease. In the event that we do not comply with any of these covenants, we would be in default under the loan agreement or loan agreements, which may result in acceleration of the debt, cross-defaults on other debt or a reduction in available liquidity, any of which could harm our results of operations and financial condition.

In January 2010, we completed the acquisition of Photonics Innovations, Inc., a maker of active and passive laser materials and tunable lasers for scientific, biomedical, technological and eye-safe range-finding applications. The

acquisition of Photonics Innovations, Inc. was not material to our liquidity, financial position or results of operations.

In April 2010, we completed the acquisition of Cosytronic KG, a German developer and manufacturer of automated welding turnkey solutions. The acquisition of Cosytronic KG was not material to our liquidity, financial position or results of operations.

In December 2010, we completed the sale of a 12.5% minority interest of our Russian subsidiary, NTO IRE-Polus, to Rusnano for $25,000,000. This sale contributed to the cash increase during the year. Terms of the investment allow Rusnano to put the investment to IPG for redemption in either cash or our stock, at the

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option of Rusnano, from December 2015 to December 2017. The Company also has certain rights to call the investment from December 2013 to December 2017. In addition, the Company has rights to call the investment at any time if the Company no longer is permitted to consolidate under U.S. generally accepted accounting principle the financial results of NTO IRE-Polus, we are required to account for the put rights on our balance sheet as a liability or other than permanent equity or Rusnano owns less than 10.01% of NTO IRE-Polus. Rusnano can purchase up to an additional 12.5% of our Russian subsidiary if NTO IRE-Polus attains certain minimum revenue thresholds for an additional $25 million and these additional investments would also be subject to the put and call provisions described above. See Note 7 in Notes to Consolidated Financial Statements.

Operating activities. Net cash provided by operating activities increased by $9.0 million to $63.4 million in 2010 from $54.4 million in 2009, primarily resulting from:

An increase in cash provided by net income after adding back non-cash charges of $56.0 million in 2010 as compared to 2009;

An increase in accrued expenses and other liabilities of $22.1 million in 2010 compared to a decrease of $0.1 million in 2009 primarily related to customer deposits and deferred revenue, accrued compensation and accrued warranty; partially offset by

An increase in inventory of $27.0 million in 2010 compared to a decrease of inventory of $5.6 million in 2009; and

An increase in accounts receivable of $27.3 million in 2010 compared to a decrease of $9.3 million in 2009.

Given our vertical integration, rigorous and time-consuming testing procedures for both internally manufactured and externally purchased components and the lead time required to manufacture components used in our finished products, the rate at which we turn inventory has historically been low when compared to our cost of sales. Also, our historic growth rates required investment in inventories to support future sales and enable us to quote short delivery times to our customers, providing what we believe is a competitive advantage. Furthermore, if there was a disruption to the manufacturing capacity of any of our key technologies, our inventories of components should enable us to continue to build finished products for a period of time. We believe that we will continue to maintain a relatively high level of inventory compared to our cost of sales. As a result, we expect to have a significant amount of working capital invested in inventory. A reduction in our level of net sales or the rate of growth of our net sales from their current levels would mean that the rate at which we are able to convert our inventory into cash would decrease.

Investing activities. Net cash used in investing activities was $32.6 million and $10.6 million in 2010 and 2009, respectively. The cash used in investing activities in 2010 related to the purchase of a new building in South Korea to house a new laser application center, the acquisitions of Photonics Innovations, Inc. and Cosytronic, KG and purchases of equipment primarily in the United States and Germany. The cash used in 2009 was primarily related to capital expenditures on property, plant and equipment.

We expect to incur approximately $50 million in capital expenditures, excluding acquisitions, in 2011. The timing and extent of any capital expenditures in and between periods can have a significant effect on our cash flow. Many of the capital expenditure projects that we undertake have long lead times and are difficult to cancel or defer to a later period.

Financing activities. Net cash provided by financing activities was $37.8 million in 2010 as compared to net cash used in financing activities of $12.3 million in 2009. The cash provided by financing activities in 2010 was primarily related to cash received from Rusnano for a 12.5% interest in our Russian subsidiary and cash provided by the

exercise of stock options. The cash used in financing activities in 2009 was primarily related to the repayment of credit lines and long-term debt.

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Contractual Obligations

The following table describes our contractual obligations as of December 31, 2010 (in thousands).

		Payments Due in			
	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
Operating lease obligations	$ 7,979	$ 3,152	$ 3,013	$ 717	$ 1,097
Purchase obligations(1)	6,911	6,911			
Long-term debt obligations (including interest)(2)	16,666	1,333	2,667	12,666	
Other notes payable	311			311	
Contingent consideration	685	164	125	396	
Total(3)	$ 32,552	11,560	5,805	14,090	1,097

(1) Represents minimum purchase commitments for property, plant and equipment and it excludes $2.0 million obligation for the purchase of land by IRE Polus which was included in Accrued expenses and other liabilities at December 31, 2010.

(2) Interest for long-term debt obligations was calculated including the effect of our interest rate swap. The effect of the interest rate swap, which is accounted for as a cash flow hedge, is to fix the LIBOR component of the interest rate of the underlying floating rate loan at 4.9% for the term of the debt.

(3) Excludes obligations related to FIN 48 because we are unable to provide a reasonable estimate of the timing of future payments relating to the remainder of these obligations. See Note 13 to our consolidated financial statements.

Recent Accounting Pronouncements

In October 2009, an update was issued to the accounting guidance related to the separation criteria used to determine the unit of accounting for multiple element arrangements. This update removes the objective-and-reliable-evidence-of-fair-value criterion from the separation criteria used to determine whether an arrangement involving multiple deliverables contains more than one unit of accounting, replaces references to fair value with selling price to distinguish from the fair value measurements required under the *Fair Value Measurements and Disclosures* guidance, provides a hierarchy that entities must use to estimate the selling price, eliminates the use of the residual method for allocation and expands the ongoing disclosure requirements. This guidance is effective for us beginning January 1, 2011, although early adoption is permitted, and adoption can be applied prospectively or retrospectively. We are evaluating the effect that implementation of this update will have, if any, on our consolidated financial position and results of operations.

Effective June 30, 2009, we adopted a new FASB standard on disclosure related to financial instruments, FASB ASC 825, *Financial Instruments,* which requires disclosures about fair value of financial instruments in interim reporting periods as well as in annual financial statements. The adoption of the new standard required us to provide

additional disclosures.

ITEM 7A. ***QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK***

We are exposed to market risk in the ordinary course of business, which consists primarily of interest rate risk associated with our cash and cash equivalents and our debt and foreign exchange rate risk.

Interest rate risk. Our investments have limited exposure to market risk. To minimize this risk, we maintain a portfolio of cash, cash equivalents and short-term investments, consisting primarily of bank deposits, money market funds and short-term government funds. The interest rates are variable and fluctuate with current market conditions. Because of the short-term nature of these instruments, a sudden change in market interest rates would not be expected to have a material impact on our financial condition or results of operations.

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Our exposure to market risk also relates to the increase or decrease in the amount of interest expense we must pay on our bank debt and borrowings on our bank credit facilities. The interest rate on our existing bank debt is effectively fixed except for our U.S. revolving line of credit. The rates on our Euro overdraft facilities in Germany and Italy and our Japanese Yen overdraft facility are fixed for twelve-month periods. Approximately 71% of our outstanding debt had a fixed rate of interest as of December 31, 2010. We do not believe that a 10% change in market interest rates would have a material impact on our financial position or results of operations.

Exchange rates. Due to our international operations, a significant portion of our net sales, cost of sales and operating expenses are denominated in currencies other than the U.S. dollar, principally the Euro, the Japanese Yen and the Russian Ruble. As a result, our international operations give rise to transactional market risk associated with exchange rate movements of the U.S. dollar, the Euro, the Japanese Yen and the Russian Ruble. Gains and losses on foreign exchange transactions totaled a $0.8 million gain in 2010 and a $1.0 million loss in 2009. Management believes that the use of foreign currency financial instruments reduces the risks of certain foreign currency transactions; however, these instruments provide only limited protection. We will continue to analyze our exposure to currency exchange rate fluctuations and may engage in additional financial hedging techniques in the future to attempt to minimize the effect of these potential fluctuations. Exchange rate fluctuations may adversely affect our financial results in the future. No foreign currency derivative instruments were outstanding at December 31, 2010.

ITEM 8. *FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA*

This information is incorporated by reference from pages F-1 through F-[25] of this report.

ITEM 9. *CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE*

None.

ITEM 9A. *CONTROLS AND PROCEDURES*

Evaluation of Disclosure Controls and Procedures

Under the supervision of our Chief Executive Officer and our Chief Financial Officer, our management has evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the Exchange Act)), as of the end of the period covered by this Annual Report on Form 10-K (the Evaluation Date). Based upon that evaluation, our chief executive officer and our chief financial officer have concluded that, as of the Evaluation Date, our disclosure controls and procedures are effective to ensure that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission s rules and forms.

Management s Annual Report on Internal Control Over Financial Reporting

Our management, including our Chief Executive Officer and Chief Financial Officer, is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Company and its subsidiaries. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Our management conducted an assessment of the effectiveness of our internal control over financial reporting as of the Evaluation Date based on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations

of the Treadway Commission (COSO). Based on this assessment, our management concluded that, as of the Evaluation Date, our internal control over financial reporting was effective.

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Our independent registered public accounting firm, Deloitte & Touche LLP, has audited our internal control over financial reporting, as stated in their report below.

Changes in Internal Controls

There was no change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that occurred during the last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls

Our management (including our Chief Executive Officer and Chief Financial Officer) does not expect that the disclosure controls and procedures or internal controls over financial reporting will prevent or detect all error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Due to the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues, errors and instances of fraud, if any, within the company have been or will be detected.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
IPG Photonics Corporation
Oxford, MA

We have audited the internal control over financial reporting of IPG Photonics Corporation and subsidiaries (the Company) as of December 31, 2010, based on criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management s Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company s internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company s internal control over financial reporting is a process designed by, or under the supervision of, the company s principal executive and principal financial officers, or persons performing similar functions, and effected by the company s board of directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company s assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2010, based on the criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements as of and for the year ended December 31, 2010 of the Company and our report dated March 15, 2011 expressed an unqualified opinion on those financial statements.

/s/ Deloitte & Touche LLP

Boston, MA
March 15, 2011

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ITEM 9B. ***OTHER INFORMATION***

None.

PART III

ITEM 10. ***DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE***

The information required hereunder is incorporated herein by reference to our definitive Proxy Statement to be filed pursuant to Regulation 14A, which Proxy Statement is anticipated to be filed with the Securities and Exchange Commission within 120 days after December 31, 2010.

ITEM 11. ***EXECUTIVE COMPENSATION***

The information required hereunder is incorporated herein by reference to our definitive Proxy Statement to be filed pursuant to Regulation 14A, which Proxy Statement is anticipated to be filed with the Securities and Exchange Commission within 120 days after December 31, 2010.

ITEM 12. ***SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS***

The information required hereunder is incorporated herein by reference to our definitive Proxy Statement to be filed pursuant to Regulation 14A, which Proxy Statement is anticipated to be filed with the Securities and Exchange Commission within 120 days after December 31, 2010, with the exception of the information regarding securities authorized for issuance under our equity compensation plans, which is set forth in Item 5, Market for the Registrant s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities, Information Regarding Equity Compensation Plans and is incorporated herein by reference.

ITEM 13. ***CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE***

The information required hereunder is incorporated herein by reference to our definitive Proxy Statement to be filed pursuant to Regulation 14A, which Proxy Statement is anticipated to be filed with the Securities and Exchange Commission within 120 days after December 31, 2010.

ITEM 14. ***PRINCIPAL ACCOUNTING FEES AND SERVICES***

The information required hereunder is incorporated herein by reference to our definitive Proxy Statement to be filed pursuant to Regulation 14A, which Proxy Statement is anticipated to be filed with the Securities and Exchange Commission within 120 days after December 31, 2010.

PART IV

ITEM 15. ***EXHIBITS AND FINANCIAL STATEMENT SCHEDULES***

(a) The following documents are filed as part of this Annual Report on Form 10-K:

(1) Financial Statements.

See Index to Financial Statements on page F-1.

(2) Financial Statement Schedules.

All schedules are omitted because they are not applicable or the required information is shown on the financial statements or notes thereto.

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(3) The exhibits listed on the Index to Exhibits preceding the Exhibits attached hereto are filed with this Form 10-K or incorporated by reference as set forth therein.

(b) Exhibits.

See (a)(3) above.

(c) Additional Financial Statement Schedules.

All schedules are omitted because they are not applicable or the required information is shown on the financial statements or notes thereto.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on March 15, 2011.

IPG Photonics Corporation

By: /s/ Valentin P. Gapontsev

Valentin P. Gapontsev
Chief Executive Officer and
Chairman of the Board

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	
/s/ Valentin P. Gapontsev Valentin P. Gapontsev	Chief Executive Officer, Chairman of the Board and Director (Principal Executive Officer)	March 15, 2011
/s/ Timothy P.V. Mammen Timothy P.V. Mammen	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 15, 2011
/s/ Robert A. Blair Robert A. Blair	Director	March 15, 2011
/s/ Michael C. Child Michael C. Child	Director	March 15, 2011
/s/ John H. Dalton John H. Dalton	Director	March 15, 2011
/s/ Henry E. Gauthier Henry E. Gauthier	Director	March 15, 2011
/s/ William S. Hurley William S. Hurley	Director	March 15, 2011

/s/ William F. Krupke William F. Krupke	Director	March 15, 2011
/s/ Eugene Shcherbakov Eugene Shcherbakov	Director	March 15, 2011
/s/ Igor Samartsev Igor Samartsev	Director	March 15, 2011

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
IPG Photonics Corporation
Oxford, Massachusetts

We have audited the accompanying consolidated balance sheets of IPG Photonics Corporation and subsidiaries (the Company) as of December 31, 2010 and 2009, and the related consolidated statements of operations, equity, comprehensive income, and cash flows for each of the three years in the period ended December 31, 2010. These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on the financial statements based on our audits.

We conducted our audits in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2010 and 2009, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2010, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company s internal control over financial reporting as of December 31, 2010, based on the criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 15, 2011 expressed an unqualified opinion on the Company s internal control over financial reporting.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
March 15, 2011

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IPG PHOTONICS CORPORATION

CONSOLIDATED BALANCE SHEETS

	December 31,	
	2010	2009
	(In thousands, except share and per share data)	
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 147,860	$ 82,920
Accounts receivable, net	55,399	30,356
Inventories, net	72,470	52,869
Income taxes receivable	2,663	2,558
Prepaid expenses and other current assets	13,816	4,653
Deferred income taxes	8,593	7,558
Total current assets	300,801	180,914
DEFERRED INCOME TAXES	4,489	4,313
INTANGIBLE ASSETS	7,131	3,771
PROPERTY, PLANT AND EQUIPMENT, Net	120,683	111,453
OTHER ASSETS	8,751	12,185
TOTAL	$ 441,855	$ 312,636
LIABILITIES AND STOCKHOLDERS EQUITY		
CURRENT LIABILITIES:		
Revolving line-of-credit facilities	$ 6,841	$ 6,007
Current portion of long-term debt	1,333	1,333
Accounts payable	9,510	5,620
Accrued expenses and other liabilities	50,105	21,189
Deferred income taxes	3,387	503
Income taxes payable	11,594	2,179
Total current liabilities	82,770	36,831
DEFERRED INCOME TAXES AND OTHER LONG-TERM LIABILITIES	1,735	2,567
LONG-TERM DEBT	15,644	16,667
REDEEMABLE NONCONTROLLING INTERESTS	24,903	
COMMITMENTS AND CONTINGENCIES		
IPG PHOTONICS CORPORATION STOCKHOLDERS EQUITY:		
Common stock, $0.0001 par value, 175,000,000 shares authorized; 46,988,566 and 46,076,472 shares issued and outstanding at December 31, 2010 and 2009, respectively	5	5
Additional paid-in capital	310,218	293,743
Retained earnings (accumulated deficit)	5,567	(48,424)

Accumulated other comprehensive income	810	11,106
Total IPG Photonics Corporation stockholders equity	316,600	256,430
NONCONTROLLING INTERESTS	203	141
Total equity	316,803	256,571
TOTAL	$ 441,855	$ 312,636

See notes to consolidated financial statements.

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IPG PHOTONICS CORPORATION

CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
	2010	2009	2008
	(In thousands, except per share data)		
NET SALES	$ 299,256	$ 185,894	$ 229,076
COST OF SALES	152,798	121,626	121,776
GROSS PROFIT	146,458	64,268	107,300
OPERATING EXPENSES:			
Sales and marketing	19,100	15,157	13,900
Research and development	19,160	18,543	15,804
General and administrative	28,645	20,489	23,198
(Gain) loss on foreign exchange	(848)	1,022	(2,798)
Total operating expenses	66,057	55,211	50,104
OPERATING INCOME	80,401	9,057	57,196
OTHER EXPENSE, Net:			
Interest expense, net	(1,188)	(1,252)	(777)
Other income (expense), net	39	(36)	145
Total other expense	(1,149)	(1,288)	(632)
INCOME BEFORE PROVISION FOR INCOME TAXES	79,252	7,769	56,564
PROVISION FOR INCOME TAXES	(24,900)	(2,485)	(18,111)
NET INCOME	54,352	5,284	38,453
LESS: NET INCOME (LOSS) ATTRIBUTABLE TO NONCONTROLLING INTERESTS	361	(135)	1,799
NET INCOME ATTRIBUTABLE TO IPG PHOTONICS CORPORATION	$ 53,991	$ 5,419	$ 36,654
NET INCOME ATTRIBUTABLE TO IPG PHOTONICS CORPORATION PER SHARE:			
Basic	$ 1.16	$ 0.12	$ 0.82
Diluted	$ 1.13	$ 0.12	$ 0.79
WEIGHTED AVERAGE SHARES OUTSTANDING:			
Basic	46,424	45,489	44,507
Diluted	47,594	46,595	46,223

See notes to consolidated financial statements.

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IPG PHOTONICS CORPORATION

CONSOLIDATED STATEMENTS OF EQUITY AND COMPREHENSIVE INCOME

	Year Ended December 31,					
	2010		2009		2008	
	Shares	Amount	Shares	Amount	Shares	Amount
	(In thousands, except share and per share data)					
COMMON STOCK						
Balance, beginning of year	46,076,472	$ 5	44,965,960	$ 4	44,012,341	$ 4
Exercise of stock options	865,123		684,838	1	885,277	
Common stock issued under employee stock purchase plan	46,971		57,528		17,662	
Common stock issued in purchase of NCI			368,146		50,680	
Balance, end of period	46,988,566	5	46,076,472	5	44,965,960	4
ADDITIONAL PAID-IN CAPITAL						
Balance, beginning of year		293,743		283,217		275,506
Stock-based compensation		3,196		2,767		2,074
Exercise of stock options and related tax benefit from exercise		13,138		2,871		4,761
Common stock issued under employee stock purchase plan		603		545		198
Common stock issued in purchase of NCI				3,027		678
Sale of redeemable noncontrolling interest		15,892				
Increase redeemable NCI to initial redemption value		(16,285)				
Discount on purchase of NCI				2,028		
Premium on purchase of NCI		(69)		(712)		
Balance, end of period		310,218		293,743		283,217
RETAINED EARNINGS (ACCUMULATED DEFICIT)						
Balance, beginning of year		(48,424)		(53,843)		(90,497)
Net income attributable to IPG Photonics Corporation		53,991		5,419		36,654
Balance, end of period		5,567		(48,424)		(53,843)
ACCUMULATED OTHER COMPREHENSIVE INCOME						
Balance, beginning of year		11,106		8,794		15,167

Translation adjustments	(10,662)	1,962	(5,327)
Unrealized (loss) gain on derivatives, net of tax	(27)	350	(1,046)
Attribution to redeemable NCI	393		
Balance, end of period	810	11,106	8,794
TOTAL IPG PHOTONICS CORPORATION STOCKHOLDERS EQUITY	316,600	256,430	238,172
NONCONTROLLING INTERESTS			
Balance, beginning of year	141	5,127	4,455
Net income (loss) attributable to NCI	361	(135)	1,799
Purchase of NCI	(92)	(3,535)	(2,575)
Net income attributable to redeemable NCI	(276)		
Premium on purchase of NCI	69	712	1,448
Discount on purchase of NCI		(2,028)	
Balance, end of period	203	141	5,127
TOTAL EQUITY	$ 316,803	$ 256,571	$ 243,299
COMPREHENSIVE INCOME			
Net income	$ 54,352	$ 5,284	$ 38,453
Other comprehensive income:			
Translation adjustments	(10,662)	1,962	(5,327)
Unrealized (loss) gain on derivatives, net of tax	(27)	350	(1,046)
Change in cumulative translation adjustment attributable to redeemable NCI	393		
Total comprehensive income	$ 44,056	$ 7,596	$ 32,080

See notes to consolidated financial statements.

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IPG PHOTONICS CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2010	2009	2008
	(In thousands)		
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income	$ 54,352	$ 5,284	$ 38,453
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	21,845	19,172	15,834
Deferred income taxes	401	(4,087)	2,445
Stock-based compensation	3,196	2,767	2,074
Unrealized (gains) losses on foreign currency transactions	(888)	1,023	(3,776)
Other	1,184	(36)	(251)
Provisions for inventory, warranty and bad debt	11,377	11,353	7,902
Changes in assets and liabilities that provided (used) cash:			
Accounts receivable	(27,308)	9,269	(8,466)
Inventories	(27,018)	5,600	(21,661)
Prepaid expenses and other current assets	(4,707)	679	6,810
Accounts payable	3,411	(498)	(2,267)
Accrued expenses and other liabilities	22,119	(72)	(304)
Income and other taxes payable	5,468	3,951	(2,122)
Net cash provided by operating activities	63,432	54,405	34,671
CASH FLOWS FROM INVESTING ACTIVITIES:			
Purchases of property, plant and equipment and intangible assets	(28,374)	(10,498)	(37,111)
Acquisition of businesses, net of cash acquired	(4,108)		
Proceeds from sale of marketable securities			5,450
Other	(77)	(141)	43
Net cash used in investing activities	(32,559)	(10,639)	(31,618)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from line-of-credit facilities	13,828	19,056	29,693
Payments on line-of-credit facilities	(13,086)	(32,851)	(21,936)
Purchases of NCI	(92)	(508)	(1,897)
Proceeds from long-term borrowings			20,041
Principal payments on long-term borrowings	(1,333)	(1,344)	(20,196)
Sale of redeemable NCI	24,806		
Exercise of employee stock options, issuances under employee stock purchase plan and related tax benefit from exercise	13,741	3,417	4,959
Other	(100)	(50)	(212)
Net cash provided by (used in) financing activities	37,764	(12,280)	10,452
	(3,697)	151	(194)

EFFECT OF CHANGES IN EXCHANGE RATES ON CASH AND CASH EQUIVALENTS			
NET PROVIDED BY IN CASH AND CASH EQUIVALENTS	64,940	31,637	13,311
CASH AND CASH EQUIVALENTS Beginning of period	82,920	51,283	37,972
CASH AND CASH EQUIVALENTS End of period	$ 147,860	$ 82,920	$ 51,283
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Cash paid for interest	$ 998	$ 1,461	$ 1,778
Income taxes paid	$ 7,417	$ 4,929	$ 11,751
Non-cash transactions:			
Demonstration units transferred from inventory to other assets	$ 1,620	$ 8,806	$ 4,981
Amounts related to acquisition of businesses included in accounts payable and accrued expenses and other liabilities	$ 1,120	$	$
Additions to property, plant and equipment included in accounts payable	$ 407	$ 100	$ 1,216
Purchase of NCI in exchange for Common Stock	$	$ 3,027	$ 678
Inventory contributed to unconsolidated affiliate	$	$ 247	$ 298

See notes to consolidated financial statements.

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. NATURE OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Business IPG Photonics Corporation (the Company) designs and manufactures a broad line of high-performance fiber lasers and fiber amplifiers for diverse applications in numerous markets, such as materials processing, advanced applications, communications and medical. Our world headquarters are located in Oxford, Massachusetts. We also have facilities and sales offices elsewhere in the United States, Europe and Asia.

Principles of Consolidation We were incorporated as a Delaware corporation in December 1998. The accompanying financial statements include the accounts of the Company and our majority-owned subsidiaries. All intercompany accounts and transactions have been eliminated.

Use of Estimates The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Foreign Currency The financial information for entities outside the United States is measured using local currencies as the functional currency. Assets and liabilities are translated into U.S. dollars at the exchange rate in effect on the respective balance sheet dates. Income and expenses are translated into U.S. dollars based on the average rate of exchange for the corresponding period. Exchange rate differences resulting from translation adjustments are accounted for directly as a component of accumulated other comprehensive income.

Cash and Cash Equivalents Cash and cash equivalents consist primarily of highly liquid investments, such as bank deposits, with insignificant interest rate risk and remaining maturities of three months or less at the date of acquisition. As more fully explained in Note 7, during December 2010, the Company completed the sale of a 12.5% interest in its Russian subsidiary, NTO IRE Polus (NTO), to an unrelated third party for $25 million. Proceeds from the sale of this interest, which included cash and cash equivalents, are designated for the expansion of NTO s business and can be used for investments in fixed assets, working capital and operating expenses of NTO, but are not available for use for other purposes.

Inventories Inventories are stated at the lower of cost or market on a first-in, first-out basis. Inventories include parts and components that may be specialized in nature and subject to rapid obsolescence. We periodically review the quantities and carrying values of inventories to assess whether the inventories are recoverable. Because of our vertical integration, a significant or sudden decrease in sales activity could result in a significant change in the estimates of excess or obsolete inventory valuation. The costs associated with provisions for excess quantities, technological obsolescence, or component rejection are charged to cost of sales as incurred.

Property, Plant, and Equipment Property, plant, and equipment are stated at cost, less accumulated depreciation. Depreciation is determined using the straight-line method based on the estimated useful lives of the related assets. In the case of leasehold improvements, the estimated useful lives of the related assets do not exceed the remaining terms of the corresponding leases. The following table presents the assigned economic useful lives of property, plant, and equipment:

Category	Economic Useful Life
Buildings	30 years
Machinery and equipment	3-5 years
Office furniture and fixtures	3-5 years
Other assets	3-5 years

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Expenditures for maintenance and repairs are charged to operations. Interest expense associated with significant capital projects is capitalized as a cost of the project. We capitalized $18,000, $75,000 and $390,000 of interest expense in 2010, 2009 and 2008, respectively.

Long-Lived Assets Long-lived assets, which consist primarily of property, plant, and equipment, are reviewed by management for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. In cases in which undiscounted expected future cash flows are less than the carrying value, an impairment loss is recorded equal to the amount by which the carrying value exceeds the fair value of assets. No impairment losses have been recorded during the periods presented.

Included in other long-term assets is certain demonstration equipment as well as intangible assets, comprised of purchased technologies, production know-how and customer relationships. The demonstration equipment and intangible assets are amortized over the respective estimated economic lives, generally 3 years for demonstration equipment and 5-10 years for intangible assets. The carrying value of the demonstration equipment totaled $4.6 million and $8.9 million at December 31, 2010 and 2009, respectively. Amortization expense for the years ended December 31, 2010, 2009 and 2008, was $3.7 million, 3.6 million and $2.7 million, respectively.

Intangible Assets Intangible assets consist of the following:

	December 31,		Weighted-Average Lives
	2010	2009	
	(In thousands)		
Amortizable intangible assets			
Patents	$ 4,664	$ 3,650	6 Years
Customer relationships	3,633	1,934	5 Years
Production know-how	2,518		9 Years
Other identifiable intangibles	10	109	
	10,825	5,693	
Accumulated amortization	(3,694)	(1,922)	
	$ 7,131	$ 3,771	

The company completed two acquisitions in 2010, one in the U.S. in the first quarter and one in Germany in the second quarter. Amounts paid include cash payments aggregating $4.5 million and contingent consideration and seller provided financing with an aggregate fair value of $1.0 million. Net assets acquired primarily consisted of intangible assets (patents, customer relationships, and production know-how with weighted-average estimated useful lives of 10 years, 5 years and 8 years, respectively) aggregating $5.2 million.

Amortization expense for the years ended December 31, 2010, 2009 and 2008, was $1,772,000, $1,185,000 and $682,000, respectively.

The estimated future amortization expense for intangibles as of December 31, 2010 is as follows (in thousands):

2011	2012	2013	2014	Thereafter
$1,971	$1,690	$1,068	$811	$1,591

Revenue Recognition We recognize revenue when four basic criteria are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services have been rendered; (3) the fee is fixed and determinable; and (4) collectability is reasonably assured. Revenue from the sale of our products is generally

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

recognized upon shipment, provided that the other revenue recognition criteria have been met. We have no obligation to provide upgrades, enhancements or customer support subsequent to the sale, other than warranty.

Revenue from orders with multiple deliverables is divided into separate units of accounting when certain criteria are met. The consideration for the arrangement is then allocated to the separate units of accounting based on their relative fair values. We defer revenue on multiple element arrangements if the fair values of the undelivered elements are not known or if customer acceptance is contingent on delivery of specified items or performance conditions that cannot be satisfactorily tested prior to shipment or if we have not met such conditions in the past. Applicable revenue recognition criteria are then applied separately for each separate unit of accounting.

Returns and customer credits are infrequent and are recorded as a reduction to revenue. Rights of return are generally not included in sales arrangements. Generally, we receive a customer purchase order as evidence of an arrangement and product shipment terms are free on board (F.O.B.) shipping point. Periodically, our revenue arrangements include customer acceptance clauses. If an acceptance clause defines a performance requirement in a process or application that we cannot effectively test prior to delivery or that has not been accepted previously, we defer recognition of revenue until the performance requirement has been proved.

Allowance for Doubtful Accounts We maintain an allowance for doubtful accounts to provide for the estimated amount of accounts receivable that will not be collected. The allowance is based upon an assessment of customer creditworthiness, historical payment experience and the age of outstanding receivables.

Activity related to the allowance for doubtful accounts was as follows (in thousands):

Balance at January 1, 2008	$ 309
Provision for bad debts	936
Uncollectible accounts recovered or written off	(9)
Foreign currency translation	5
Balance at December 31, 2008	1,241
Provision for bad debts	1,777
Uncollectible accounts recovered or written off	(1,795)
Foreign currency translation	33
Balance at December 31, 2009	1,256
Provision for bad debts	1,951
Uncollectible accounts recovered or written off	(999)
Foreign currency translation	(65)
Balance at December 31, 2010	$ 2,143

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Warranties In general, our products carry a warranty against defect for a period of one to three years, depending upon the product type and customer negotiations. The expected cost associated with these warranty obligations is recorded when the revenue is recognized. The warranty accrual is reflected in accrued expenses and other liabilities in the consolidated balance sheets. Activity related to the warranty accrual was as follows (in thousands):

Balance at January 1, 2008	$ 1,957
Provision for warranty accrual	3,177
Warranty claims and other reductions	(1,899)
Foreign currency translation	(12)
Balance at December 31, 2008	3,223
Provision for warranty accrual	2,962
Warranty claims and other reductions	(2,322)
Foreign currency translation	23
Balance at December 31, 2009	3,886
Provision for warranty accrual	6,681
Warranty claims and other reductions	(3,476)
Foreign currency translation	(174)
Balance at December 31, 2010	$ 6,917

Advertising Expense The cost of advertising is expensed as incurred. We conduct substantially all of our sales and marketing efforts through trade shows, professional and technical conferences, direct sales and use of our website. Our advertising costs were not significant for the periods presented.

Research and Development Research and development costs are expensed as incurred.

Income Taxes Deferred tax assets and liabilities are recognized for the future tax consequences of temporary differences between the financial statement carrying amounts and tax bases of assets and liabilities and net operating loss carryforwards and credits using enacted rates in effect when those differences are expected to reverse. Valuation allowances are provided against deferred tax assets that are not deemed to be recoverable. We recognize tax positions that are more likely than not to be sustained upon examination by relevant tax authorities. The tax positions are measured at the greatest amount of tax benefit that is more than 50 percent likely to be realized upon ultimate settlement.

We provide reserves for potential payments of tax to various tax authorities related to uncertain tax positions and other issues. The reserves are based on a determination of whether and how much of a tax benefit taken by us in our tax filings or positions is more likely than not to be realized following resolution of uncertainties related to the tax benefit, assuming that the matter in question will be raised by the tax authorities.

Concentration of Credit Risk Financial instruments that potentially subject us to credit risk consist primarily of cash and cash equivalents, marketable securities and accounts receivable. We maintain substantially all of our cash and

marketable securities in six financial institutions, which are believed to be high-credit, quality financial institutions. We grant credit to customers in the ordinary course of business and provide a reserve for potential credit losses. Such losses historically have been within management s expectations (see discussion related to significant customers in Note 15).

Fair Value of Financial Instruments Our financial instruments consist of accounts receivable, auction rate securities, accounts payable, drawings on revolving lines of credit, long-term debt and certain derivative instruments.

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The valuation techniques used to measure fair value are based upon observable and unobservable inputs. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect internal market assumptions. These two types of inputs create the following fair value hierarchy: Level 1, defined as observable inputs such as quoted prices for identical instruments in active markets; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs for which little or no market data exists, therefore requiring an entity to develop its own assumptions.

The carrying amounts of accounts receivable, accounts payable and drawings on revolving lines of credit are considered reasonable estimates of their fair market value, due to the short maturity of these instruments or as a result of the competitive market interest rates, which have been negotiated.

The following table presents information about our assets and liabilities measured at fair value (in thousands):

	Fair Value Measurements at December 31, 2010			
	Total	**Level 1**	**Level 2**	**Level 3**
Assets				
Money market funds	$ 4,223	$ 4,223	$	$
Treasury bills	55,679	55,679		
German Treasury bills				
Auction rate securities	921			921
Total assets	$ 60,823	$ 59,902	$	$ 921
Liabilities				
Contingent purchase consideration	$ 685	$	$	$ 685
Warrant	180			180
Interest rate swaps	1,156		1,156	
Total liabilities	$ 2,021	$	$ 1,156	$ 865

	Fair Value Measurements at December 31, 2009			
	Total	**Level 1**	**Level 2**	**Level 3**
Assets				
Money market funds	$ 9,431	$ 9,431	$	$
Treasury bills	28,678	28,678		
German Treasury bills	4,299	4,299		
Auction rate securities	1,284			1,284

Total assets	$ 43,692	$ 42,408	$	$ 1,284
Liabilities				
Interest rate swap	1,125		1,125	
Total liabilities	$ 1,125	$	$ 1,125	$

The interest rate swaps are designated as cash flow hedges and were based on quoted market prices or pricing models using current market rates. Fair value at December 31, 2010 for the auction rate securities was determined using inputs from secondary markets for similar securities.

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During 2010, we completed the acquisition of Photonics Innovations, Inc., and Cosytronic, KG. The fair value of the accrued contingent consideration incurred during these acquisitions was determined using an income approach at the acquisition date and reporting date. That approach is based on significant inputs that are not observable in the market. Key assumptions include assessing the probability of meeting certain milestones required to earn the contingent consideration. As of December 31, 2010, the Company has accrued a liability of $685 for the estimated fair value of contingent consideration expected to be payable upon the acquired company reaching specific performance metrics over the next three years of operation. As of December 31, 2010, the ranges of outcomes and key assumptions have not changed materially.

In December 2010 we issued warrants in conjunction with the sale of a redeemable noncontrolling interest more fully described in Note 7. We valued these warrants and the embedded put and call options attached to them by first determining the underlying equity value of our Russian subsidiary using a discounted cash flow model and then, using appropriate inputs for expected volatility, revenue multiple and credit spread, ran a binomial tree model followed by a Monte Carlo simulation to estimate the value of the embedded derivatives.

The assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3) are auction rate securities, contingent consideration and warrants (in thousands):

	Auction Rate Securities	Contingent Consideration	Warrant
Balance at December 31, 2009	$ 1,284	$	$
2010 transactions		675	180
Change in fair value	(338)	10	
ARSs redeemed by issuers at par	(25)		
Balance at December 31, 2010	$ 921	$ 685	$ 180

The auction rate securities are considered available-for-sale securities. They had a cost basis of $1,450,000 and $1,475,000 at December 31, 2010 and 2009, respectively.

Comprehensive Income Comprehensive income includes charges and credits to equity that are not the result of transactions with stockholders. Included with other comprehensive income is the cumulative translation adjustment and unrealized gains or losses on derivatives. These adjustments are accumulated within the consolidated statements of equity.

Total components of accumulated other comprehensive income were as follows (in thousands):

	December 31, 2010	2009
Foreign currency translation adjustment	$ 1,533	$ 11,802

Unrealized loss on derivatives, net of tax of $433 and $429	$ (723)	$ (696)
Accumulated other comprehensive income	$ 810	$ 11,106

Derivative Instruments Our primary market exposures are to interest rates and foreign exchange rates. We may use certain derivative financial instruments to help manage these exposures. We execute these instruments with financial institutions we judge to be credit-worthy. We do not hold or issue derivative financial instruments for trading or speculative purposes.

We recognize all derivative financial instruments as either assets or liabilities at fair value in the consolidated balance sheet. We have used foreign currency forward contracts as cash flow hedges of forecasted intercompany settlements denominated in foreign currencies of major industrial countries. We have no

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

outstanding foreign currency forward contracts. We have two interest rate swaps that are classified as cash flow hedges of our variable rate debt.

Cash flow hedges Our cash flow hedges consist of interest rate swaps under which we agree to pay fixed rates of interest. All of our derivatives are accounted for as hedging instruments. The fair value amounts in the consolidated balance sheets at December 31, 2010 and 2009 were (in thousands):

	Notional Amounts(1) December 31,		Other Assets December 31,		Deferred Income Taxes and Other Long-Term Liabilities December 31,	
	2010	2009	2010	2009	2010	2009
Interest rate swap(s)	$ 16,666	$ 18,000	$	$	$ 1,156	$ 1,125
Total	$ 16,666	$ 18,000	$	$	$ 1,156	$ 1,125

(1) Notional amounts represent the gross contract/notional amount of the derivatives outstanding.

The derivative gains and losses in the consolidated statements of operations for the years ended December 31, 2010 and 2009, related to our interest rate swap contracts were as follows (in thousands):

	Year Ended December 31,	
	2010	2009
Effective portion recognized in other comprehensive (loss) gain, pretax:		
Interest rate swap(s)	$ 649	$ 1,236
Effective portion reclassified from other comprehensive (loss) gain to interest expense, pretax:		
Interest rate swap(s)	$ (679)	$ (684)
Ineffective portion recognized in income:		
Interest rate swap(s)	$	$

We made no adjustments to the fair value of this derivative as a result of evaluating counterparty risk.

Business Segment Information We operate in one segment which involves the design, development, production and distribution of fiber lasers, fiber amplifiers and related optical components. We have a single, company-wide management team that administers all properties as a whole rather than as discrete operating segments. The chief decision maker, who is our Chief Executive Officer, measures financial performance as a single enterprise and not on legal entity or end-market basis. Throughout the year, the chief decision maker allocates capital resources on a

project-by-project basis across our entire asset base to maximize profitability without regard to legal entity or end-market basis. We operate in a number of countries throughout the world in a variety of product lines. Information regarding geographic financial information and product lines is provided in Note 15.

Recent Accounting Pronouncements In October 2009, an update was issued to the accounting guidance related to the separation criteria used to determine the unit of accounting for multiple element arrangements. This update removes the objective-and-reliable-evidence-of-fair-value criterion from the separation criteria used to determine whether an arrangement involving multiple deliverables contains more than one unit of accounting, replaces references to fair value with selling price to distinguish from the fair value measurements required under the *Fair Value Measurements and Disclosures* guidance, provides a hierarchy that entities must use to estimate the selling price, eliminates the use of the residual method for allocation and expands the ongoing disclosure

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

requirements. This guidance is effective for us beginning January 1, 2011. We are evaluating the effect that implementation of this update will have, if any, on our consolidated financial position and results of operations.

2. STOCK-BASED COMPENSATION

Stock-based compensation is included in the following financial statement captions:

	Year Ended December 31,		
	2010	2009	2008
	(In thousands)		
Cost of sales	$ 727	$ 578	$ 328
Sales and marketing	801	727	407
Research and development	446	344	490
General and administrative	1,222	1,118	849
Total stock-based compensation	3,196	2,767	2,074
Tax benefit recognized	(973)	(792)	(594)
Net stock-based compensation	$ 2,223	$ 1,975	$ 1,480

Compensation cost for all share-based payment awards is based on the estimated grant-date fair value. We allocate and record stock-based compensation expense on a straight-line basis over the requisite service period.

We calculate the fair value of stock option grants using the Black-Scholes option pricing model. Determining the appropriate fair value model and calculating the fair value of stock-based payment awards require the use of highly subjective assumptions, including the expected life of the stock-based payment awards and stock price volatility. The assumptions used in calculating the fair value of stock-based payment awards represent management s best estimates, but the estimates involve inherent uncertainties and the application of management judgment. As a result, if factors change and we use different assumptions, our stock-based compensation expense could be materially different in the future. The weighted average assumptions used in the Black-Scholes model or the calculation of compensation were as follows for the years ended December 31:

	2010	2009	2008
Expected term	2.9-5.9 years	1.74-7.10 years	4.33-7.23 years
Volatility	42%-48%	46%-65%	39%-65%
Risk-free rate of return	0.34%-2.68%	0.56%-2.78%	2.51%-5.20%
Dividend yield	0%	0%	0%
Forfeiture rate	0%-5.0%	2%-6.6%	2%-5%

There is a lack of sufficient company-specific historical and implied volatility information for options granted with an expected term that is longer than the period for which our stock has been publically traded. For these awards we based our estimate of expected volatility on the expected volatility of similar entities whose share prices are publicly available. We used the following factors to identify similar public entities: industry, stage of life cycle, size and profitability. We intend to continue to consistently apply this process using the same or similar entities until a sufficient amount of historical information regarding the volatility of its own share price becomes available, or unless circumstances change such that the identified entities are no longer similar to us. In this latter case, more suitable, similar entities whose share prices are publicly available would be utilized in the calculation. There were option awards made in 2010 for which the expected term is

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

shorter than the period for which our stock has been publically traded. For these awards, the company-specific historical and implied volatility information was used.

Incentive Plans In April 2000, our board of directors adopted the 2000 Incentive Compensation Plan, or 2000 plan, and in February 2006, our board of directors adopted the 2006 Incentive Compensation Plan, or 2006 plan, which provide for the issuance of stock options and other stock and non-stock based awards to our directors, employees, consultants and advisors. We reserved 5,833,333 shares under the 2000 plan and 4,000,000 shares under the 2006 plan for the issuance of awards under the plans. In June 2006, our board of directors adopted the Non-Employee Directors Stock Plan (the Directors Plan). Only non-employee directors are eligible to receive awards under the Directors Plan. We reserved 486,660 shares for issuance under the Directors Plan. Under the three plans, we may grant nonstatutory stock options at an exercise price at least equal to the fair value of our common stock on the date of grant, unless the board of directors or compensation committee determines otherwise on the date of grant. Incentive stock options may be granted under the 2000 plan and the 2006 plan at exercise prices equal to or exceeding the fair value of the common stock on the date of grant. Options generally become exercisable over periods of one to five years and expire seven to ten years from the date of the grant. The awards under the 2000 plan and the 2006 plan may become exercisable earlier upon the occurrence of certain change of control events at the election of the board of directors or compensation committee, and all awards under the Directors Plan automatically become exercisable upon a change of control. All shares issued under the stock option plans are registered shares newly issued by us. At December 31, 2010, 1,526,358 shares were available for future grant under the three option plans.

A summary of option activity is presented below:

	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (In years)	Aggregate Intrinsic Value (In thousands)
Outstanding January 1, 2010	3,027,948	$ 8.01		
Granted	729,590	16.21		
Exercised	(865,123)	6.71		
Forfeited/Expired	(155,972)	11.39		
Outstanding December 31, 2010	2,736,443	$ 10.33	6.93	$ 57,101
Vested or expected to vest December 31, 2010	2,631,089	$ 9.96	4.97	$ 56,992
Exercisable December 31, 2010	1,205,572	$ 6.11	5.30	$ 30,946

The intrinsic value of the options exercised during the years ended December 31, 2010, 2009 and 2008, was $13,431,000, $7,656,000 and $14,287,000, respectively.

The weighted-average grant fair value for options granted during the years ended December 31, 2010, 2009 and 2008, was $7.66, $3.94 and $8.68, respectively.

The total compensation cost related to nonvested awards not yet recorded at December 31, 2010 was $8,412,000, which is expected to be recognized over a weighted average of 2.9 years.

The fair value of awards vested during the year ended December 31, 2010 was $3,121,000.

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3. INVENTORIES

Inventories consist of the following (in thousands):

	December 31, 2010	2009
Components and raw materials	$ 25,126	$ 17,801
Work-in-process	24,392	21,375
Finished goods	22,952	13,693
Total	$ 72,470	$ 52,869

We recorded inventory provisions totaling $2,745,000, $5,259,000 and $3,789,000 in 2010, 2009 and 2008, respectively. These provisions were recorded as a result of uncertainties related to the recoverability of the value of inventories due to technological changes and excess quantities. These provisions are reported as a reduction to components and raw materials and finished goods. In addition, we recorded a $1.3 million reduction in value of certain components in inventory in 2009.

4. PROPERTY, PLANT, AND EQUIPMENT

Property, plant, and equipment consist of the following (in thousands):

	December 31, 2010	2009
Land	$ 12,380	$ 7,340
Buildings	87,492	86,928
Machinery and equipment	92,363	82,818
Office furniture and fixtures	16,607	16,850
Construction-in-progress	5,392	2,019
Total property, plant, and equipment	214,234	195,955
Accumulated depreciation	(93,551)	(84,502)
Total property, plant, and equipment net	$ 120,683	$ 111,453

We recorded depreciation expense of $16,212,000, $14,296,000 and $12,481,000 in 2010, 2009 and 2008, respectively.

5. ACCRUED EXPENSES AND OTHER LIABILITIES

Accrued expenses and other liabilities consist of the following (in thousands):

	December 31,	
	2010	2009
Accrued compensation	$ 16,065	$ 5,265
Customer deposits and deferred revenue	20,685	8,189
Accrued warranty	6,917	3,886
Other	6,438	3,849
	$ 50,105	$ 21,189

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

6. FINANCING ARRANGEMENTS

Our existing borrowings under financing arrangements consist of the following (in thousands):

	December 31, 2010	December 31, 2009
Revolving Line-of-Credit Facilities:		
Euro Overdraft Facilities	$ 1,882	$ 977
Foreign subsidiary drawings on U.S. Line of Credit	4,959	5,030
Total	$ 6,841	$ 6,007
Term Debt:		
U.S. Long-Term Note	$ 16,666	$ 18,000
Other notes payable	311	
Less: current portion	(1,333)	(1,333)
Total long-term debt	$ 15,644	$ 16,667

Revolving Line-of-Credit Facilities:

U.S. Line of Credit We maintain an unsecured revolving line of credit with available principal of up to $35,000,000 expiring in June 2015. The line of credit bears interest at a variable rate of LIBOR plus 1.125% to 1.625% depending on our financial performance (1.445% at December 31, 2010). $12.0 million of this credit facility is available to our foreign subsidiaries including those in India, China, Japan and South Korea. Total drawings at December 31, 2010 were $5.0 million with a weighted average interest rate of 1.9%. At December 31, 2010, the remaining availability under the U.S. Line of Credit totaled $30,041,000.

Euro Line of Credit We maintain an unsecured revolving line of credit with a principal amount of Euro 15,000,000 (approximately $19,878,000 at December 31, 2010) that expires in June 2012. The credit facility bears interest at various rates based upon the type of loan. $4.0 million of this credit facility is available to our Russian subsidiary and $4.0 million is available to our Italian subsidiary. Total drawings at December 31, 2010 were $0.5 million with an interest rate of 1.8%. No amounts were drawn on the Euro Line of Credit during 2009.

Euro Overdraft Facilities We maintain a syndicated overdraft facility with available principal of Euro 850,000 (approximately $1,126,000 at December 31, 2010). This amount is available through September 2011. This facility bears interest at market rates that vary depending upon the bank within the syndicate that advances the principal outstanding (6.5% at December 31, 2010). This facility is collateralized by a common pool of the assets of our German subsidiary, IPG Laser GmbH.

Other European Facilities We maintain two Euro credit lines in Italy with aggregate available principal of Euro 1,750,000 (approximately $2,319,000 as of December 31, 2010) which bear interest at rates ranging from 2.5%

to 2.8% and expire in September 2011. Total drawings at December 31, 2010 were $1.4 million. No amounts were drawn on the Euro Line of Credit during 2009. At December 31, 2010, the aggregate remaining availability under these lines was $901,000. These facilities are collateralized by a common pool of the assets of our Italian subsidiary, IPG Photonics (Italy) S.r.l. (IPG Italy).

Term Debt:

U.S. Long-Term Note In 2010, we extended the maturity of the U.S Long-Term Note from August 2013 to June 2015. Outstanding principal under the U.S. Long-Term Note bears interest at LIBOR plus 0.9% to 1.3%, depending on certain financial ratios and requires monthly principal payments of $111,000 and

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

interest through June 2015, at which time the remaining principal is payable. This note is collateralized by a mortgage on the real estate and building, in Massachusetts, housing our U.S. operations. We entered into an interest rate swap instrument which converts the variable LIBOR rate on the original term note to a fixed rate of 5.0%. For the extended term from August 2013 to June 2015, we entered into a separate interest rate swap instrument which converts the variable LIBOR rate to a fixed rate of 3.47%. Changes in fair value of the swaps are included in Accumulated Other Comprehensive Income . The unrealized loss on the swap will be recognized into income over the term of the swap as a charge to interest expense.

We are required to meet certain financial covenants associated with our U.S. Line of Credit and U.S. Long-Term Note. These covenants, tested quarterly, include a debt service coverage ratio and a funded debt to earnings before interest, taxes, depreciation and amortization (EBITDA) ratio. The debt service coverage covenant requires us to maintain a trailing twelve month ratio of cash flow to debt service that is greater than 1.5:1. Debt service is defined as required principal and interest payments during the period. Cash flow is defined as EBITDA less unfunded capital expenditures. For trailing twelve month periods until June 2010, up to $15.0 million of our capital expenditures are treated as being funded from the proceeds of our initial public offering. The funded debt to EBITDA covenant requires that the sum of all indebtedness for borrowed money on a consolidated basis shall be less than two times our trailing twelve months EBITDA.

7. REDEEMABLE NONCONTROLLING INTERESTS, STOCKHOLDERS EQUITY AND NONCONTROLLING INTERESTS

Redeemable Noncontrolling Interests Redeemable Noncontrolling interests reported in the accompanying consolidated financial statements as of December 31, 2010 consist of 12.5% of the Company s Russian subsidiary, NTO IRE Polus (NTO).

	Redeemable Noncontrolling Interest
Balance at December 31, 2009	$
Initial interest in book value of subsidiary	8,342
Increase to the initial redemption value	16,285
Net income attributable to redeemable NCI	276
Balance at December 31, 2010	$ 24,903

In December 2010, the Company entered into an investment agreement with an unrelated third party, The Russian Corporation for Nanotechnology (Rusnano) (the Investment Agreement). Under the Investment Agreement, Rusnano acquired a 12.5% noncontrolling interest (NCI) in NTO and warrants to purchase up to an additional 12.5% of NTO in three tranches (two additional 5% interests for a purchase price of $10 million each, and a 2.5% interest for $5 million) if certain sales targets are achieved before December 2015. Rusnano invested $25 million in NTO in December 2010.

In connection with the Investment Agreement, the Company and Rusnano entered into an option agreement (the Option Agreement) granting the Company the right to buy back, after the third and before the seventh anniversary of the Option Agreement, Rusnano s ownership stake in NTO at the original purchase price under the Investment Agreement plus interest at 8-10% per annum. Rusnano obtained the right to sell to the Company, after the fifth and before the seventh anniversary of the Option Agreement, Rusnano s ownership stake in NTO at the original purchase price plus interest at 4% per annum (the Put). Any shares purchased under the warrants in the Investment Agreement are also subject to the Option Agreement.

Due to the Put, the NCI in NTO held by Rusnano (the Rusnano NCI) has been classified as temporary equity and reported as a Redeemable Noncontrolling Interest on our consolidated balance sheet. The initial net proceeds, $25 million less transaction expenses of $0.2 million, were allocated first to the fair value of the

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warrants ($0.2 million) and then to the initial carrying value of the Rusnano NCI. The subsequent carrying value of the Rusnano NCI is the higher of (1) the initial carrying amount (plus any subsequent investments in NTO under the warrants), increased or decreased by the NCI s share of NTO s net income or loss, the NCI s share of NTO s other comprehensive income (loss), and dividends or (2) the redemption value. The redemption value is the initial carrying value of the Rusnano NCI plus the accretion of the discount created by warrant and transaction expenses using the interest method to the fifth anniversary of the agreement (the earliest redemption date) plus any subsequent investments in NTO under the warrants plus interest on the initial and any subsequent investments under the warrants at an annual rate of 4%.

Authorized Capital We have authorized capital stock consisting of 175,000,000 shares of common stock, par value $0.0001 per share, and 5,000,000 shares of preferred stock, par value $0.0001 per share. There are no shares of preferred stock outstanding.

Noncontrolling Interests Noncontrolling interests reported in the accompanying consolidated financial statements as of December 31, 2010 consist of the 10% of IPG Photonics (Korea) Ltd. (IPG Korea) held by the management of IPG Korea.

For the year ended December 31, 2010, the net income attributable to NCI of $0.4 million consisted of amounts related to the Rusnano NCI of $0.3 million and the NCI classified as permanent equity of $0.1 million.

Prior to the Rusnano investment, we purchased the interests of certain noncontrolling stockholders of NTO. In 2008, we purchased a 7.3% interest for $1,220,000; in 2009, we purchased a 34% interest held by our Chief Executive Officer and certain other Company employees for $2,644,000; and in 2010, we purchased the remaining 0.1% interest for $92,000.

In 2008, we purchased the 20% NCI in IPG Photonics (Italy) S.r.l. for $1,355,000 in cash and shares of the Company. In 2009, we purchased the 20% NCI in IPG Photonics (Japan) Ltd. for $891,000 in cash and shares of the Company.

8. RELATED-PARTY TRANSACTIONS

Until July 2010, we subleased office space in the United Kingdom from an entity controlled by our Chief Executive Officer and reimbursed the entity for general and administrative expenses. The costs related to the lease and services totaled $46,000, $107,000 and $183,000 for 2010, 2009 and 2008, respectively.

During 2008, a director of one of our customers served on our board of directors. Sales to this customer totaled $2,351,000 in 2008. The Company s director did not serve as a director of the customer in 2009 or 2010.

We paid $182,000, $187,000 and $295,000 to the father of our chief financial officer in 2010, 2009 and 2008, respectively. The amounts included payments for consulting services, commissions and reimbursement of expenses.

A member of our board of directors is affiliated with several holders of our subordinated notes that were repaid in 2008. These holders earned $320,000 of interest on such notes in 2008.

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9. NET INCOME ATTRIBUTABLE TO IPG PHOTONICS CORPORATION PER SHARE

The following table sets forth the computation of basic and diluted net income attributable to IPG Photonics Corporation per share (in thousands, except per share data):

	Year Ended December 31,		
	2010	2009	2008
Net income attributable to IPG Photonics Corporation	$ 53,991	$ 5,419	$ 36,654
Weighted average shares	46,424	45,489	44,507
Dilutive effect of common stock equivalents	1,170	1,106	1,716
Diluted weighted average common shares	47,594	46,595	46,223
Basic net income attributable to IPG Photonics Corporation per share	$ 1.16	$ 0.12	$ 0.82
Diluted net income attributable to IPG Photonics Corporation per share	$ 1.13	$ 0.12	$ 0.79

The computation of diluted weighted average common shares excludes 35,000, 343,000 and 667,000 shares for the years ended December 31, 2010, 2009 and 2008, respectively, because the effect on net income attributable to IPG Photonics Corporation per share would have been anti-dilutive.

10. COMMITMENTS AND CONTINGENCIES

Operating Leases We lease certain facilities under cancelable and noncancelable operating lease agreements which expire through January 2014. In addition, we lease capital equipment under operating leases. Rent expense for the years ended December 31, 2010, 2009 and 2008, totaled $713,000, $794,000 and $791,000, respectively.

Commitments under the noncancelable lease agreements as of December 31, 2010 are as follows (in thousands):

Years Ending December 31	Facilities	Equipment	Total
2011	$ 1,060	$ 2,092	$ 3,152
2012	354	1,484	1,838
2013	162	1,013	1,175
2014	122	450	572
2015	122	23	145
2016	122	23	145
Thereafter	911	41	952
Total	$ 2,853	$ 5,126	$ 7,979

Employment Agreements We have entered into employment agreements with certain members of senior management. The terms of these agreements are up to two years and include noncompete and nondisclosure provisions, as well as providing for defined severance for certain terminations of employment.

Contractual Obligations We have entered into various purchase obligations that include agreements to purchase raw materials and equipment. Obligations under these agreements were $6,911,000 as of December 31, 2010.

11. LEGAL PROCEEDINGS

In November 2006, the Company was sued for patent infringement relating to certain products, including but not limited to fiber lasers and fiber amplifiers. The plaintiff filed a complaint for damages of over

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

$10 million, treble damages for alleged willful infringement and injunctive relief. Discovery is complete and pre-trial motions have been filed. The trial date has not been scheduled. The Company believes it has meritorious defenses and is vigorously contesting the claims. No loss was deemed probable at December 31, 2010 and no amounts have been accrued in respect of this contingency.

12. EMPLOYEE BENEFIT PLANS

We maintain a 401(k) retirement savings plan covering all of our U.S. employees. We make matching contributions equal to 50% of the employee s contributions, subject to a maximum of 6% of eligible compensation. Compensation expense related to our contribution to the plan for the years ended December 31, 2010, 2009 and 2008, approximated $607,000, $463,000 and $504,000, respectively.

We have offered an employee stock purchase plan covering our U.S. and German employees. The plan allows employees who participate to purchase shares of common stock through payroll deductions at a 15% discount to the lower of the stock price on the first day or the last day of the six-month purchase period. Payroll deductions may not exceed 10% of the employee s compensation. Compensation expense related to the employee stock purchase plan approximated $206,000, $205,000 and $67,000 for the years ended December 31, 2010, 2009 and 2008, respectively.

13. BUSINESS COMBINATIONS

In January 2010, we completed the acquisition of the outstanding shares of privately-held, Birmingham, Alabama-based Photonics Innovations, Inc., a maker of active and passive laser materials and tunable lasers for scientific, biomedical, technological, and eyesafe range-finding applications. The acquisition allows us to expand our product offerings to the middle infrared (approximately 2 to 5 micron). In April 2010, we completed the acquisition of privately-held, Germany-based Cosytronic KG, a specialist in the joining technology with an emphasis on engineering know-how in automated welding turnkey solutions. The acquisition allows us to extend our product offerings to include a welding tool that integrates seamlessly with IPG s fiber laser.

The total cash paid for these acquisitions in 2010 was $4.5 million. The acquisitions also included seller financing and contingent consideration which is more fully discussed in the fair value disclosures in footnote 1. The assets acquired were primarily intangible and included patents, production know-how and customer relationships which are more fully described in the intangible asset disclosures in footnote 1. The acquisitions did not have a material effect on the financial results in 2010.

14. INCOME TAXES

Income before the impact of income taxes for the years ended December 31, consisted of the following (in thousands):

	2010	2009	2008
U.S.	$ 17,879	$ (2,844)	$ 11,257
Foreign	61,373	10,613	45,037
Total	$ 79,252	$ 7,769	$ 56,564

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Our provision for income taxes for the years ended December 31, consisted of the following (in thousands):

	2010	2009	2008
Current:			
Federal	$ (9,453)	$ (98)	$ (1,215)
State	(19)		
Foreign	(16,467)	(5,674)	(14,451)
Total current	(25,939)	(5,772)	(15,666)
Deferred:			
Federal	989	1,448	(3,177)
State	70	129	(308)
Foreign	(20)	1,918	731
Change in valuation allowance		(208)	309
Total deferred	1,039	3,287	(2,445)
Provision for income taxes	$ (24,900)	$ (2,485)	$ (18,111)

A reconciliation of income tax expense at the U.S. federal statutory income tax rate to the recorded tax provision for the years ended December 31, is as follows (in thousands):

	2010	2009	2008
Tax at statutory rate	$ (27,738)	$ (2,719)	$ (19,797)
Non-U.S. rate differential net	5,867	598	2,261
State income taxes net	(625)	(59)	(308)
Effect of changes in enacted tax rates on deferred tax assets and liabilities	(186)	196	(176)
Nondeductible stock compensation expense	(312)	(321)	(234)
Other nondeductible expenses	(603)	(141)	(214)
Tax credits	1,104	737	1,183
Change in reserves, including interest and penalties	(1,501)	(666)	(934)
Settlements, interest & penalties	(987)		
Change in valuation allowance	(106)	(208)	309
Other net	187	98	(201)
	$ (24,900)	$ (2,485)	$ (18,111)

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities at December 31, are as follows (in thousands):

	2010	2009
Property, plant, and equipment	$ 1,075	$ 480
Inventory provisions	7,294	5,498
Allowances and accrued liabilities	(1,830)	1,920
Other tax credits	1,994	2,544
Deferred compensation	1,417	(582)
Net operating loss carryforwards	56	274
Valuation allowance	(314)	(208)
Net deferred tax assets	$ 9,692	$ 9,926

In general, it is our practice and intention to reinvest the earnings of non-U.S. subsidiaries in those operations. Accordingly, we have not made any provision for additional U.S. or foreign withholding taxes in respect to repatriation of earnings of non-US subsidiaries.

Deferred tax assets and liabilities shown above do not include certain deferred tax assets from tax deductions related to tax-deductible equity compensation in excess of equity compensation recognized for financial reporting. As of December 31, 2010, we have U.S. federal and state credit carryforwards available for future periods of approximately $333,000 and $2,438,000, respectively. The federal and state credit carryforwards begin expiring in 2022 and 2011, respectively.

The following is a tabular reconciliation of the total amounts of unrecognized tax benefits (in thousands):

	2010	2009	2008
Unrecognized tax benefit January 1	$ 2,131	$ 1,672	$ 867
Settlements of prior period positions	(1,336)		
Gross increases tax positions in prior period		459	773
Gross increases tax positions in current period	2,156		32
Unrecognized tax benefit December 31	$ 2,951	$ 2,131	$ 1,672

Estimated penalties and interest related to the underpayment of income taxes are $4,000, $206,000 and $129,000 for the years ended December 31, 2010, 2009 and 2008, respectively, and are included within the provision for income taxes. Total accrued penalties and interest related to the underpayment of income taxes are $142,000 and $514,000 for the years ended December 31, 2010 and 2009, respectively.

Our uncertain tax positions are related to tax years that remain subject to examination by the relevant taxing authorities. If realized, all of our uncertain tax positions would affect our effective tax rate. None of the uncertain tax positions are expected to settle within one year. Open tax years by major jurisdictions are:

United States	2002	2010
Germany	2009	2010
Russia	2009	2010

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

15. GEOGRAPHIC AND PRODUCT INFORMATION

We market and sell our products throughout the world through both direct sales and distribution channels. The geographic sources of our net sales, based on billing addresses of our customers are as follows (in thousands):

	Year Ended December 31,		
	2010	2009	2008
United States and other North America	$ 61,706	$ 45,668	$ 52,018
Europe:			
Germany	46,282	28,242	44,771
Other including Eastern Europe/CIS	66,174	42,171	49,306
Asia and Australia:			
Japan	35,878	29,937	41,310
China	57,762	20,942	14,781
Other	30,614	15,221	21,491
Rest of the World	840	3,713	5,399
Total	$ 299,256	$ 185,894	$ 229,076

Sales are derived from products for different applications: fiber lasers, diode lasers and diodes for materials processing, fiber lasers and amplifiers for advanced applications, fiber amplifiers for communications applications, and fiber lasers for medical applications. Net sales for these product lines are as follows (in thousands):

	Year Ended December 31,		
	2010	2009	2008
Materials processing	$ 252,014	$ 140,864	$ 187,720
Advanced applications	25,196	26,557	24,670
Communications	14,020	10,867	12,904
Medical	8,026	7,606	3,782
Total	$ 299,256	$ 185,894	$ 229,076

No single customer comprised more than 10% of net sales during the years ended December 31, 2010, 2009 or 2008.

The geographic locations of our long-lived assets, based on physical location of the assets, as of December 31, 2010 and 2009, are as follows (in thousands):

	December 31,

	2010	2009
United States	$ 59,072	$ 57,898
Germany	41,065	46,567
Russia	16,578	10,154
China	3,865	4,205
Other	4,723	1,512
	$ 125,303	$ 120,336

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

16. SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

2010	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	(In thousands, except per share data)			
Net sales	$ 51,204	$ 67,258	$ 79,809	$ 100,985
Gross profit	20,547	30,461	39,931	55,519
Net income attributable to IPG Photonics Corporation	3,397	10,306	13,226	27,062
Basic earnings per share	0.07	0.22	0.28	0.58
Diluted earnings per share	0.07	0.22	0.28	0.56

2009	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	(In thousands, except per share data)			
Net sales	$ 45,408	$ 40,385	$ 45,808	$ 54,293
Gross profit	15,861	11,772	16,723	19,912
Net income attributable to IPG Photonics Corporation	1,271	(1,229)	2,255	3,122
Basic earnings per share	0.03	(0.03)	0.05	0.07
Diluted earnings per share	0.03	(0.03)	0.05	0.07

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EXHIBIT

Exhibit Number	Description
3.1	Form of Second Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.2 to Registration Statement No. 333-136521 filed with the Securities and Exchange Commission (the Commission) on August 11, 2006)
3.2	Form of Certificate of Amendment of Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.4 to Registration Statement No. 333-136521 filed with the Commission on November 24, 2006)
3.3	Amended and Restated By-laws of the Registrant (incorporated by reference to Exhibit 3.4 to Registration Statement No. 333-136521 filed with the Commission on August 11, 2006)
4.1	Specimen Stock Certificate (incorporated by reference to Exhibit 4.1 to Registration Statement No. 333-136521 filed with the Commission on November 14, 2006)
4.2	Form of Indenture, to be entered into between the Company and the trustee designated therein (incorporated by reference to Exhibit 4.1 to the Registrant s Current Report on Form 8-K filed with the Commission on December 2, 2009)
10.1	2000 Incentive Compensation Plan (incorporated by reference to Exhibit 10.2 to the Registrant s Quarterly Report on Form 10-Q filed with the Commission on May 15, 2007)
10.2	Amendment to Section 4.2 of 2000 Incentive Compensation Plan (incorporated by reference to Exhibit 10.5 to the Registrant s Current Report on Form 8-K filed with the Commission on May 13, 2008)
10.3	2006 Incentive Compensation Plan (incorporated by reference to Exhibit 10.3 to the Registrant s Quarterly Report on Form 10-Q filed with the Commission on May 15, 2007)
10.4	Amendment to Section 4.2 of 2006 Incentive Compensation Plan (incorporated by reference to Exhibit 10.6 to the Registrant s Current Report on Form 8-K filed with the Commission on May 13, 2008)
10.5	Non-Employee Directors Stock Plan, as amended April 2, 2010 (incorporated by reference to Exhibit 10.1 to the Registrant s Current Report on Form 8-K filed with the Commission on June 8, 2010)
10.6	IPG Photonics Non-Employee Director Compensation Plan, amended February 23, 2011 (incorporated by reference to Exhibit 10.1 to the Registrant s Current Report on Form 8-K filed with the Commission on March 3, 2011)
10.7	Senior Executive Short-Term Incentive Plan (incorporated by reference to Exhibit 10.5 to Registration Statement No. 333-136521 filed with the Commission on August 11, 2006)
10.8	2008 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.8 to the Registrant s Current Report on Form 8-K filed with the Commission on May 13, 2008)
10.9	Amendment to 2008 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.1 to the Registrant s Current Report on Form 8-K filed with the Commission on June 15, 2009)
10.10	Employment Agreement by and between the Registrant and Valentin P. Gapontsev, dated May 9, 2008 (incorporated by reference to Exhibit 10.1 to the Registrant s Current Report on Form 8-K filed with the Commission on May 13, 2008)
10.11	First Amendment to Employment Agreement dated September 16, 2010, between the Registrant and Valentin Gapontsev (incorporated by reference to Exhibit 10.2 to the Registrant s Current Report on Form 8-K filed with the Commission on August 5, 2010)
10.12	Service Agreement by and between the Registrant and Eugene Shcherbakov, dated May 9, 2008 (incorporated by reference to Exhibit 10.2 to the Registrant s Current Report on Form 8-K filed with the Commission on May 13, 2008)
10.13	Form of Employment Agreement dated May 9, 2008, between the Registrant and each of Timothy P.V. Mammen, Angelo P. Lopresti, George H. BuAbbud, William S. Shiner and Alexander Ovtchinnikov

	(incorporated by reference to Exhibit 10.3 to the Registrant s Current Report on Form 8-K filed with the Commission on May 13, 2008)
10.14	Form of Amendment to Employment Agreement dated December 21, 2009, between the Registrant and each of Eugene Shcherbakov, Timothy P.V. Mammen, Angelo P. Lopresti, George H. BuAbbud, William S. Shiner and Alexander Ovtchinnikov (incorporated by reference to Exhibit 10.1 to the Registrant s Current Report on Form 8-K filed with the Commission on December 21, 2009)

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Exhibit Number	Description
10.15	Form of Second Amendment to Employment Agreement dated September 16, 2010, between the Registrant and each of Eugene Shcherbakov, Timothy P.V. Mammen, Angelo P. Lopresti, George H. BuAbbud, William S. Shiner and Alexander Ovtchinnikov dated as of August 5, 2010 (incorporated by reference to Exhibit 10.1 to the Registrant s Current Report on Form 8-K filed with the Commission on September 16, 2010)
10.16	Form of Confidentiality, Non-Competition and Confirmatory Assignment Agreement between the Registrant and each of the named executive officers and certain other executive officers. (incorporated by reference to Exhibit 10.4 to the Registrant s Current Report on Form 8-K filed with the Commission on May 13, 2008)
10.17	Form of Indemnification Agreement between the Registrant and each of its Directors and Executive Officers (incorporated by reference to Exhibit 10.13 to Registration Statement No. 333-136521 filed with the Commission on August 11, 2006)
10.18	Form of Stock Option Agreement under the 2000 Incentive Compensation Plan (incorporated by reference to Exhibit 10.5 to the Registrant s Quarterly Report on Form 10-Q filed with the Commission on May 15, 2007)
10.19	Form of Stock Option Agreement under the 2006 Incentive Compensation Plan (incorporated by reference to Exhibit 10.6 to the Registrant s Quarterly Report on Form 10-Q filed with the Commission on May 15, 2007)
10.20	Form of Stock Option Agreement under the 2006 Non-Employee Directors Stock Plan (incorporated by reference to Exhibit 10.7 to the Registrant s Quarterly Report on Form 10-Q filed with the Commission on May 15, 2007)
10.21	Loan Agreement between the Registrant and Bank of America, N.A. dated as of June 4, 2008 (incorporated by reference to Exhibit 10.1 to the Registrant s Current Report on Form 8-K filed with the Commission on June 9, 2008)
10.22	Revolving Credit Note by the Registrant dated June 4, 2008 (incorporated by reference to Exhibit 10.2 to the Registrant s Current Report on Form 8-K filed with the Commission on June 9, 2008)
10.23	Term Note by the Registrant dated June 4, 2008 (incorporated by reference to Exhibit 10.3 to the Registrant s Current Report on Form 8-K filed with the Commission on June 9, 2008)
10.24	Mortgage and Security Agreement between Registrant and Bank of America, N.A. dated as of June 4, 2008 (incorporated by reference to Exhibit 10.4 to the Registrant s Current Report on Form 8-K filed with the Commission on June 9, 2008)
10.25	Second Amendment to Loan Agreement, between the Registrant and Bank of America, N.A., dated as of September 30, 2010 (incorporated by reference to Exhibit 10.1 to the Registrant s Quarterly Report on Form 10-Q filed with the Commission on November 9, 2010)
10.26	Revolving Credit Note Modification Agreement No. 1, between the Registrant and Bank of America, N.A., dated as of September 30, 2010 (incorporated by reference to Exhibit 10.2 to the Registrant s Quarterly Report on Form 10-Q filed with the Commission on November 9, 2010)
10.27	Term Note Modification Agreement No. 1, between the Registrant and Bank of America, N.A., dated as of September 30, 2010 (incorporated by reference to Exhibit 10.3 to the Registrant s Quarterly Report on Form 10-Q filed with the Commission on November 9, 2010)
10.28	Credit Facility Agreement between IPG Laser GmbH and Deutsche Bank AG dated June 28, 2010
10.29	Guarantee of the Registrant dated October 10, 2007 (incorporated by reference to Exhibit 10.2 to the Registrant s Quarterly Report on Form 10-Q filed with the Commission on November 8, 2007)
10.30	Annex 1 dated March 5, 2009, to Guaranty of the Registrant dated October 10, 2007 (incorporated by reference to Exhibit 10.28 to the Registrant s Annual Report on Form 10-K filed with the Commission on

March 11, 2009)

10.31 Agreement and Plan of Reorganization among the Registrant, IPG Laser GmbH, Valentin P. Gapontsev and Igor Samartsev, dated as of August 5, 2008 (incorporated by reference to Exhibit 10.1 to the Registrant s Quarterly Report on Form 10-Q filed with the Commission on August 11, 2008)

10.32 Investment Agreement by and among the Registrant, The Russian Corporation of Nanotechnologies, IPG Laser GmbH and NTO IRE-Polus, dated October 29, 2010 (incorporated by reference to Exhibit 10.1 to the Registrant s Current Report on Form 8-K filed with the Commission on November 4, 2010)

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Exhibit Number	Description
10.33	Form of Put and Call Option Agreement between the Registrant and The Russian Corporation of Nanotechnologies (incorporated by reference to Exhibit 10.2 to the Registrant s Current Report on Form 8-K filed with the Commission on November 4, 2010)
12.1	Statement re Computation of Earnings to Fixed Charges
21.1	List of Subsidiaries
23.1	Consent of Deloitte & Touche LLP
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)
32.1	Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 1350