COHERENT INC
Form 10-K
November 30, 2011
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K
(Mark One)

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended October 1, 2011

or

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

Commission File Number: 001-33962

COHERENT, INC.

Delaware	94-1622541
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
5100 Patrick Henry Drive, Santa Clara, California	95054
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (408) 764-4000
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $0.01 par value	The NASDAQ Stock Market LLC Nasdaq Global Select Market

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 x
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 (the "Exchange Act"). Yes o No x
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 x 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 (§229.405 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 x 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 definitions of "large accelerated filer", "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

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

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

As of November 25, 2011, 23,594,170 shares of common stock were outstanding. The aggregate market value of the voting shares (based on the closing price reported on the NASDAQ Global Select Market on April 1, 2011, of Coherent, Inc., held by nonaffiliates was approximately $1,148,000,000. For purposes of this disclosure, shares of common stock held by persons who own 5% or more of the outstanding common stock and shares of common stock held by each officer and director have been excluded in that such persons may be deemed to be "affiliates" as that term is defined under the Rules and Regulations of the Exchange Act. This determination of affiliate status is not necessarily conclusive.

DOCUMENT INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the registrant's fiscal 2012 Annual Meeting of Stockholders are incorporated by reference into Part III of the Form 10-K to the extent stated herein. The Proxy Statement or an amended report on Form 10-K will be filed within 120 days of the registrant's fiscal year ended

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PART IV

October 1, 2011.

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SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS

This Annual Report contains forward-looking statements. These forward-looking statements include, without limitation, statements relating to:

- expansion into, and financial returns from, new markets;
- optimization of financial returns;
- maintenance and development of current and new customer relationships;
- enhancement of market position through existing or new technologies;
- optimization of product mix;
- future trends in microelectronics, scientific research and government programs, OEM components and instrumentation and materials processing;
- utilization of vertical integration;
- adoption of our products or lasers generally;
- applications and processes that will use lasers, including the suitability of our products;
- capitalization on market trends;
- alignment with current and new customer demands;
- emergence of OLED technology;
- use of lasers in the manufacture of solar cells;
- positioning in the marketplace and gains of market share;
- leadership position;
- design and development of products, services and solutions;
- control of supply chain and partners;
- realization of restructuring benefits;
- establishment of global sourcing function;
- protection of intellectual property rights;
- cancellation rates;
- employees recruiting and retention;
- compliance with environmental and safety regulations;

•net sales and operating results;

•variations in stock price;

•research and development expenditures and benefits;

•market acceptance of products;

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•conversion of bookings to net sales;

•flat panel displays orders;

•trends in the instrumentation market;

•sufficiency and management of cash, cash equivalents and investments;

•acquisition efforts and associated potential capital commitments;

•accounting for goodwill and intangible assets, inventory valuation, warranty reserves and taxes; and

•future net revenue.

In addition, we include forward-looking statements under the "Our Strategy" and "Future Trends" headings set forth below in "Business" and under the "Bookings and Book-to-Bill Ratio" heading set forth below in "Management's Discussion and Analysis of Financial Condition and Results of Operations."

You can identify these and other forward-looking statements by the use of the words such as "may," "will," "could," "would," "should," "expects," "plans," "anticipates," "estimates," "intends," "potential," "projected," "continue," "our observation," or the negative of such terms, or other comparable terminology. Forward-looking statements also include the assumptions underlying or relating to any of the foregoing statements.

Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth below in "Business," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and under the heading "Risk Factors." All forward-looking statements included in this document are based on information available to us on the date hereof. We undertake no obligation to update these forward-looking statements as a result of events or circumstances or to reflect the occurrence of unanticipated events or non-occurrence of anticipated events.

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PART I

ITEM 1. BUSINESS

GENERAL

Business Overview

Our fiscal year ends on the Saturday closest to September 30. Fiscal years 2011, 2010 and 2009 ended on October 1, October 2, and October 3, respectively, and are referred to in this annual report as fiscal 2011, fiscal 2010 and fiscal 2009 for convenience. Fiscal years 2011 and 2010 included 52 weeks; fiscal year 2009 included 53 weeks.

We are one of the world's leading suppliers of photonics-based solutions in a broad range of commercial and scientific research applications. We design, manufacture, service and market lasers and related accessories for a diverse group of customers. Since inception in 1966, we have grown through internal expansion and through strategic acquisitions of complementary businesses, technologies, intellectual property, manufacturing processes and product offerings.

We are organized into two operating segments: Commercial Lasers and Components ("CLC") and Specialty Lasers and Systems ("SLS"). This segmentation reflects the go-to-market strategies for various products and markets. While both segments deliver cost-effective photonics solutions, CLC focuses on higher volume products that are offered in set configurations. The product architectures are designed for easy exchange at the point of use such that substantially all product service and repairs are based upon advanced replacement and depot (i.e., factory) repair. CLC's primary markets include materials processing and original equipment manufacturer ("OEM") components and instrumentation. SLS develops and manufactures configurable, advanced performance products largely serving the microelectronics, OEM components and instrumentation and scientific research and government programs markets. The size and complexity of many of the SLS products require service to be performed at the customer site by factory-trained field service engineers.

Effective as of the beginning of the first quarter of fiscal 2009, we moved our diode pumped solid state ("DPSS") Germany and Crystal product families from the CLC segment into the SLS segment. This concentrated all DPSS product families in the SLS segment. All reporting has been aligned to reflect the revised reportable operating segments (CLC and SLS) and prior periods have been restated. See additional discussion in Note 18 "Segment and Geographic Information" of our Notes to Consolidated Financial Statements under Item 15 of this Annual Report on Form 10-K.

Income (loss) from operations is the measure of profit and loss that our chief operating decision maker ("CODM") uses to assess performance and make decisions. Income (loss) from operations represents the sales less the cost of sales and direct operating expenses incurred within the operating segments as well as allocated expenses such as shared sales and manufacturing costs. We do not allocate to our operating segments certain operating expenses, which we manage separately at the corporate level. These unallocated costs include stock-based compensation and corporate functions (certain advanced research and development, management, finance, legal and human resources) and are included in Corporate and other. Management does not consider unallocated Corporate and other costs in its measurement of segment performance.

We were originally incorporated in California on May 26, 1966 and reincorporated in Delaware on October 1, 1990. Additional information about Coherent, Inc. (referred to herein as the Company, we, our, or Coherent) is available on our web site at www.coherent.com. We make available, free of charge on our web site, access to our annual report on Form 10-K, our quarterly reports on Form 10-Q, our current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as soon as reasonably practicable after we file or furnish them electronically with the Securities and Exchange Commission ("SEC"). Information contained on our web site is not part of this annual report or our other filings with the SEC. Any product, product name, process, or technology described in these materials is the property of Coherent, Inc.

INDUSTRY BACKGROUND

The word "laser" is an acronym for "light amplification by stimulated emission of radiation." A laser emits an intense coherent beam of light with some unique and highly useful properties. Most importantly, a laser is orders of magnitude brighter than any lamp. As a result of its coherence, the beam can be focused to a very small and intense

spot, useful for applications requiring very high power densities including cutting and other materials processing procedures. The laser's high spatial resolution is also useful for microscopic imaging and inspection applications. Laser light can be monochromatic—all the beam energy is confined to a narrow wavelength band. Some lasers can be used to create ultrafast output—a series of pulses with pulse durations as short as attoseconds (i.e., 10^{-18} seconds). There are many types of lasers and one way of classifying them is by the material or medium used to create the lasing action. This can be in the form of a gas, liquid, semiconductor or solid state crystal. Lasers can also be classified by their

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output wavelength: ultraviolet, visible, infrared or wavelength tunable. We manufacture all of these laser types. There are also many options in terms of pulsed output versus continuous wave, pulse duration, output power, beam dimensions, etc. In fact, each application has its specific requirements in terms of laser performance. The broad technical depth at Coherent enables us to offer a diverse set of product lines characterized by lasers targeted at growth opportunities and key applications. In all cases, we aim to be the supplier of choice by offering a high-value combination of superior technical performance and high reliability.

Photonics has taken its place alongside electronics as a critical enabling technology for the twenty-first century. Photonics based solutions are entrenched in broad industries that include industrial automation, textile processing, microelectronics, flat panel displays and medical diagnostics, with adoption continuing in ever more diverse applications. Growth in these applications stems from two sources. First, there are many applications where the laser is displacing conventional technology because it can do the job faster, better or more economically. Second, there are new applications where the laser is the enabling tool that makes the work possible (e.g., the production of sub 50 micron microvias) used in the manufacture of high density printed circuit boards found in the latest smartphones and tablet computers.

Key laser applications include: micro and nanotechnologies; solar cell production; semiconductor inspection; microlithography; measurement, test and repair of electronic circuits; flat panel display manufacturing; medical and bio-instrumentation; industrial process and quality control; materials processing; imaging and printing; graphic arts and display; and, research and development. For example, ultraviolet ("UV") lasers are enabling the move towards miniaturization, which drives innovation and growth in many markets. The short wavelength of lasers that produce light in the UV spectral region makes it possible to manufacture extremely small structures with maximum precision—consistent with the latest state-of-the-art technology.

OUR STRATEGY

We strive to develop innovative and proprietary products and solutions that meet the needs of our customers and that are based on our core expertise in lasers and optical technologies. In pursuit of our strategy, we intend to:

- Leverage our technology portfolio and application engineering to lead the proliferation of photonics into broader markets—We will continue to identify opportunities in which our technology portfolio and application engineering can be used to offer innovative solutions and gain access to new markets. We plan to utilize our expertise to expand into new markets, such as laser-based processing development tools for solar manufacturing and high power materials processing solutions.
- Optimize our leadership position in existing markets—There are a number of markets where we have historically been at the forefront of technological development and product deployment and from which we have derived a substantial portion of our revenues. We plan to optimize our financial returns from these markets.
- Maintain and develop additional strong collaborative customer and industry relationships—We believe that the Coherent brand name and reputation for product quality, technical performance and customer satisfaction will help us to further develop our loyal customer base. We plan to maintain our current customer relationships and develop new ones with customers who are industry leaders and work together with these customers to design and develop innovative product systems and solutions as they develop new technologies.
- Develop and acquire new technologies and market share—We will continue to enhance our market position through our existing technologies and develop new technologies through our internal research and development efforts, as well as through the acquisition of additional complementary technologies, intellectual property, manufacturing processes and product offerings.
- Streamline our manufacturing structure and improve our cost structure—We will focus on optimizing the mix of products that we manufacture internally and externally. We will utilize vertical integration where our internal manufacturing process is considered proprietary and seek to leverage external sources when the capabilities and cost structure are well developed and on a path towards commoditization.
- Focus on long-term improvement of adjusted EBITDA, in dollars and as a percentage of net sales—We define adjusted EBITDA as operating income adjusted for depreciation, amortization, stock compensation expenses, major restructuring costs and certain other non-operating income and expense items. Key initiatives to reach our goals for EBITDA improvements include utilization of our Asian manufacturing locations, rationalizing our supply chain and

continued leveraging of our infrastructure.

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APPLICATIONS

Our products address a broad range of applications that we group into the following markets: Microelectronics, Scientific Research and Government Programs, OEM Components and Instrumentation and Materials Processing.

Microelectronics

Nowhere is the trend towards miniaturization more prevalent than in the Microelectronics market where smart phones, tablets, ultrabooks, personal computers ("PC's") and televisions ("TV's") are driving advances in displays, integrated circuits and printed circuit boards ("PCB's"). In response to market demands and expectations, semiconductor and device manufacturers are continually seeking to improve their process and design technologies in order to manufacture smaller, more powerful and more reliable devices at lower cost. New laser applications and new laser technologies are a key element in delivering higher resolution and higher precision at lower manufacturing cost.

We support four major markets in the microelectronics industry: (1) flat panel display manufacturing, (2) advanced packaging and interconnects, (3) semiconductor front-end, and (4) solar cell production and other emerging processes.

Microelectronics—flat panel display manufacturing

The high-volume consumer market is driving the production of flat panel displays ("FPDs") in applications such as mobile telephones, tablets, ultrabooks, laptop computers, television monitors, digital cameras, personal digital assistants ("PDAs") and car navigation systems. There are several types of established and emerging displays based on quite different technologies, including plasma ("PDP"), liquid crystal ("LCD") and organic polymers ("OLED"). Lasers have found applications in each of these technologies given that the laser provides higher process speed, better yield, improved battery life, lower cost and/or superior display brightness and resolution.

Several display types require a high-density pattern of silicon Thin Film Transistors ("TFTs"). If this silicon is polycrystalline, the performance is greatly enhanced. In the past, these polysilicon layers could only be produced on expensive special glass at high temperatures. However, excimer based processes, such as excimer laser annealing ("ELA") have allowed high-volume production of low-temperature polysilicon ("LTPS") on conventional glass substrates. Our excimer lasers provide an invaluable solution for LTPS because they are the only industrial-grade excimer lasers with the high pulse energy optimized for this application. The current state-of-the-art product for this application is our excimer VYPER laser, which delivers over 1000W of power, enabling customers to scale to current Generation 5 & 5.5 substrates and in the near future up to Generation 8 sizes, when coupled with our latest 750mm length Line Beam optical delivery system (LB-750). These systems are integral to the manufacturing process on all leading LTPS based smartphone displays, with the highest commercially available pixel densities of greater than 300 pixels per inch (ppi) and hold the potential for widespread deployment in tablet computing and future OLED TV manufacturing.

Our AVIA and DIAMOND lasers are also used in other production processes for FPDs. These processes include drilling, cutting, patterning, marking and yield improvement.

Lasers have also become a valuable tool in high-brightness (HB) LED manufacturing, improving LED performance and yield. LED has seen rapid growth in the last year due to widespread adoption as the light source in all categories of LCD displays, from phones all the way to full size TV's. Our lasers are used in the back-end processing of HB-LEDs.

Microelectronics—advanced packaging and interconnects

After a wafer is patterned, there are then a host of other processes, referred to as back-end processing, which finally result in a packaged encapsulated silicon chip. Ultimately, these chips are then assembled into finished products. The advent of high-speed logic and high-memory content devices has caused chip manufacturers to look for alternative technologies to improve performance and lower process costs. In terms of materials, this search includes new types of wafers based on low-k materials and thinner silicon. Our AVIA and Matrix lasers are providing economic methods of cutting and scribing these wafers while delivering higher yields than traditional mechanical methods. Our DIAMOND carbon dioxide ("CO_2") lasers are used for singulating packages and printed circuit boards into individual components for final assembly. Our Talisker lasers are used in a broad range of applications requiring high precision and low heat damage, such as in thin wafer cutting and drilling.

These same trends are also driving integration and miniaturization, blurring the traditional lines between formerly discrete applications such as assembly and PCB fabrication. Lasers are playing several enabling roles in this

integration and miniaturization. For instance, lasers are now the only economically practical method for drilling microvias in chip assemblies and in both rigid and flexible printed circuit boards. These microvias are tiny interconnects that are essential for enabling high-density circuitry commonly used in mobile handsets and advanced computing systems. Our AVIA and DIAMOND lasers are the lasers of choice in this application. The ability of these lasers to operate at very high repetition rates translates into faster drilling speeds and increased throughput in Microvia processing applications.

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Other applications have developed as well. For instance, the high density of the latest circuit boards is reaching the limits of conventional printing technologies, causing wider adoption of laser direct write methods. Our Paladin laser is used for this application.

Microelectronics—semiconductor front-end

The term "front-end" refers to the production of semiconductor devices which occurs prior to packaging.

As semiconductor device geometries decrease in size, devices become increasingly susceptible to smaller defects during each phase of the manufacturing process and these defects can negatively impact yield. One of the semiconductor industry's responses to the increasing vulnerability of semiconductor devices to smaller defects has been to use defect detection and inspection techniques that are closely linked to the manufacturing process. For example, automated laser-based inspection systems are now used to detect and locate defects as small as 0.01 micron, which may not be observable by conventional optical microscopes.

Detecting the presence of defects is only the first step in preventing their recurrence. After detection, defects must be examined in order to identify their size, shape and the process step in which the defect occurred. This examination is called defect classification. Identification of the sources of defects in the lengthy and complex semiconductor manufacturing process has become essential for maintaining high yield production. Semiconductor manufacturing has become an around-the-clock operation and it is important for products used for inspection, measurement and testing to be reliable and to have long lifetimes. Our Azure, Paladin, Sapphire, and Excimer lasers are used to detect and characterize defects in semiconductor chips.

Microelectronics—solar cell production

Numerous areas of microelectronics can be grouped as "emerging technologies." Some of these are transitioning to volume production in the present timeframe while others are more forward-looking.

Today's higher energy costs have led to heightened interest in solar panels. The interest in solar cell technology coupled with the intense focus on improving cell efficiency, is driving the adoption of laser technology in the manufacturing of solar cells. Our lasers, such as AVIA, Paladin, Matrix and Talisker, are used in the production of solar panels with applications such as dopant activation in the Crystalline Silicon (C:Si) cells and transparent conductive oxide ("TCO") scribing purposes in Thin Film designs.

We have introduced a number of complete solutions for certain processes in the manufacturing of solar cells including the Coherent Equinox laser system and the Aethon laser system. These systems are based on Coherent lasers and can be used in a production or process development environment.

Scientific research and government programs

We are widely recognized as a technology innovator and the scientific market has historically provided an ideal "test market" for our leading-edge innovations. These have included ultrafast lasers, DPSS lasers, continuous-wave ("CW") systems, excimer gas lasers and water-cooled ion gas lasers. Our portfolio of lasers that address the scientific research market is broad and includes our Chameleon, COMPexPro, Evolution, Legend, Libra, MBD, MBR, Micra, Mira, Mantis and Verdi lasers. Many of the innovations and products pioneered in the scientific marketplace have become commercial successes for both our OEM customers and us.

We have a large installed base of scientific lasers which are used in a wide range of applications spanning virtually every branch of science and engineering. These applications include biology and life science, engineering, physical chemistry and physics. Most of these applications require the use of ultrafast lasers that enable the generation of pulses short enough to be measured in attoseconds (10^{-18} seconds). Because of these very short pulse durations, ultrafast lasers enable the study of fundamental physical and chemical processes with temporal resolution unachievable with any other tool. These lasers also deliver very high peak power and large bandwidths, which can be used to generate many exotic effects. Some of these are now finding their way into mainstream applications, such as microscopy or materials processing. In fact, the use of ultrafast lasers such as the Chameleon in microscopy is now a common occurrence in bio-imaging labs.

OEM components and instrumentation

Instrumentation is one of our more mature commercial applications. Representative applications within this market include bio-instrumentation, medical OEMs, graphic arts and display and machine vision. We also support the laser-based instrumentation market with a range of laser-related components, including diode lasers for optical

pumping. Some of our OEM component business includes sales to other, less integrated laser manufacturers participating in OEM markets such as materials processing, scientific, and medical.

Bio-instrumentation

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Bio-instrumentation applications for lasers include bio-agent detection for point source and standoff detection of pathogens or other bio-toxins; confocal microscopy for biological imaging that allows researchers and clinicians to visualize cellular and subcellular structures and processes with an incredible amount of detail; DNA sequencing that provides automation and data acquisition rates that would be impossible by any other method; drug discovery—genomic and proteomic analyses that enable drug discovery to proceed at very high throughput rates; and flow cytometry for analyzing single cells or populations of cells in a heterogeneous mixture, including blood samples. Specifically, our Sapphire, Compass and Coherent CUBE lasers are used in several bio-instrumentation applications.

Medical Therapy

We sell a variety of components and lasers to medical laser companies in end-user applications such as ophthalmology, aesthetic, surgical, therapeutic and dentistry. Our DIAMOND series CO2 lasers are widely used in ophthalmic, aesthetic and surgical markets. Our Compass and Sapphire series of lasers are used in the retinal scanning market in diagnostic imaging systems as well as new ground breaking in-vivo imaging applications. In addition, we have a leading position in Lasik and photorefractive keratectomy ("PRK") surgery methods with our ExciStar XS excimer laser platform.

The unique ability of our optically pumped semiconductor lasers ("OPSL") technology to match a wavelength to an application has led to the development of a high-power yellow (577nm) laser for the treatment of eye related diseases, such as Age Related Macular Degeneration and retinal diseases associated with diabetes. The 577nm wavelength was designed to match the peak in absorption of oxygenated hemoglobin thereby allowing treatment to occur at a lower power level, and thus reducing stress and heat-load placed on the eye with traditional green-based (530nm) solid state lasers. This technology is finding traction with both medical OEMs and ophthalmologists.

Materials Processing

Lasers are widely accepted today in many important industrial manufacturing applications including cutting, welding, joining, drilling, perforating, and marking of metals and nonmetals. We supply high-power lasers for metal processing and low-to-medium power lasers for laser marking, nonmetals processing and precision micromachining.

Our high power industrial laser systems are used for cutting, cladding and hardening of metals, joining materials, and other materials processing applications. Other applications include welding of plastics and direct metal welding.

Our Semiconductor business provides higher power arrays with powers in excess of 50Kilowatts through its proprietary cooling and stacking technology. This unique technology provides the engine for both our Highlight direct diode systems as well as our upcoming kW class fiber laser. Complementing our high power solid state lasers is our industry leading DIAMOND E1000 CO_2 laser. Introduced in 2009, this laser remains in high demand due to its high power, small size and completely sealed design - all ideal for material processing.

Combining the high power Direct Diode, Fiber and CO_2 offerings with our MetaBeam 1000 flatbed cutting tool provides a strong, compelling four-pronged approach to meeting the needs of our diverse materials processing customers.

In 2010 we acquired Beam Dynamics, Inc., a manufacturer of flexible laser cutting tools for the materials processing market. These tools, when combined with Coherent's medium to high power CO_2 lasers, offer a unique blend of performance and precision in a small lightweight tool for cutting of metals and non-metals. Enabled with the DIAMOND E1000, the new METABEAM 1000 offers the industry's most compact 1kW tool, with tools footprints at least 50% smaller than competitive designs. Operating costs, due to the sealed nature of the DIAMOND series of CO_2 lasers are 75% less than similar, but larger tools.

We also participate in the low to medium power area, including such applications as the cutting, drilling and joining of host of materials using our DIAMOND CO_2 lasers; Highlight FAP semiconductor lasers in OEM opportunities and direct end user applications with the lower power OMNIBEAM and METABEAM cutting tools; applications including cutting, perforating and scoring of paper, thin metals and packaging materials; and various cutting and patterning applications in the textile, wood and sign industries. In the specific area of textiles and clothing, our DIAMOND lasers service older applications, such as cutting complex shapes in leather for footwear, as well as newer applications such as creating detailed fade patterns on designer denims.

Laser marking and coding are generally considered part of the precision materials processing applications market for which we remain a leading supplier. One such area where applications are growing rapidly is the displacement of

ink-jet coding due to both aesthetic and environmental pressures. The optimum choice of laser depends on the material being marked, whether it is a surface mark (engraved) or a sub-surface mark, and the specific economics of the application. We provide lasers for all important marking applications. Our DIAMOND C and GEM Series of CO_2 lasers provide many systems manufacturers with a reliable cost effective source for marking and engraving on non-metals. In addition, our Matrix product line of reliable,

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compact and low-cost diode pumped solid state lasers provides an ideal solution for marking of other materials in high volume manufacturing.

FUTURE TRENDS

Microelectronics

Lasers are widely used in mass production microelectronics applications largely because they enable entirely new application capabilities that cannot be realized by any other known means. These laser-based fabrication and testing methods provide a level of precision, typically on a micrometer and nanometer level, that are unique, faster, are touch free, deliver superior end products, increase yields, and/or cut production costs. We anticipate this trend to continue, driven primarily by the increasing sophistication of consumer electronic goods and their convergence via the internet, resulting in increasing demand for better displays, more bandwidth and memory, while at the same time consuming less power. Although this market follows the macro-economic trends and carries inherit risks, we believe that Coherent is well positioned to continue to capitalize on the current market trends and that we will see continued increased adoption of our pulsed fiber, solid-state, CO_2, direct diode and excimer lasers, as all these lasers enable entirely new applications, performance improvements and reduced process costs.

LTPS based high resolution mobile displays (greater than 300ppi), and especially the emergence of OLED technology, look set to dominate the FPD technology trends of the future. We believe we are well positioned, especially with our Vyper Excimer lasers and LB optical systems, to take advantage of this trend, including the possibility of LTPS based OLED TVs. CO_2, Avia, Talisker and direct diode lasers all seem aligned with the need for related FPD touch panel, thin film cutting, light guide technology, frit welding and glass cutting applications.

Semiconductor devices look set to continue Moore's Law, shrinking device geometries for at least another decade, as well as expanding vertically into new 3D structures. As a result we believe our many deep UV laser sources (such as Paladin, Avia, Talisker, ExiStar and Matrix) will continue to find increasing adoption, since their unique optical properties align well with the process demands of a nanometer scale world.

The same lasers plus CO_2 are also widely adopted for back end Advanced Packaging and Interconnect (API) applications. With dimension roadmaps showing a decade of dimension shrink on PCBs, interconnects, Silicon & LED scribe widths and glass thickness, we believe that our portfolio of lasers aligns well with these demands as well as new processes that seem likely to be enabled by our lasers, to meet the increasing demands and decreasing tolerances of these markets.

The short term outlook for solar is uncertain given the global economy, credit availability and the significant oversupply of cell production that exists at this time. The longer term outlook for this ultimate clean, free and abundant source of energy is expected to be strong; however, the timing is uncertain. We believe that the vast majority of leading solar cell manufacturers have laser based processes on their roadmap to enable higher conversion efficiencies. Lasers provide a touch-free manufacturing process on increasingly fragile substrates (as they get thinner). They also hold the promise of lower manufacturing costs and higher yield for certain process steps. We believe we are well positioned as this market matures, standardizes processes and recovers economically.

Scientific research and government programs

The scientific market benefited from stimulus funding during fiscal 2011, with applications in ultrashort pulses and in bio-research being the drivers of this anticipated expansion. We anticipate the total amount of government-related funding for scientific research to decline from prior stimulus levels, but believe that as we push the boundaries of performance and ease of use in our ultrafast lasers, we have the potential to capture a larger share of the funds that are available by enabling our customers to win funding for new research fields that drive discovery. While these markets remain highly competitive, we believe our leadership position and new product pipeline will drive Attosecond science boundaries and Biological Imaging ease of use, enabling new research frontiers to be forged and we would expect a gain in market share as a result.

OEM components and instrumentation

The instrumentation market is seeing a gradual migration from the use of mature laser technologies, such as water-cooled ion gas lasers, to new technologies, primarily based on solid state and semiconductor lasers. Using our unique portfolio of such lasers, as well as our patented OPSL technology, we are able to both assist and stimulate this transition as well as to be the technology of choice for developing applications such as security and clinical

diagnostics. Our OPSL technology resulted in the first truly continuous solid-state UV laser which enables the use of UV in a clinical as well as a research environment. Furthermore we anticipate greater future opportunities in bio-instrumentation, including DNA sequencing, drug discovery, flow cytometry, and microscopy, based on our product enhancements and evolving market developments, particularly in increased migration from clinical to point-of-care diagnostics. Our newer laser technologies are the basis of a number of clinical procedures. In the area of photocoagulation, the Genesis OPSL yellow lasers are being used as the wavelength is particularly

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suitable for the treatment of blood vessels. In aesthetic laser procedures, we are an OEM supplier of CO_2 and semiconductor lasers to the major manufacturers of equipment used in the latest procedures in dermatology and hair removal. We supply excimer lasers used in refractive eye surgery and are actively involved in further developments in laser vision correction.

Materials processing

The market for low to medium power CO_2, solid state and semiconductor lasers used in industrial materials processing has experienced a nice rebound and is expected to see continued growth driven by wider adoption of lasers in new processes especially in emerging markets. Key design wins as well as more favorable markets continue to support our growth in this area. These lasers represent a cost-effective manufacturing solution for cutting, joining, marking and engraving of non-metal materials including marking/coding, flat bed cutting, engraving, as well as the production of capital equipment for apparel and leather goods manufacturing. Our four-pronged approach to the higher power industrial laser market provides us with a unique combination of high power, precision and compact size, which we believe will be highly desirable in existing manufacturing environments as well as those of the future. We offer kilowatt Diamond CO2 lasers, Highlight direct diode lasers and MetaBEAM family of turnkey laser machine tools. We demonstrated a prototype 1kW fiber laser in fiscal 2011 to round-out our four-pronged strategy. Several factors are enabling us to gain market share in the materials processing market. First, we have developed an expanded portfolio of lasers with a broad spectrum of wavelengths, enabling optimum solutions for virtually every metal and non-metal material type. At the same time, the reliability of these products has been achieved at even higher levels, lowering the cost of ownership.

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MARKET APPLICATIONS

We design, manufacture and market lasers, laser tools, precision optics and related accessories for a diverse group of customers. The following table lists our major markets and the Coherent technologies serving these markets.*

Market	Application	Technology
Microelectronics	Flat panel display	CO_2 DPSS Excimer Ultrafast Semiconductor
	Advanced packaging and interconnects	CO_2 DPSS Ultrafast
	Semiconductor front-end	DPSS OPSL Excimer Ion
	Solar cell production and other emerging processes	DPSS Fiber
Scientific research and government programs	All scientific applications	DPSS Excimer OPSL Ultrafast
OEM components and instrumentation	Bio-Instrumentation	DPSS OPSL Semiconductor Ultrafast
	Graphic arts and display	OPSL CO_2 CO_2
	Medical therapy (OEM)	DPSS Excimer OPSL Semiconductor
Materials processing	Metal cutting, joining, surface treatment	CO_2 Fiber Semiconductor Laser Machine Tools
	Laser marking and coding	CO_2 DPSS
	Non-metal cutting, drilling	CO_2 DPSS Excimer Semiconductor Laser Machine Tools

*Coherent sells its laser measurement and control products into a number of these applications.

In addition to products we provide, we invest routinely in the core technologies needed to create substantial differentiation for our products in the marketplace. Our semiconductor, crystal and fiber facilities all maintain an external customer base providing value-added solutions. We direct significant engineering efforts to produce unique

solutions targeted for internal consumption. These investments, once integrated into our broader product portfolio, provide our customers with uniquely differentiated solutions and the opportunity to substantially enhance the performance, reliability and capability of the products we offer.

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TECHNOLOGIES

Diode-pumped solid-state ("DPSS") lasers

DPSS lasers use semiconductor lasers to pump a crystal to produce a laser beam. By changing the energy, optical components and the types of crystals used in the laser, different wavelengths and types of laser light can be produced. The efficiency, reliability, longevity and relatively low cost of DPSS lasers make them ideally suited for a wide range of OEM and end-user applications, particularly those requiring 24-hour operations. Our DPSS systems are compact and self-contained sealed units. Unlike conventional tools and other lasers, our DPSS lasers require minimal maintenance since they do not have internal controls or components that require adjusting and cleaning to maintain consistency. They are also less affected by environmental changes in temperature and humidity, which can alter alignment and inhibit performance in many systems.

We manufacture a variety of types of DPSS lasers for different applications including semiconductor inspection; advanced packaging and interconnects; laser pumping; spectroscopy; bio-agent detection; DNA sequencing; drug discovery; flow cytometry; forensics; computer-to-plate printing; entertainment lighting (display); medical; rapid prototyping and marking, welding, engraving, cutting and drilling.

Fiber lasers

Fiber lasers use semiconductor lasers to pump a doped optical fiber to produce a laser beam. In fiscal 2008, we launched our first product based on fiber laser technology, the Talisker. This is an industrial ultrafast laser system which incorporates fiber laser technologies as a key part of the laser design. The Talisker is a new laser platform based on a fiber oscillator and crystal amplifier and is illustrative of our strategy of developing and incorporating fiber lasers where they can generate unique and cost-effective performance. We expect the Talisker platform will lead to a series of new ultrafast lasers for a number of commercial markets including microelectronics and medical. In fiscal 2009, we launched a program to address the kilowatt high power materials processing market. We have successfully demonstrated a 1 kilowatt fiber laser product based on our high power diode laser system, the Highlight 1000F. This prototype demonstrated the platform for a scalable, kilowatt class fiber laser based on a bar pumping design. Due to packaging efficiency, diode bars reduce the overall cost of a fiber laser. This platform will address the growing high power metal cutting and joining market and delivers a field serviceable solution.

Fiber laser technology continues to be an important investment and product development area and we anticipate more products that incorporate fiber as the active gain medium. In fiscal 2010, we acquired the business assets of Stocker-Yale, Inc. which included a fiber manufacturing facility capable of producing both active and passive fibers.

Gas lasers (CO2, Excimer, Ion)

The breadth of our gas laser portfolio is industry leading, encompassing CO_2, excimer and ion laser technologies. Gas lasers derive their name from the use of one or more gases as a lasing medium. They collectively span an extremely diverse and useful emission range, from the very deep ultraviolet to the far infrared. This diverse range of available wavelengths, coupled with high optical output power, and an abundance of other attractive characteristics, makes gas lasers extremely useful and popular for a variety of microelectronics, scientific, medical therapeutic and materials processing applications.

Optically Pumped Semiconductor Lasers ("OPSL")

Our OPSL platform is a surface emitting semiconductor laser that is energized or pumped by a semiconductor laser. The use of optical pumping circumvents inherent power scaling limitations of electrically pumped lasers, enabling very high powered devices. A wide range of wavelengths can be achieved by varying the semiconductor materials used in the device and changing the frequency of the laser beam using techniques common in solid state lasers. The platform leverages high reliability technologies developed for telecommunications and produces a compact, rugged, high power, single-mode laser.

Our OPSL products are well suited to a wide range of applications, including the bio-instrumentation, medical therapeutics and graphic arts and display markets. In fiscal 2009, our Genesis yellow laser continued to make progress in ophthalmology and we have expanded our offerings in the area of entertainment lighting using a variety of products across the visible spectrum. We also continued to expand our ultraviolet version of the OPSL platform called the Genesis, which was developed for the bio-instrumentation market.

Semiconductor lasers

High power edge emitting semiconductor diode lasers use the same principles as widely-used CD and DVD lasers, but produce significantly higher power levels. The advantages of this type of laser include smaller size, longer life, enhanced reliability and greater efficiency. We manufacture a wide range of discrete semiconductor laser products with wavelengths ranging from 650nm to 1000nm and output powers ranging from 1W to over 100W, with highly integrated products in the kW

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range. These products are available in a variety of industry standard form factors including the following: bare die, packaged and fiber coupled single emitters and bars, monolithic stacks, and fully integrated modules with microprocessor controlled units that contain power supplies and active coolers.

Our semiconductor lasers are used internally as the pump lasers in DPSS, fiber and OPSL products that are manufactured by us, as well as a wide variety of external medical, OEM, military and industrial applications, including aesthetic (hair removal, cosmetic dentistry), graphic arts, counter measures, rangefinders, target designators, and plastic welding.

Ultrafast ("UF") Lasers

Ultrafast lasers are lasers generating light pulses with durations of a few femtoseconds (10^{-15} seconds) to a few tens of picoseconds (10^{-11} seconds). These types of lasers are primarily used for scientific research and also are finding use in sophisticated materials processing applications. Ultrafast lasers are usually pumped by a green DPSS laser. UF laser oscillators generate a train of pulses at 50-100 MHz, with peak powers of tens of Kilowatts, and UF laser amplifiers generate pulses at 10-500 kHz, with peak powers up to several Terawatts.

The extremely short duration of UF laser pulses enables temporally resolving fast events like the dynamics of atoms or electrons. In addition, the high peak power enables so-called non-linear effects where several photons can be absorbed by a molecule at the same time. This type of process enables applications like multi-photon excitation microscopy or UF ablation of materials with minimal thermal damage.

SALES AND MARKETING

We market our products domestically through a direct sales force. Our foreign sales are made principally to customers in Japan, South Korea, Germany and other European and Asia-Pacific countries. We sell internationally through direct sales personnel located in Canada, France, Germany, Italy, Japan, the Netherlands, China, South Korea, Taiwan, Singapore, Malaysia and the United Kingdom, as well as through independent representatives in certain jurisdictions around the world. Foreign sales accounted for 74% of our total net sales in fiscal 2011, 67% of our total net sales in fiscal 2010 and 66% of our total net sales in fiscal 2009. In fiscal 2011, sales to Asian markets continued to grow at a faster rate than sales to other geographic regions. Sales made to independent representatives and distributors are generally priced in U.S. dollars. A large portion of foreign sales that we make directly to customers are priced in local currencies and are therefore subject to currency exchange fluctuations. Foreign sales are also subject to other normal risks of foreign operations such as protective tariffs, export and import controls and political instability. Our products are broadly distributed and no one customer accounted for more than 10% of total net sales during fiscal 2011, 2010 or 2009.

We maintain a customer support and field service staff in major markets within the United States, Europe, Japan, China, South Korea, Taiwan and other Asia-Pacific countries. This organization works closely with customers, customer groups and independent representatives in servicing equipment, training customers to use our products and exploring additional applications of our technologies.

We typically provide parts and service warranties on our lasers, laser-based systems, optical and laser components and related accessories and services. Warranties on some of our products and services may be shorter or longer than one year. Warranty reserves, as reflected on our consolidated balance sheets, have generally been sufficient to cover product warranty repair and replacement costs. The weighted average warranty period covered is approximately 15 months.

RESEARCH AND DEVELOPMENT

We are committed to the development of new products, as well as the improvement and refinement of existing products, including better cost-of-ownership. Our development efforts are focused on designing and developing products, services and solutions that anticipate customers' changing needs and emerging technological trends. Our efforts are also focused on identifying the areas where we believe we can make valuable contributions. Research and development expenditures for fiscal 2011 were $81.2 million, or 10.1% of net sales compared to $72.4 million, or 12.0% of net sales for fiscal 2010 and $61.4 million, or 14.1% of net sales for fiscal 2009. We work closely with customers, both individually and through our sponsored seminars, to develop products to meet customer application and performance needs. In addition, we are working with leading research and educational institutions to develop new photonics based solutions.

MANUFACTURING

Strategies

One of our core manufacturing strategies is to tightly control our supply of key parts, components, sub-assemblies and outsourcing partners. We primarily utilize vertical integration when we have proprietary internal capabilities that are not available from external sources cost-effectively. We believe this is essential to maintain high quality products and enable rapid

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development and deployment of new products and technologies. We provide customers with 24-hour technical expertise and quality that is International Organization for Standardization ("ISO") certified at our principal manufacturing sites.

Committed to quality and customer satisfaction, we design and produce many of our own components and sub-assemblies in order to retain quality control. We have also outsourced certain components, sub-assemblies and finished goods where we can maintain our high quality standards while improving our cost structure. In 2007, we embarked on a plan to consolidate and close certain of our manufacturing facilities in order to reduce our footprint, realize synergies, and improve our cost structure and operating leverage. We have successfully executed this plan and closed six of our manufacturing facilities including Auburn and Lundy, California; St. Louis, Missouri; Montreal, Canada; Munich, Germany; and Tampere, Finland. The manufacturing of products from these six facilities were transferred to other Coherent facilities or outsourced to our Contract Manufacturing partners.

As part of our strategy to increase our market share and customer support in Asia as well as our continuing efforts to manage costs, we acquired the business assets of privately-held Hypertronics in the second quarter of fiscal 2011. Hypertronics' assets included an engineering and integration center in Singapore and a low cost manufacturing facility in Penang, Malaysia, and designs and manufactures laser- and vision-based tools for flat panel, storage, semiconductor and biomedical applications. We have increased the footprint of both the Singapore and Malaysia factories and plan to use these operations to serve as a nucleus for laser manufacturing and repair in Asia. This will allow us to reduce service response time and inventories, providing benefits to customers and Coherent. We have also established an International Procurement Office in Singapore and plan to increase our sourcing of materials from Asia. As this function is developed, we will be able to reduce material costs on a global basis.

We have designed and implemented proprietary manufacturing tools, equipment and techniques in an effort to provide products that differentiate us from our competitors. These proprietary manufacturing techniques are utilized in a number of our product lines including our gas laser production, crystal growth, beam alignment as well as the wafer growth for our semiconductor and optically pumped semiconductor laser product family.

Raw materials or sub-components required in the manufacturing process are generally available from several sources. However, we currently purchase several key components and materials, including exotic materials and crystals, used in the manufacture of our products from sole source or limited source suppliers. We also purchase assemblies and turnkey solutions from contract manufacturers based on our proprietary designs. We rely on our own production and design capability to manufacture and specify certain strategic components, crystals, fibers, semiconductor lasers, lasers and laser based systems.

For a discussion of the importance to our business of, and the risks attendant to sourcing, see "Risk Factors—We depend on sole source or limited source suppliers, both internal and external, for some of our key components and materials, including exotic materials, certain cutting-edge optics and crystals, in our products, which make us susceptible to supply shortages or price fluctuations that could adversely affect our business" in Item 1A.

Operations

Our products are manufactured at our sites in Santa Clara and Sunnyvale, California; Wilsonville, Oregon; East Hanover, New Jersey; Bloomfield, Connecticut; Lübeck, Germany; Göttingen, Germany; Glasgow, Scotland; Salem, New Hampshire; Kallang Sector, Singapore; and Penang, Malaysia. In addition, we also use contract manufacturers for the production of certain assemblies and turnkey solutions. Our ion gas lasers, a portion of our DPSS lasers that are used in microelectronics, scientific research and materials processing applications, semiconductor lasers, [DDF fibers] and ultrafast scientific lasers are manufactured at our Santa Clara, California site. Our laser diode module products, laser instrumentation products, test and measurement equipment products are manufactured in Wilsonville, Oregon. We manufacture exotic crystals in East Hanover, New Jersey and both active and passive fibers are manufactured in our New Hampshire facility. Our CO_2 gas lasers are manufactured in Bloomfield, Connecticut. We manufacture a portion of our DPSS lasers used in microelectronics and OEM components and instrumentation applications in Lübeck, Germany. Our excimer gas laser products are manufactured in Göttingen, Germany. We manufacture the fiber-based lasers and a portion of our DPSS lasers used in microelectronics and scientific research applications in Glasgow, Scotland. Our facility in Sunnyvale, California grows the aluminum-free materials that are incorporated into our semiconductor lasers. Our laser- and vision-based tools for flat panel, storage, semiconductor

and solar applications are manufactured in Singapore with Malaysia as the low cost assembly hub.

INTELLECTUAL PROPERTY

We rely on a combination of patent, copyright, trademark and trade secret laws and restrictions on disclosure to protect our intellectual property rights. As of October 1, 2011, we held approximately 387 U.S. and foreign patents, which expire from 2013 through 2029 (depending on the payment of maintenance fees) and we have approximately 114 additional pending patent applications that have been filed. The issued patents cover various products in all of the major markets that we serve.

For a discussion of the importance to our business of, and the risks attendant to intellectual property rights, see "Risk

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Factors—Risks Associated with Our Industry, Our Business and Market Conditions" 'We may not be able to protect our proprietary technology which could adversely affect our competitive advantage' and 'We may, in the future, be subject to claims or litigation from third parties, for claims of infringement of their proprietary rights or to determine the scope and validity of our proprietary rights or the proprietary rights of competitors or other rights holders. These claims could result in costly litigation and the diversion of our technical and management personnel. Adverse resolution of litigation may harm our operating results or financial condition' in Item 1A.

COMPETITION

Competition in the various photonics markets in which we provide products is very intense. We compete against a number of companies including CVI Melles Griot, Cymer, Inc., GSI Group, Inc., IPG Photonics Corporation, JDS Uniphase Corporation, Newport Corporation, Rofin-Sinar Technologies, Inc., and Trumpf GmbH, as well as other smaller companies. We compete globally based on our broad product offering, reliability, cost, and performance advantages for the widest range of commercial and scientific research applications. Other considerations by our customers include warranty, global service and support and distribution.

BACKLOG

At fiscal 2011 year-end, our backlog of orders scheduled for shipment (generally within one year) was $356.5 million compared to $262.0 million at fiscal 2010 and $164.3 million at fiscal 2009 year-ends. Orders used to compute backlog are generally cancelable without substantial penalties. Historically, the rate of cancellation experienced by us has not been significant though we cannot guarantee that cancellations will not increase in the future.

SEASONALITY

We have historically experienced decreased bookings and revenue in the first fiscal quarter compared to other quarters in our fiscal year due to the impact of time off and business closures at many of our customers due to year-end holidays. This historical pattern should not be considered a reliable indicator of the Company's future net sales or financial performance.

EMPLOYEES

As of fiscal 2011 year-end, we had 2,309 employees. Approximately 391 of our employees are involved in research and development; 1,358 of our employees are involved in operations, manufacturing, service and quality assurance; and 560 of our employees are involved in sales, order administration, marketing, finance, information technology and other administrative functions. Our success will depend in large part upon our ability to attract and retain employees. We face competition in this regard from other companies, research and academic institutions, government entities and other organizations. We consider our relations with our employees to be good.

ACQUISITIONS

In January 2011, we acquired all of the assets and assumed certain liabilities of Hypertronics Pte Ltd for approximately $14.5 million in cash. Hypertronics designs and manufactures laser-and vision-based tools for flat panel, storage, semiconductor and solar applications at facilities in Singapore and Malaysia. Hypertronics has been included in our Specialty Lasers and Systems segment.

In April 2010, we acquired Beam Dynamics, Inc. for $5.9 million in cash and $0.3 million in deferred compensation related to an employment contract, which was recognized in expense as earned. Beam Dynamics manufactures flexible laser cutting tools for the materials processing market. Beam Dynamics has been included in our Commercial Lasers and Components segment.

In October 2009, we acquired all the assets and certain liabilities of StockerYale, Inc.'s ("StockerYale") laser module product line in Montreal and its specialty fiber product line in Salem, New Hampshire for $15.0 million in cash. StockerYale designs, develops and manufactures low power laser modules, light emitting diode (LED) systems and specialty optical fiber products. These assets and liabilities have been included in our Commercial Lasers and Components segment.

We consummated no acquisitions in fiscal 2009.

Please refer to "Note 4. Business Combinations" of Notes to Consolidated Financial Statements under Item 15 of this Annual Report on Form 10-K for further discussion of the acquisition completed during fiscal 2011.

RESTRUCTURINGS AND CONSOLIDATION

During the first quarter of fiscal 2010, we acquired the assets and certain liabilities of StockerYale's laser module product line in Montreal, Canada and began to transition those activities to contract manufacturers and other Coherent facilities in

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Salem, Massachusetts, Wilsonville, Oregon and Sunnyvale, California. The transfer was completed in the second quarter of fiscal 2011. The fiscal 2010 severance related costs are primarily comprised of severance pay, outplacement services, medical and other related benefits for employees being terminated due to the transition of activities out of Montreal, Canada, and Tampere, Finland. The fiscal 2011 severance related costs are primarily comprised of severance pay, outplacement services, medical and other related benefits for employees being terminated due to the transition of activities out of Tampere, Finland.

During the second quarter of fiscal 2009, we announced our plans to close our facilities in Tampere, Finland and St. Louis, Missouri. The closure of our St. Louis, Missouri and Yokohama, Japan sites were completed in the fourth quarter of fiscal 2009. The closure of our Finland site was scheduled for completion by the end of fiscal 2010, but we decided to delay the closure due to increased demand for products manufactured in Finland. In the second quarter of fiscal 2011, we ceased manufacturing operations in our Finland facility and we exited the facility in the third quarter of fiscal 2011. These closure plans have resulted in charges primarily for employee termination and other exit related costs associated with a plan approved by management.

During fiscal 2008, we consolidated our German DPSS manufacturing into our Lübeck, Germany site. The transfer was completed in our fourth quarter of fiscal 2008. On October 13, 2008, we announced the consolidation of the remainder of our Munich facility into our Göttingen site. The transfer was completed in our third quarter of fiscal 2009. The consolidation and transfers have resulted in charges primarily for employee terminations, other exit related costs associated with a plan approved by management and a grant repayment liability.

In April 2008, we announced that we entered into an agreement to sell certain assets of our Auburn Optics ("Auburn") manufacturing operation to Research Electro-Optics, Inc. ("REO"), a privately held optics manufacturing and technology company. We also entered into a strategic supply agreement with REO. REO is providing optical manufacturing capabilities for us, including fabrication and coating of optical components. The transition of the optics manufacturing assets from Auburn to REO was substantially completed in second quarter of fiscal 2009. The transition has resulted in charges primarily for employee terminations, supplier qualification, moving costs for related equipment, and other exit related costs associated with a plan approved by management.

GOVERNMENT REGULATION

Environmental regulation

Our operations are subject to various federal, state and local environmental protection regulations governing the use, storage, handling and disposal of hazardous materials, chemicals, various radioactive materials and certain waste products. In the United States, we are subject to the federal regulation and control of the Environmental Protection Agency. Comparable authorities are involved in other countries. We believe that compliance with federal, state and local environmental protection regulations will not have a material adverse effect on our capital expenditures, earnings and competitive and financial position.

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.

We may face potentially increasing complexity in our product designs and procurement operations as we adjust to requirements relating to the materials composition of products entering specific markets. Such regulations went into effect in the European Union ("EU") in 2006, and China in 2007. We could face significant costs and liabilities in connection with product take-back legislation. Beginning in 2006, the EU Waste Electrical and Electronic Equipment Directive made producers of electrical goods financially responsible for specified collection, recycling, treatment and disposal of past and future covered products. In addition, the EU has added the Registration, Evaluation and Authorization of Chemicals Regulation, otherwise known as the REACH Regulation, which further regulates substances and products imported, manufactured or sold within the EU. Similar laws are now pending in various jurisdictions around the world, including the United States.

We further discuss the impact of environmental regulation under "Risk Factors—Compliance or the failure to comply with current and future environmental regulations could cause us significant expense" in Item 1A.

SEGMENT INFORMATION

We are organized into two operating segments: Commercial Lasers and Components ("CLC") and Specialty Lasers and Systems ("SLS"). This segmentation reflects the go-to-market strategies for various products and markets. While both segments work to deliver cost-effective photonics solutions, CLC focuses on higher volume products that are offered in set configurations. The product architectures are designed for easy exchange at the point of use such that product service and repairs are based upon advanced replacement and depot (i.e., factory) repair. CLC's primary markets include OEM components

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and instrumentation and materials processing. SLS develops and manufacturers configurable, advanced-performance products largely serving the microelectronics and scientific research markets. The size and complexity of many of the SLS products require service to be performed at the customer site by factory-trained field service engineers.

We have identified CLC and SLS as operating segments for which discrete financial information was available. Both units have dedicated engineering, manufacturing, product business management and product line management functions. A small portion of our outside revenue is attributable to projects and recently developed products for which a segment has not yet been determined. The associated direct and indirect costs are presented in the category of Corporate and other, along with other corporate costs.

Effective as of the beginning of the first quarter of fiscal 2009, in order to align all of our diode-pumped solid state ("DPSS") technology into the same reportable operating segment, management moved the DPSS Germany and Crystal product families from the CLC segment into the SLS segment. This allows for leverage and efficiencies in many parts of the business. Crystal is primarily an internal supplier that supports the DPSS product family. This concentrates all DPSS product families in the SLS segment effective as of the first quarter of fiscal 2009. All reporting has been aligned to reflect the revised reportable operating segments (CLC and SLS).

FINANCIAL INFORMATION ABOUT FOREIGN AND DOMESTIC OPERATIONS AND EXPORT SALES

Financial information relating to foreign and domestic operations for fiscal years 2011, 2010 and 2009, is set forth in Note 18, "Segment and Geographic Information" of our Notes to Consolidated Financial Statements under Item 15 of this Annual Report on Form 10-K.

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ITEM 1A. RISK FACTORS

You should carefully consider the followings risks when considering an investment in our Common Stock. These risks could materially affect our business, results of operations or financial condition, cause the trading price of our Common Stock to decline materially or cause our actual results to differ materially from those expected or those expressed in any forward-looking statements made by or on behalf of Coherent. These risks are not exclusive, and additional risks to which we are subject include, but are not limited to, the factors mentioned under “Forward-Looking Statements” and the risk of our businesses described elsewhere in this Annual Report on Form 10-K. Additionally, these risks and uncertainties described herein are not the only ones facing us. Other events that we do not currently anticipate or that we currently deem immaterial also may affect our business, results of operations or financial conditions.

BUSINESS ENVIRONMENT AND INDUSTRY TRENDS

Risks Associated with Our Industry, Our Business and Market Conditions

Our operating results, including net sales, net income (loss) and adjusted EBITDA percentage in dollars and as a percentage of net sales, as well as our stock price have varied in the past, and our future operating results will continue to be subject to quarterly and annual fluctuations based upon numerous factors, including those discussed in this Item 1A and throughout this report. Our stock price will continue to be subject to daily variations as well. Our future operating results and stock price may not follow any past trends or meet our guidance and expectations.

Our net sales and operating results, such as adjusted EBITDA percentage, net income (loss) and operating expenses, and our stock price have varied in the past and may vary significantly from quarter to quarter and from year to year in the future. We believe a number of factors, many of which are outside of our control, could cause these variations and make them difficult to predict, including:

- general economic uncertainties in the macroeconomic and local economies facing us, our customers and the markets we serve;
- access to applicable credit markets by us, our customers and their end customers;
- fluctuations in demand for our products or downturns in the industries that we serve;
- the ability of our suppliers, both internal and external, to produce and deliver components and parts, including sole or limited source components, in a timely manner, in the quantity, quality and prices desired;
- the timing of conversion of booking to revenue;
- timing or cancellation of customer orders and shipment scheduling;
- fluctuations in our product mix;
- the ability of our customers' suppliers to provide sufficient material to support our customers' products;
- currency fluctuations and stability, in particular the Euro;
- commodity pricing;

- introductions of new products and product enhancements by our competitors, entry of new competitors into our markets, pricing pressures and other competitive factors;

- our ability to develop, introduce, manufacture and ship new and enhanced products in a timely manner without defects;

- our ability to manage our capacity and that of our suppliers;

- our increased reliance on domestic and foreign contract manufacturing;

- the rate of market acceptance of our new products;

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- the ability of our customers to pay for our products;
- expenses associated with acquisition-related activities;
- seasonal sales trends;
- delays or reductions in customer purchases of our products in anticipation of the introduction of new and enhanced products by us or our competitors;
- our ability to control expenses;
- the level of capital spending of our customers;
- potential excess and/or obsolescence of our inventory;
- costs and timing of adhering to current and developing governmental regulations and reviews relating to our products and business;
- costs related to acquisitions of technology or businesses;
- impairment of goodwill, intangible assets and other long term assets;
- our ability to meet our expectations and forecasts and those of public market analysts and investors;
- costs and expenses from litigation;
- the availability of research funding by governments with regard to our customers in the scientific business, such as universities;
- continued government spending on defense-related projects where we are a subcontractor;
- government support of the alternative energy industries, such as solar;
- maintenance of supply relating to products sold to the government on terms which we would prefer not to accept;
- changes in policy, interpretations, or challenges to the allowability of costs incurred under government cost accounting standards;
- damage to our reputation as a result of coverage in social media, Internet blogs or other media outlets;
- managing our and other parties' compliance with contracts in multiple languages and jurisdictions;
- managing our internal and third party sales representatives and distributors, including compliance with all applicable laws;
- costs associated with designing around or payment of licensing fees associated with issued patents in our fields of business;

- the future impact of legislation, rulemaking, and changes in accounting, tax, defense procurement, or export policies; and

- distraction of management related to acquisition or divestment activities.

In addition, we often recognize a substantial portion of our sales in the last month of our fiscal quarters. Our expenses for any given quarter are typically based on expected sales and if sales are below expectations in any given quarter, the adverse impact of the shortfall on our operating results may be magnified by our inability to adjust spending quickly enough to compensate for the shortfall. We also base our manufacturing on our forecasted product mix for the quarter. If the actual product mix varies significantly from our forecast, we may not be able to fill some orders during that quarter, which would

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result in delays in the shipment of our products. Accordingly, variations in timing of sales, particularly for our higher priced, higher margin products, can cause significant fluctuations in quarterly operating results.

Due to these and other factors, we believe that quarter-to-quarter and year-to-year comparisons of our historical operating results may not be meaningful. You should not rely on our results for any quarter or year as an indication of our future performance. Our operating results in future quarters and years may be below public market analysts' or investors' expectations, which would likely cause the price of our stock to fall. In addition, over the past several years, the stock market has experienced extreme price and volume fluctuations that have affected the stock prices of many technology companies. There has not always been a direct correlation between this volatility and the performance of particular companies subject to these stock price fluctuations. Further, over the last twelve months, equity markets around the world have significantly fluctuated across most sectors. These factors, as well as general economic and political conditions or investors' concerns regarding the credibility of corporate financial statements, may have a material adverse effect on the market price of our stock in the future.

We are exposed to risks associated with worldwide economic conditions and related uncertainties.

Volatility and disruption in the capital and credit markets, depressed consumer confidence, negative economic conditions, volatile corporate profits and reduced capital spending could negatively impact demand for our products. In particular, it is difficult to develop and implement strategy, sustainable business models and efficient operations, as well as effectively manage supply chain relationships in the face of such conditions including uncertainty regarding the ability of some of our suppliers to continue operations and provide us with uninterrupted supply flow. Our ability to maintain our research and development investments in our broad product offerings may be adversely impacted in the event that our sales decline and do not increase in the future. Spending and the timing thereof by consumers and businesses has a significant impact on our results and, where such spending is delayed or canceled, it could cause a material negative impact on our operating results. The current global economic conditions remain uncertain and challenging. Weakness in our end markets could negatively impact our revenue, gross margin and operating expenses, and consequently have a material adverse effect on our business, financial condition and results of operations.

The recent financial turmoil affecting the banking system and financial markets and the possibility that additional financial institutions may consolidate or go out of business have resulted in continued tightening in the credit markets, and lower levels of liquidity in some financial markets. There could be a number of follow-on effects from the tightened credit environment on our business, including the insolvency of key suppliers or their inability to obtain credit to finance development and/or manufacture products resulting in product delays; inability of customers to obtain credit to finance purchases of our products and/or customer insolvencies; and failure of financial institutions negatively impacting our treasury functions. In the event our customers are unable to obtain credit or otherwise pay for our shipped products it could significantly impact our ability to collect on our outstanding accounts receivable. Other income and expense also could vary materially from expectations depending on gains or losses realized on the sale or exchange of financial instruments; impairment charges resulting from revaluations of debt and equity securities and other investments; interest rates; cash balances; and changes in fair value of derivative instruments. Volatility in the financial markets and any overall economic uncertainty increase the risk that the actual amounts realized in the future on our financial instruments could differ significantly from the fair values currently assigned to them. Uncertainty about current global economic conditions could also continue to increase the volatility of our stock price.

In addition, political and social turmoil related to international conflicts, terrorist acts and civil unrest may put further pressure on economic conditions in the United States and abroad. Unstable economic, political and social conditions make it difficult for our customers, our suppliers and us to accurately forecast and plan future business activities. If such conditions persist, our business, financial condition and results of operations could suffer. Additionally, unstable economic conditions can provide significant pressures and burdens on individuals, which could cause them to engage in inappropriate business conduct. See “Part II, Item 9A. CONTROLS AND PROCEDURES-Inherent Limitations over

Internal Control."

Our cash and cash equivalents and short-term investments are managed through various banks around the world and volatility in the capital and credit market conditions could cause financial institutions to fail or materially harm service levels provided by such banks, both of which could have an adverse affect on our ability to timely access funds.

World capital and credit markets have been and may continue to experience volatility and disruption. In some cases, the markets have exerted downward pressure on stock prices and credit capacity for certain issuers, as well as pressured the solvency of some financial institutions. These financial institutions, including banks, have had difficulty timely performing regular services and in some cases have failed or otherwise been largely taken over by governments. We maintain our cash, cash equivalents and short-term investments with a number of financial institutions around the world. Should some or all of these financial institutions fail or otherwise be unable to timely perform requested services, we would likely have a limited

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ability to timely access our cash deposited with such institutions, or, in extreme circumstances the failure of such institutions could cause us to be unable to access cash for the foreseeable future. If we are unable to quickly access our funds when we need them, we may need to increase the use of our existing credit lines or access more expensive credit, if available. If we are unable to access our cash or if we access existing or additional credit or are unable to access additional credit, it could have a negative impact on our operations, including our reported net income.

We are exposed to credit risk and fluctuations in the market values of our investment portfolio.

Although we have not recognized any material losses on our cash, cash equivalents and short-term investments, future declines in their market values could have a material adverse effect on our financial condition and operating results. Given the global nature of our business, we have investments both domestically and internationally. There has recently been growing pressure on the creditworthiness of sovereign nations, particularly in Europe where a majority of our cash, cash equivalents and short-term investments are invested, which results in corresponding pressure on the valuation of the securities issued by such nations. Additionally, our overall investment portfolio is often concentrated in certificates of deposit and money market funds. We maintain a mix of government-issued securities. Credit ratings and pricing of these investments can be negatively impacted by liquidity, credit deterioration or losses, financial results, or other factors. Additionally, liquidity issues or political actions by sovereign nations could result in decreased values for our investments in certain government securities. As a result, the value or liquidity of our cash, cash equivalents and short-term investments could decline or become materially impaired, which could have a material adverse effect on our financial condition and operating results. See “Item 7A. Quantitative and Qualitative Disclosures about Market Risk.”

We depend on sole source or limited source suppliers, both internal and external, for some of our key components and materials, including exotic materials, certain cutting-edge optics and crystals, in our products, which make us susceptible to supply shortages or price fluctuations that could adversely affect our business.

We currently purchase several key components and materials used in the manufacture of our products from sole source or limited source suppliers, both internal and external. Our failure to timely receive these key components and materials, such as the large optics used in our flat panel display manufacturing applications, could cause delays in the shipment of our products. Some of these suppliers are relatively small private companies that may discontinue their operations at any time and which may be particularly susceptible to prevailing economic conditions. Some of our suppliers are located in regions which may be susceptible to natural disasters, such as the recent flooding in Thailand and the earthquake, tsunami and resulting nuclear disaster in Japan. We typically purchase our components and materials through purchase orders or agreed upon terms and conditions and we do not have guaranteed supply arrangements with many of these suppliers. We may fail to obtain these supplies in a timely manner in the future. We may experience difficulty identifying alternative sources of supply for certain components used in our products. We would experience further delays while identifying, evaluating and testing the products of these potential alternative suppliers. Furthermore, financial or other difficulties faced by these suppliers or significant changes in demand for these components or materials could limit their availability. We continue to consolidate our supply base and move supplier locations. When we transition locations we may increase our inventory of such products as a “safety stock” during the transition, which may cause the amount of inventory reflected on our balance sheet to increase. Additionally, many of our customers rely on sole source suppliers. In the event of a disruption of supply, orders from our customers could decrease or be delayed. 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, or our failure to properly manage these moves, would impair our ability to meet scheduled product deliveries to our customers and could cause customers to cancel orders.

We have historically relied exclusively on our own production capability to manufacture certain strategic components, crystals, semiconductor lasers, lasers and laser-based systems. Because we manufacture, package and test these

components, products and systems at our own facilities, and such components, products and systems are not readily available from other sources, any interruption in manufacturing would adversely affect our business. In addition, our failure to achieve adequate manufacturing yields of these items at our manufacturing facilities may materially and adversely affect our operating results and financial condition.

Our future success depends on our ability to increase our sales volumes and decrease our costs to offset potential declines in the average selling prices ("ASPs") of our products and, if we are unable to realize greater sales volumes and lower costs, our operating results may suffer.

Our ability to increase our sales volume and our future success depends on the continued growth of the markets for lasers, laser systems and related accessories, as well as our ability to identify, in advance, emerging markets for laser-based systems. We cannot assure you that we will be able to successfully identify, on a timely basis, new high-growth markets in the future.

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Moreover, we cannot assure you that new markets will develop for our products or our customers' products, or that our technology or pricing will enable such markets to develop. Future demand for our products is uncertain and will depend to a great degree on continued technological development and the introduction of new or enhanced products. If this does not continue, sales of our products may decline and our business will be harmed.

We have in the past experienced decreases in the ASPs of some of our products. As competing products become more widely available, the ASPs of our products may decrease. If we are unable to offset any decrease in our ASPs by increasing our sales volumes, our net sales will decline. In addition, to maintain our gross margins, we must continue to reduce the cost of manufacturing our products while maintaining their high quality. From time to time, our products, like many complex technological products, may fail in greater frequency than anticipated. This can lead to further charges, which can result in higher costs, lower gross margins and lower operating results. Furthermore, as ASPs of our current products decline, we must develop and introduce new products and product enhancements with higher margins. If we cannot maintain our gross margins, our operating results could be seriously harmed, particularly if the ASPs of our products decrease significantly.

Our future success depends on our ability to develop and successfully introduce new and enhanced products that meet the needs of our customers.

Our current products address a broad range of commercial and scientific research applications in the photonics markets. We cannot assure you that the market for these applications will continue to generate significant or consistent demand for our products. Demand for our products could be significantly diminished by disrupting technologies or products that replace them or render them obsolete. Furthermore, the new and enhanced products generally continue to be smaller in size and have lower ASPs, and therefore, we have to sell more units to maintain revenue levels. Accordingly, we must continue to invest in research and development in order to develop competitive products.

Our future success depends on our ability to anticipate our customers' needs and develop products that address those needs. Introduction of new products and product enhancements will require that we effectively transfer production processes from research and development to manufacturing and coordinate our efforts with those of our suppliers to achieve volume production rapidly. If we fail to transfer production processes effectively, develop product enhancements or introduce new products in sufficient quantities to meet the needs of our customers as scheduled, our net sales may be reduced and our business may be harmed.

We face risks associated with our foreign operations and sales that could harm our financial condition and results of operations.

For fiscal 2011, fiscal 2010 and fiscal 2009, 74%, 67% and 66%, respectively, of our net sales were derived from customers outside of the United States. We anticipate that foreign sales, particularly in Asia, will continue to account for a significant portion of our revenues in the foreseeable future.

A global economic slowdown or a natural disaster could have a negative effect on various foreign markets in which we operate, such as the earthquake, tsunami and resulting nuclear disaster during fiscal 2011 in Japan and the recent flooding in Thailand. Such a slowdown may cause us to reduce our presence in certain countries, which may negatively affect the overall level of business in such countries. Our foreign sales are primarily through our direct sales force. Additionally, some foreign sales are made through foreign distributors and resellers. Our foreign operations and sales are subject to a number of risks, including:

- longer accounts receivable collection periods;

- the impact of recessions and other economic conditions in economies outside the United States;

- unexpected changes in regulatory requirements;
- certification requirements;
- environmental regulations;
- reduced protection for intellectual property rights in some countries;
- potentially adverse tax consequences;

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- political and economic instability;
- import/export regulations, tariffs and trade barriers;
- compliance with applicable United States and foreign anti-corruption laws;
- cultural and management differences;
- preference for locally produced products; and
- shipping and other logistics complications.

Our business could also be impacted by international conflicts, terrorist and military activity, civil unrest and pandemic illness which could cause a slowdown in customer orders or cause customer order cancellations.

We are also subject to the risks of fluctuating foreign currency exchange rates, which could materially adversely affect the sales price of our products in foreign markets, as well as the costs and expenses of our foreign subsidiaries. While we use forward exchange contracts and other risk management techniques to hedge our foreign currency exposure, we remain exposed to the economic risks of foreign currency fluctuations.

We may not be able to protect our proprietary technology which could adversely affect our competitive advantage.

Maintenance of intellectual property rights and the protection thereof is important to our business. We rely on a combination of patent, copyright, trademark and trade secret laws and restrictions on disclosure to protect our intellectual property rights. We cannot assure you that our patent applications will be approved, that any patents that may be issued will protect our intellectual property or that any issued patents will not be challenged by third parties. Other parties may independently develop similar or competing technology or design around any patents that may be issued to us. We cannot be certain that the steps we have taken will prevent the misappropriation of our intellectual property, particularly in foreign countries where the laws may not protect our proprietary rights as fully as in the United States. Further, we may be required to enforce our intellectual property or other proprietary rights through litigation, which, regardless of success, could result in substantial costs and diversion of management's attention. Additionally, there may be existing patents of which we are unaware that could be pertinent to our business and it is not possible for us to know whether there are patent applications pending that our products might infringe upon since these applications are often not publicly available until a patent is issued or published.

We may, in the future, be subject to claims or litigation from third parties, for claims of infringement of their proprietary rights or to determine the scope and validity of our proprietary rights or the proprietary rights of competitors or other rights holders. These claims could result in costly litigation and the diversion of our technical and management personnel. Adverse resolution of litigation may harm our operating results or financial condition.

In recent years, there has been significant litigation in the United States involving patents and other intellectual property rights. This has been seen in our industry, for example in the recently concluded patent-related litigation between IMRA America, Inc. and IPG Photonics Corporation. From time to time, like many other technology companies, we have received communications from other parties asserting the existence of patent rights, copyrights, trademark rights or other intellectual property rights which such third parties believe may cover certain of our products, processes, technologies or information. In the future, we may be a party to litigation to protect our intellectual property or as a result of an alleged infringement of others' intellectual property whether through direct claims or by way of indemnification claims of our customers, as, in some cases, we contractually agree to indemnify our customers against third-party infringement claims relating to our products. These claims and any resulting lawsuit,

if successful, could subject us to significant liability for damages or invalidation of our proprietary rights. These lawsuits, regardless of their success, would likely be time-consuming and expensive to resolve and would divert management time and attention. Any potential intellectual property litigation could also force us to do one or more of the following:

- stop manufacturing, selling or using our products that use the infringed intellectual property;
- obtain from the owner of the infringed intellectual property right a license to sell or use the relevant technology, although such license may not be available on reasonable terms, or at all; or
- redesign the products that use the technology.

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If we are forced to take any of these actions or are otherwise a party to lawsuits of this nature, we may incur significant losses for which we do not have insurance and our business may be seriously harmed. We do not have insurance to cover potential claims of this type.

If our goodwill or intangible assets become impaired, we may be required to record a significant charge to earnings.

Under accounting principles generally accepted in the United States, we review our intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Goodwill is required to be tested for impairment at least annually. Factors that may be considered a change in circumstances indicating that the carrying value of our goodwill or other intangible assets may not be recoverable include declines in our stock price and market capitalization or future cash flows projections. We recorded a material charge during the first quarter of fiscal 2009 related to the impairment of goodwill in our CLC operating segment. A decline in our stock price, or any other adverse change in market conditions, particularly if such change has the effect of changing one of the critical assumptions or estimates we used to calculate the estimated fair value of our reporting units, could result in a change to the estimation of fair value that could result in an impairment charge. Any such material charges, whether related to goodwill or purchased intangible assets, may have a material negative impact on our financial and operating results.

We are exposed to lawsuits in the normal course of business which could have a material adverse effect on our business, operating results, or financial condition.

We are exposed to lawsuits in the normal course of our business, including product liability claims, if personal injury, death or commercial losses occur from the use of our products. While we typically maintain business insurance, including directors' and officers' policies, litigation can be expensive, lengthy, and disruptive to normal business operations, including the potential impact of indemnification obligations for individuals named in any such lawsuits. We may not, however, be able to secure insurance coverage on terms acceptable to us in the future. Moreover, the results of complex legal proceedings are difficult to predict. An unfavorable resolution of a particular lawsuit, including a recall or redesign of products if ultimately determined to be defective, could have a material adverse effect on our business, operating results, or financial condition.

We depend on skilled personnel to operate our business effectively in a rapidly changing market, and if we are unable to retain existing or hire additional personnel when needed, our ability to develop and sell our products could be harmed.

Our ability to continue to attract and retain highly skilled personnel will be a critical factor in determining whether we will be successful in the future. Recruiting and retaining highly skilled personnel in certain functions continues to be difficult. At certain locations where we operate, the cost of living is extremely high and it may be difficult to retain key employees and management at a reasonable cost. We may not be successful in attracting, assimilating or retaining qualified personnel to fulfill our current or future needs. Our failure to attract additional employees and retain our existing employees could adversely affect our growth and our business.

Our future success depends upon the continued services of our executive officers and other key engineering, sales, marketing, manufacturing and support personnel, any of whom may leave, which could harm our business and our results of operations.

The long sales cycles for our products may cause us to incur significant expenses without offsetting revenues.

Customers often view the purchase of our products as a significant and strategic decision. As a result, customers typically expend significant effort in evaluating, testing and qualifying our products before making a decision to purchase them, resulting in a lengthy initial sales cycle. While our customers are evaluating our products and before

they place an order with us, we may incur substantial sales and marketing and research and development expenses to customize our products to the customer's needs. We may also expend significant management efforts, increase manufacturing capacity and order long lead-time components or materials prior to receiving an order. Even after this evaluation process, a potential customer may not purchase our products. As a result, these long sales cycles may cause us to incur significant expenses without ever receiving revenue to offset such expenses.

The markets in which we sell our products are intensely competitive and increased competition could cause reduced sales levels, reduced gross margins or the loss of market share.

Competition in the various photonics markets in which we provide products is very intense. We compete against a number of large public and private companies, including CVI Melles Griot, Cymer, Inc., GSI Group, Inc., IPG Photonics Corporation, JDS Uniphase Corporation, Newport Corporation, Rofin-Sinar Technologies, Inc., and Trumpf GmbH, as well as other smaller

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companies. Some of our competitors are large companies that have significant financial, technical, marketing and other resources. These competitors may be able to devote greater resources than we can to the development, promotion, sale and support of their products. Some of our competitors are much better positioned than we are to acquire other companies in order to gain new technologies or products that may displace our product lines. Any of these acquisitions could give our competitors a strategic advantage. Any business combinations or mergers among our competitors, forming larger companies with greater resources, could result in increased competition, price reductions, reduced margins or loss of market share, any of which could materially and adversely affect our business, results of operations and financial condition.

Additional competitors may enter the markets in which we serve, both foreign and domestic, and we are likely to compete with new companies in the future. We may encounter potential customers that, due to existing relationships with our competitors, are committed to the products offered by these competitors. Further, our current or potential customers may determine to develop and produce products for their own use which are competitive to our products. As a result of the foregoing factors, we expect that competitive pressures may result in price reductions, reduced margins, loss of sales and loss of market share. In addition, in markets where there are a limited number of customers, competition is particularly intense.

Some of our laser systems are complex in design and may contain defects that are not detected until deployed by our customers, which could increase our costs and reduce our revenues.

Laser systems are inherently complex in design and require ongoing regular maintenance. The manufacture of our lasers, laser products and systems involves a highly complex and precise process. As a result of the technological complexity of our products, changes in our or our suppliers' manufacturing processes or the inadvertent use of defective materials by us or our suppliers could result in a material adverse effect on our ability to achieve acceptable manufacturing yields and product reliability. To the extent that we do not achieve and maintain our projected yields or product reliability, our business, operating results, financial condition and customer relationships would be adversely affected. We provide warranties on a majority of our product sales, and reserves for estimated warranty costs are recorded during the period of sale. The determination of such reserves requires us to make estimates of failure rates and expected costs to repair or replace the products under warranty. We typically establish warranty reserves based on historical warranty costs for each product line. If actual return rates and/or repair and replacement costs differ significantly from our estimates, adjustments to cost of sales may be required in future periods which could have an adverse effect on our results of operations.

Our customers may discover defects in our products after the products have been fully deployed and operated under the end user's peak stress conditions. In addition, some of our products are combined with products from other vendors, which may contain defects. As a result, should problems occur, it may be difficult to identify the source of the problem. If we are unable to identify and fix defects or other problems, we could experience, among other things:

- loss of customers;
- increased costs of product returns and warranty expenses;
- damage to our brand reputation;
- failure to attract new customers or achieve market acceptance;
- diversion of development and engineering resources; and
-

legal actions by our customers and/or their end users.

The occurrence of any one or more of the foregoing factors could seriously harm our business, financial condition and results of operations.

If we fail to accurately forecast component and material requirements for our products, we could incur additional costs and incur significant delays in shipments, which could result in a loss of customers.

We use rolling forecasts based on anticipated product orders and material requirements planning systems to determine our product requirements. It is very important that we accurately predict both the demand for our products and the lead times required to obtain the necessary components and materials. We depend on our suppliers for most of our product components and materials. Lead times for components and materials that we order vary significantly and depend on factors including the specific supplier requirements, the size of the order, contract terms and current market demand for components. For substantial increases in our sales levels of certain products, some of our suppliers may need at least nine months lead-time. If we

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overestimate our component and material requirements, we may have excess inventory, which would increase our costs. If we underestimate our component and material requirements, we may have inadequate inventory, which could interrupt and delay delivery of our products to our customers. Any of these occurrences would negatively impact our net sales, business or operating results.

Our increased reliance on contract manufacturing and other outsourcing may adversely impact our financial results and operations due to our decreased control over the performance and timing of certain aspects of our manufacturing.

Our manufacturing strategy includes partnering with contract manufacturers to outsource non-core subassemblies and less complex turnkey products, including some performed at international sites located in Asia and Eastern Europe. Additionally, we have outsourced the manufacture of certain of our optics components to a third party. Our ability to resume internal manufacturing operations for certain products and components in a timely manner may be eliminated. The cost, quality, performance and availability of contract manufacturing operations are and will be essential to the successful production and sale of many of our products. Our financial condition or results of operation could be adversely impacted if any contract manufacturer or other supplier is unable for any reason, including as a result of the impact of worldwide economic conditions, to meet our cost, quality, performance, and availability standards. We may not be able to provide contract manufacturers with product volumes that are high enough to achieve sufficient cost savings. If shipments fall below forecasted levels, we may incur increased costs or be required to take ownership of the inventory. Also, our ability to control the quality of products produced by contract manufacturers may be limited and quality issues may not be resolved in a timely manner, which could adversely impact our financial condition or results of operations.

If we fail to effectively manage our growth or, alternatively, our spending during downturns, our business could be disrupted, which could harm our operating results.

The growth in sales, combined with the challenges of managing geographically dispersed operations, can place a significant strain on our management systems and resources, and our anticipated growth in future operations could continue to place such a strain. The failure to effectively manage our growth could disrupt our business and harm our operating results. Our ability to successfully offer our products and implement our business plan in evolving markets requires an effective planning and management process. In economic downturns, we must effectively manage our spending and operations to ensure our competitive position during the downturn, as well as our future opportunities when the economy improves, remain intact. The failure to effectively manage our spending and operations could disrupt our business and harm our operating results.

Historically, acquisitions have been an important element of our strategy. However, we may not find suitable acquisition candidates in the future and we may not be able to successfully integrate and manage acquired businesses. Any acquisitions we make could disrupt our business and harm our financial condition.

We have in the past made strategic acquisitions of other corporations and entities, as well as asset purchases, and we continue to evaluate potential strategic acquisitions of complementary companies, products and technologies. In the event of any future acquisitions, we could:

- issue stock that would dilute our current stockholders' percentage ownership;
- pay cash that would decrease our working capital;
- incur debt;
- assume liabilities; or

- incur expenses related to impairment of goodwill and amortization.

Acquisitions also involve numerous risks, including:

- problems combining the acquired operations, systems, technologies or products;
- an inability to realize expected operating efficiencies or product integration benefits;
- difficulties in coordinating and integrating geographically separated personnel, organizations, systems and facilities;

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- difficulties integrating business cultures;
- unanticipated costs or liabilities, including the costs associated with improving the internal controls of the acquired company;
- diversion of management's attention from our core businesses;
- adverse effects on existing business relationships with suppliers and customers;
- potential loss of key employees, particularly those of the purchased organizations;
- incurring unforeseen obligations or liabilities in connection with acquisitions; and
- the failure to complete acquisitions even after signing definitive agreements which, among other things, would result in the expensing of potentially significant professional fees and other charges in the period in which the acquisition or negotiations are terminated.

We cannot assure you that we will be able to successfully identify appropriate acquisition candidates, to integrate any businesses, products, technologies or personnel that we might acquire in the future or achieve the anticipated benefits of such transactions, which may harm our business.

We use standard laboratory and manufacturing materials that could be considered hazardous and we could be liable for any damage or liability resulting from accidental environmental contamination or injury.

Although most of our products do not incorporate hazardous or toxic materials and chemicals, some of the gases used in our excimer lasers and some of the liquid dyes used in some of our scientific laser products are highly toxic. In addition, our operations involve the use of standard laboratory and manufacturing materials that could be considered hazardous. Also, if a facility fire were to occur at our Sunnyvale, California site and were to spread to a reactor used to grow semiconductor wafers, it could release highly toxic emissions. We believe that our safety procedures for handling and disposing of such materials comply with all federal, state and offshore regulations and standards. However, the risk of accidental environmental contamination or injury from such materials cannot be entirely eliminated. 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 which could have an adverse effect on our financial results or our business as a whole.

Compliance or the failure to comply with current and future environmental regulations could cause us significant expense.

We are subject to a variety of federal, state, local and foreign environmental regulations relating to the use, storage, discharge and disposal of hazardous chemicals used during our manufacturing process or requiring design changes or recycling of products we manufacture. If we fail to comply with any present and future regulations, we could be subject to future liabilities, the suspension of production or a prohibition on the sale of products we manufacture. In addition, such regulations could restrict our ability to expand our facilities or could require us to acquire costly equipment, or to incur other significant expenses to comply with environmental regulations, including expenses associated with the recall of any non-compliant product and the management of historical waste.

From time to time new regulations are enacted, and it is difficult to anticipate how such regulations will be implemented and enforced. We continue to evaluate the necessary steps for compliance with regulations as they are enacted. These regulations include, for example, the Registration, Evaluation, Authorization and Restriction of

Chemical substances (“REACH”), the Restriction on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive (“RoHS”) and the Waste Electrical and Electronic Equipment Directive (“WEEE”) enacted in the European Union which regulate the use of certain hazardous substances in, and require the collection, reuse and recycling of waste from, certain products we manufacture. This and similar legislation that has been or is in the process of being enacted in Japan, China, Korea and various states of the United States may require us to re-design our products to ensure compliance with the applicable standards, for example by requiring the use of different types of materials. These redesigns or alternative materials may detrimentally impact the performance of our products, add greater testing lead-times for product introductions or have other similar effects. We believe we comply with all such legislation where our products are sold and we will continue to monitor these laws and the regulations being adopted under them to determine our responsibilities. In addition, we are monitoring legislation relating to the reduction of carbon emissions from industrial operations to determine whether we may be required to incur any additional material costs or expenses associated with our operations. We are not currently aware of any such material

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costs or expenses. Our failure to comply with any of the foregoing regulatory requirements or contractual obligations could result in our being directly or indirectly liable for costs, fines or penalties and third-party claims, and could jeopardize our ability to conduct business in the United States and foreign countries.

Our operations would be seriously harmed if our logistics or facilities or those of our suppliers, our customers' suppliers or our contract manufacturers were to experience catastrophic loss.

Our operations, logistics and facilities and those of our suppliers and contract manufacturers could be subject to a catastrophic loss from fire, flood, earthquake, volcanic eruption, work stoppages, power outages, acts of war, pandemic illnesses, energy shortages, theft of assets, other natural disasters or terrorist activity, such as the recent flooding in Thailand. A substantial portion of our research and development activities, manufacturing, our corporate headquarters and other critical business operations are located near major earthquake faults in Santa Clara, California, an area with a history of seismic events. Any such loss or detrimental impact to any of our operations, logistics or facilities could disrupt our operations, delay production, shipments and revenue and result in large expenses to repair or replace the facility. While we have obtained insurance to cover most potential losses, after reviewing the costs and limitations associated with earthquake insurance, we have decided not to procure such insurance. We believe that this decision is consistent with decisions reached by numerous other companies located nearby. We cannot assure you that our existing insurance coverage will be adequate against all other possible losses.

Difficulties with our enterprise resource planning (“ERP”) system and other parts of our global information technology system could harm our business and results of operation. If our network security measures are breached and unauthorized access is obtained to a customer's data or our data or our information technology systems, we may incur significant legal and financial exposure and liabilities.

Like many modern multinational corporations, we maintain a global information technology system, including software products licensed from third parties. Any system, network or Internet failures, misuse by system users, the hacking into or disruption caused by the unauthorized access by third parties or loss of license rights could disrupt our ability to timely and accurately manufacture and ship products or to report our financial information in compliance with the timelines mandated by the Securities and Exchange Commission. Any such failure, misuse, hacking, disruptions or loss would likely cause a diversion of management's attention from the underlying business and could harm our operations. In addition, a significant failure of our global information technology system could adversely affect our ability to complete an evaluation of our internal controls and attestation activities pursuant to Section 404 of the Sarbanes-Oxley Act of 2002.

As part of our day-to-day business, we store our data and certain data about our customers in our global information technology system. While our system is designed with access security, if a third party gain unauthorized access to our data, including any regarding our customers, such security breach could expose us to a risk of loss of this information, loss of business, litigation and possible liability. These security measures may be breached as a result of third-party action, including intentional misconduct by computer hackers, employee error, malfeasance or otherwise. Additionally, third parties may attempt to fraudulently induce employees or customers into disclosing sensitive information such as user names, passwords or other information in order to gain access to our customers' data or our data, including our intellectual property and other confidential business information, or our information technology systems. Because the techniques used to obtain unauthorized access, or to sabotage systems, change frequently and generally are not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. Any security breach could result in a loss of confidence by our customers, damage our reputation, disrupt our business, lead to legal liability and negatively impact our future sales.

Changes in tax rates, tax liabilities or tax accounting rules could affect future results.

As a global company, we are subject to taxation in the United States and various other countries and jurisdictions. Significant judgment is required to determine worldwide tax liabilities. Our future tax rates could be affected by changes in the composition of earnings in countries or states with differing tax rates, changes in the valuation of our

deferred tax assets and liabilities, or changes in the tax laws. In addition, we are subject to regular examination of our income tax returns by the Internal Revenue Service ("IRS") and other tax authorities. From time to time the United States, foreign and state governments make substantive changes to tax rules and the application of rules to companies, including the recent announcement from the United States government potentially impacting our ability to defer taxes on international earnings. We regularly assess the likelihood of favorable or unfavorable outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. Although we believe our tax estimates are reasonable, there can be no assurance that any final determination will not be materially different than the treatment reflected in our historical income tax provisions and accruals, which could materially and adversely affect our operating results and financial condition.

Compliance with changing regulation of corporate governance and public disclosure may create uncertainty

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regarding compliance matters.

Federal securities laws, rules and regulations, as well as the rules and regulations of self-regulatory organizations such as NASDAQ and the NYSE, require companies to maintain extensive corporate governance measures, impose comprehensive reporting and disclosure requirements, set strict independence and financial expertise standards for audit and other committee members and impose civil and criminal penalties for companies and their chief executive officers, chief financial officers and directors for securities law violations. These laws, rules and regulations have increased and will continue to increase the scope, complexity and cost of our corporate governance, reporting and disclosure practices, which could harm our results of operations and divert management's attention from business operations. Changing laws, regulations and standards relating to corporate governance and public disclosure may create uncertainty regarding compliance matters. New or changed laws, regulations and standards are subject to varying interpretations in many cases. As a result, their application in practice may evolve over time. We are committed to maintaining high standards of ethics, corporate governance and public disclosure. Complying with evolving interpretations of new or changed legal requirements may cause us to incur higher costs as we revise current practices, policies and procedures, and may divert management time and attention from revenue generating to compliance activities. If our efforts to comply with new or changed laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to practice, our reputation may also be harmed.

Governmental regulations, including duties, affecting the import or export of products could negatively affect our revenues.

The United States and many foreign governments impose tariffs and duties on the import and export of products, including some of those which we sell. In particular, given our worldwide operations, we pay duties on certain products when they are imported into the United States for repair work as well as on certain of our products which are manufactured by our foreign subsidiaries. These products can be subject to a duty on the product value. Additionally, the United States and various foreign governments have imposed tariffs, controls, export license requirements and restrictions on the import or export of some technologies, especially encryption technology. From time to time, government agencies have proposed additional regulation of encryption technology, such as requiring the escrow and governmental recovery of private encryption keys. Governmental regulation of encryption technology and regulation of imports or exports, or our failure to obtain required import or export approval for our products, could harm our international and domestic sales and adversely affect our revenues. From time to time our duty calculations and payments are audited by government agencies.

In addition, compliance with the directives of the Directorate of Defense Trade Controls (“DDTC”) may result in substantial expenses and diversion of management. Any failure to adequately address the directives of DDTC could result in civil fines or suspension or loss of our export privileges, any of which could have a material adverse effect on our business or financial position, results of operations, or cash flows.

Our market is unpredictable and characterized by rapid technological changes and evolving standards demanding a significant investment in research and development, and, if we fail to address changing market conditions, our business and operating results will be harmed.

The photonics industry is characterized by extensive research and development, rapid technological change, frequent new product introductions, changes in customer requirements and evolving industry standards. Because this industry is subject to rapid change, it is difficult to predict its potential size or future growth rate. Our success in generating revenues in this industry will depend on, among other things:

- maintaining and enhancing our relationships with our customers;

- the education of potential end-user customers about the benefits of lasers and laser systems; and

- our ability to accurately predict and develop our products to meet industry standards.

For our fiscal years 2011, 2010 and 2009, our research and development costs were $81.2 million (10.1% of net sales), $72.4 million (12.0% of net sales) and $61.4 million (14.1% of net sales), respectively. We cannot assure you that our expenditures for research and development will result in the introduction of new products or, if such products are introduced, that those products will achieve sufficient market acceptance or to generate sales to offset the costs of development. Our failure to address rapid technological changes in our markets could adversely affect our business and results of operations.

We participate in the microelectronics market, which requires significant research and development expenses to develop and maintain products and a failure to achieve market acceptance for our products could have a significant

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negative impact on our business and results of operations.

The microelectronics market is characterized by rapid technological change, frequent product introductions, the volatility of product supply and demand (particularly in the semiconductor industry), changing customer requirements and evolving industry standards. The nature of this market requires significant research and development expenses to participate, with substantial resources invested in advance of material sales of our products to our customers in this market. In the event either our customers' or our products fail to gain market acceptance, or the microelectronics market fails to grow, it would likely have a significant negative effect on our business and results of operations.

Continued volatility in the semiconductor manufacturing industry could adversely affect our business, financial condition and results of operations.

A portion of our net sales in the microelectronics market depend on the demand for our products by semiconductor equipment companies. The semiconductor market has historically been characterized by sudden and severe cyclical variations in product supply and demand, which have often severely affected the demand for semiconductor manufacturing equipment, including laser-based tools and systems. The timing, severity and duration of these market cycles are difficult to predict, and we may not be able to respond effectively to these cycles. The continuing uncertainty in this market severely limits our ability to predict our business prospects or financial results in this market.

During industry downturns, our revenues from this market may decline suddenly and significantly. Our ability to rapidly and effectively reduce our cost structure in response to such downturns is limited by the fixed nature of many of our expenses in the near term and by our need to continue our investment in next-generation product technology and to support and service our products. In addition, due to the relatively long manufacturing lead times for some of the systems and subsystems we sell to this market, we may incur expenditures or purchase raw materials or components for products we cannot sell. Accordingly, downturns in the semiconductor capital equipment market may materially harm our operating results. Conversely, when upturns in this market occur, we must be able to rapidly and effectively increase our manufacturing capacity to meet increases in customer demand that may be extremely rapid, and if we fail to do so we may lose business to our competitors and our relationships with our customers may be harmed.

Failure to maintain effective internal controls may cause a loss of investor confidence in the reliability of our financial statements or to cause us to delay filing our periodic reports with the SEC and adversely affect our stock price.

The SEC, as directed by Section 404 of the Sarbanes-Oxley Act of 2002, adopted rules requiring public companies to include a report of management on internal control over financial reporting in their annual reports on Form 10-K that contain an assessment by management of the effectiveness of the Company's internal control over financial reporting. In addition, our independent registered public accounting firm must attest to and report on the effectiveness of our internal control over financial reporting. Although we test our internal control over financial reporting in order to ensure compliance with the Section 404 requirements, our failure to maintain adequate internal controls over financial reporting could result in an adverse reaction in the financial marketplace due to a loss of investor confidence in the reliability of our financial statements or a delay in our ability to timely file our periodic reports with the SEC, which ultimately could negatively impact our stock price.

Provisions of our charter documents and Delaware law, and our Change-of-Control Severance Plan may have anti-takeover effects that could prevent or delay a change in control.

Provisions of our certificate of incorporation and bylaws may discourage, delay or prevent a merger or acquisition or make removal of incumbent directors or officers more difficult. These provisions may discourage takeover attempts

and bids for our common stock at a premium over the market price. These provisions include:

- the ability of our Board of Directors to alter our bylaws without stockholder approval;
- limiting the ability of stockholders to call special meetings; and
- establishing advance notice requirements for nominations for election to our Board of Directors or for proposing matters that can be acted on by stockholders at stockholder meetings.

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a publicly-held Delaware corporation from engaging in a merger, asset or stock sale or other transaction with an interested stockholder for a period of three years following the date such person became an interested stockholder, unless prior approval of our board of directors is obtained or as otherwise provided. These provisions of Delaware law also may discourage, delay or prevent someone from

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acquiring or merging with us without obtaining the prior approval of our board of directors, which may cause the market price of our common stock to decline. In addition, we have adopted a change of control severance plan, which provides for the payment of a cash severance benefit to each eligible employee based on the employee's position. If a change of control occurs, our successor or acquirer will be required to assume and agree to perform all of our obligations under the change of control severance plan which may discourage potential acquirors or result in a lower stock price.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not Applicable.

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ITEM 2. PROPERTIES

Our corporate headquarters is located in Santa Clara, California. At fiscal 2011 year-end, our primary locations were as follows (all square footage is approximate) (unless otherwise indicated, each property is utilized jointly by our two segments):

	Description	Use	Term
Santa Clara, CA	8.5 acres of land, 200,000 square foot building	Corporate headquarters, manufacturing, R&D	Owned
Santa Clara, CA (3)	90,120 square foot building	Office, manufacturing	Leased through July 2020
Sunnyvale, CA (1)(3)	24,000 square foot building	Office, manufacturing, R&D	Leased through December 2018
Bloomfield, CT (1)	72,915 square foot building	Office, manufacturing, R&D	Leased through December 2012
East Hanover, NJ (2)	30,000 square foot building	Office, manufacturing, R&D	Leased through October 2014
Wilsonville, OR (1)	41,250 square foot building	Office, manufacturing, R&D	Leased through December 2018
Salem, NH(1)(3)	44,153 square foot building	Office, manufacturing, R&D	Leased through October 2019
Dieburg, Germany	31,306 square foot building	Office	Leased through December 2020
Göttingen, Germany(2)	7.6 acres of land, several buildings totaling 128,900 square feet	Office, manufacturing, R&D	Owned
Lübeck, Germany (2)	47,638 square foot building	Office, manufacturing, R&D	Leased through December 2012
Lübeck, Germany (2)	22,583 square foot building	Office, manufacturing, R&D	Leased through December 2012 with option to purchase building
Lübeck, Germany (2)(3)	6,779 square foot building	Manufacturing	Leased through December 2018
Tokyo, Japan	17,602 square foot building	Office	Leased through June 2012
Glasgow, Scotland (2)	2 acres of land, 30,000 square foot building	Office, manufacturing, R&D	Owned
Kallang Sector, Singapore (2)	31,894 square foot building	Office, manufacturing, R&D	Leased through March 2016
Penang, Malaysia (2)	13,455 square foot building	Office, manufacturing, R&D	Leased through August 2014

(1) This facility is utilized primarily by our CLC operating segment.
(2) This facility is utilized primarily by our SLS operating segment.
(3) Portions of this property are not fully utilized.

We maintain other sales and service offices under varying leases expiring from 2012 through 2019 in the United States, Japan, South Korea, China, Thailand, Taiwan, Germany, France, Italy, the United Kingdom and the Netherlands.

We consider our facilities to be both suitable and adequate to provide for current and near term requirements. We plan to renew

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leases on buildings as they expire.

ITEM 3. LEGAL PROCEEDINGS

We are subject to legal claims and litigation arising in the ordinary course of business, such as product liability, employment or intellectual property claims, including, but not limited to, the matters described below. The outcome of any such matters is currently not determinable. Although we do not expect that such legal claims and litigation will ultimately have a material adverse effect on our consolidated financial position or results of operations, an adverse result in one or more matters could negatively affect our results in the period in which they occur.

Derivative Lawsuits

Between February 15, 2007 and March 2, 2007, three purported shareholder derivative lawsuits were filed in the United States District Court for the Northern District of California against certain of the Company's current and former officers and directors. The Company is named as a nominal defendant. The complaints generally allege that the defendants breached their fiduciary duties and violated the securities laws in connection with the granting of stock options, the accounting treatment for such grants, the issuance of allegedly misleading public statements and stock sales by certain of the individual defendants. On May 30, 2007, these lawsuits were consolidated under the caption In re Coherent, Inc. Shareholder Derivative Litigation, Lead Case No. C-07-0955-JF (N.D. Cal.). On June 25, 2007, plaintiffs filed an amended consolidated complaint. The consolidated complaint asserts causes of action for alleged violations of federal securities laws, violations of California securities laws, breaches of fiduciary duty and/or aiding and abetting breaches of fiduciary duty, abuse of control, gross mismanagement, constructive fraud, corporate waste, unjust enrichment, insider selling and misappropriation of information. The consolidated complaint seeks, among other relief, disgorgement and damages in an unspecified amount, an accounting, rescission of allegedly improper stock option grants, punitive damages and attorneys' fees and costs.

The Company's Board of Directors appointed a Special Litigation Committee ("SLC") comprised of independent director Sandeep Vij to investigate and evaluate the claims asserted in the derivative litigation and to determine what action(s) should be taken with respect to the derivative litigation. On September 8, 2009, Coherent, Inc., by and through the SLC, plaintiffs, and certain of Coherent's former and current officers and directors filed with the court a Stipulation of Settlement reflecting the terms of a settlement that would resolve all claims alleged in the consolidated complaint. The terms of the settlement include a financial benefit to Coherent of over $6 million, which is comprised of a cash payment of $5.25 million to the Company and the waiver by certain former officers and directors of potential claims relating to expired stock options valued at $762,305. The settlement terms also include the implementation and/or agreement to maintain certain corporate governance changes, and a payment by the Company to plaintiffs' counsel of $3 million in attorneys' fees and expenses.

On September 14, 2009, the United States District Court for the Northern District of California issued an order granting preliminary approval of the settlement. On November 20, 2009, the court held a hearing for final approval of the settlement, and on November 24, 2009, the court entered an Order and Final Judgment, which approved the settlement and dismissed the action with prejudice. Coherent received the cash payment of $2.25 million on December 11, 2009.

Income Tax Audits

We are subject to taxation and file income tax returns in the U.S. federal jurisdiction and in many state and foreign jurisdictions. For U.S. federal income tax purposes, all years prior to 2005 are closed. The IRS audited the research and development credits generated in the years 1999 through 2001 and carried forward to future years. We received a notice of proposed adjustment (“NOPA”) from the IRS in October 2008 to decrease the amount of research and development credits generated in years 2000 and 2001. We signed a Closing Agreement with the IRS which allows additional research and development credits for the years 2000 and 2001, respectively. During the fourth quarter of fiscal 2011, the Joint Committee on Taxation approved this agreement. We provided adequate tax reserves for adjustments to these research and development credits for the years 2000 and 2001. This settlement resulted in the closure of U.S. federal statutes of limitations for years through 2004 and we released net unrecognized tax benefits under ASC 740-10 and related interest of approximately $9.7 million that affected the Company's effective tax rate for fiscal year 2011. In our major state jurisdictions and our major foreign jurisdictions, the years subsequent to 2000 and

2004, respectively, currently remain open and could be subject to examination by the taxing authorities. We believe that we have provided adequate reserves for any adjustments that may be determined by the tax authorities. Management believes that it has adequately provided for any adjustments that may result from tax examinations. The Company regularly engages in discussions and negotiations with tax authorities regarding tax matters in various jurisdictions. It is reasonably possible that certain federal, foreign and state tax matters may be concluded in the next 12 months. The Company estimates that the net unrecognized tax benefits and related interest at October 1, 2011 could be reduced by approximately $1.0 million to $2.0 million in the next 12 months.

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ITEM 4. (REMOVED AND RESERVED)

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PART II

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

Our common stock is quoted on the NASDAQ Stock Market under the symbol "COHR." The following table sets forth the high and low sales prices for each quarterly period during the past two fiscal years as reported on the Nasdaq Global Select Market.

	Fiscal 2011		2010	
	High	Low	High	Low
First quarter	$46.85	$39.27	$30.20	$23.33
Second quarter	$62.29	$46.01	$33.02	$26.35
Third quarter	$63.76	$49.54	$38.24	$31.92
Fourth quarter	$59.61	$38.92	$40.20	$32.83

The number of stockholders of record as of November 25, 2011 was 1,010. No cash dividends have been declared or paid since Coherent was founded and we have no present intention to declare or pay cash dividends.

There were no sales of unregistered securities in fiscal 2011.

Stock repurchases during the three months ended October 1, 2011 were as follows:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Dollar Value that May Yet Be Purchased Under the Plans or Programs (1) (2)
July 3, 2011 - July 30, 2011	—	$—	—	$33,645,000
July 31, 2011 - August 27, 2011	738,809	45.54	738,809	50,000,000
August 28, 2011 - October 1, 2011	586,200	42.67	586,200	24,985,000
Total	1,325,009	$44.27	1,325,009	$24,985,000

(1) On January 26, 2011, we announced that the Board of Directors had authorized the repurchase of up to $75.0 million of our common stock. The timing and size of any purchases will be subject to market conditions. The program was completed during the fourth quarter of fiscal 2011.

(2) On August 25, 2011, we announced that the Board of Directors had authorized the repurchase of up to $50.0 million of our common stock. The program is authorized for 12 months from the date of authorization. The timing and size of any purchases will be subject to market conditions.

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COMPANY STOCK PRICE PERFORMANCE

The following graph shows a five-year comparison of cumulative total stockholder return, calculated on a dividend reinvestment basis and based on a $100 investment, from September 30, 2006 through October 1, 2011 comparing the return on our common stock with the Russell 2000 Index, the Standard and Poors Technology Index and the Nasdaq Composite Index. No dividends have been declared or paid on our common stock during such period. The stock price performance shown on the following graph is not necessarily indicative of future price performance.

COMPARISON OF FIVE-YEAR CUMULATIVE TOTAL RETURN AMONG COHERENT, INC.,
THE RUSSELL 2000 INDEX, THE S&P TECHNOLOGY INDEX AND
THE NASDAQ COMPOSITE INDEX.

Comparison of Cumulative Five Year Total Return

		INDEXED RETURNS				
	Base Period	Years Ending				
Company Name / Index	9/30/2006	9/29/2007	9/27/2008	10/3/2009	10/2/2010	10/1/2011
Coherent, Inc.	100	92.56	100.95	66.27	115.98	123.95
Russell 2000 Index	100	112.34	99.63	83.44	98.96	95.02
S&P Technology Index	100	123.33	94.50	94.96	108.43	112.72
NASDAQ Composite Index	100	121.84	92.48	96.08	108.39	110.99

The information contained above under the caption "Company Stock Price Performance" shall not be deemed to be "soliciting material" or to be "filed" with the SEC, nor will such information be incorporated by reference into any future SEC filing except to the extent that we specifically incorporate it by reference into such filing.

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ITEM 6. SELECTED FINANCIAL DATA

The information set forth below is not necessarily indicative of results of future operations and should be read in conjunction with Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the Consolidated Financial Statements and Notes to Consolidated Financial Statements.

We derived the selected consolidated financial data as of fiscal 2011 and 2010 year-end and for fiscal 2011, 2010 and 2009 from our audited consolidated financial statements, and accompanying notes, contained in this annual report. The consolidated statements of operations data for fiscal 2008 and 2007 and the consolidated balance sheet data as of fiscal 2009, 2008 and 2007 year-end are derived from our consolidated financial statements which are not included in this report.

Consolidated financial data	Fiscal 2011(1)	Fiscal 2010(2)	Fiscal 2009(3)	Fiscal 2008(4)	Fiscal 2007(5)
	(in thousands, except per share data)				
Net sales	$802,834	$605,067	$435,882	$599,262	$601,153
Gross profit	$350,822	$260,811	$161,110	$251,906	$250,008
Net income(loss)	$93,238	$36,916	$(35,319)	$23,403	$15,951
Net income (loss) per share(6):					
Basic	$3.74	$1.49	$(1.45)	$0.85	$0.51
Diluted	$3.66	$1.47	$(1.45)	$0.83	$0.50
Shares used in computation(6):					
Basic	24,924	24,718	24,281	27,505	31,398
Diluted	25,464	25,091	24,281	28,054	32,024
Total assets	$843,266	$803,104	$753,604	$806,383	$947,600
Long-term obligations	$19	$33	$6	$15	$21
Other long-term liabilities	$62,841	$79,688	$91,685	$94,606	$47,848
Stockholders' equity	$618,001	$591,463	$575,571	$598,435	$770,986

(1) Includes a gain of $6.1 million after tax related to the dissolution of our Finland operations, a $9.7 million tax benefit from the release of tax reserves and related interest as a result of an IRS settlement and the closure of open tax years and a $1.5 million tax charge due to an increase in valuation allowances against deferred tax assets.

(2) Includes restructuring expenses of $5.8 million after tax primarily related to the closure of our Finland site and the consolidation of our Montreal, Canada site under the management of our Wilsonville, Oregon site and a net benefit after tax of $1.4 million related to a receipt from the settlement of litigation resulting from our internal stock option investigation.

(3) Includes $19.3 million in after-tax expense related to the impairment of goodwill, restructuring expenses of $11.5 million after tax primarily related to the consolidation of our Munich site into our Gottingen and Lubeck, Germany sites and our Finland site, the exit of our Auburn, California facility, the exit of our St. Louis, Missouri facility and headcount reductions due to the evolving global economic conditions, $0.8 million in after-tax costs related to our stock option investigation and litigation and a tax charge of $3.8 million composed of the impact of a recently enacted change in state tax law and a valuation allowance in one of our European subsidiaries.

(4) Includes $5.5 million in after-tax costs related to our stock option investigation and litigation, restructuring expenses of $3.9 million after-tax related to the exit of our Auburn, California facility, the consolidation of our German DPSS manufacturing into one location in Germany and headcount reductions due to the evolving global economic situation, and a tax charge of $1.4 million in connection with a dividend from one of our European subsidiaries.

(5) Includes a $12.6 million loss on our sale of our Auburn campus in Auburn, California, $7.0 million in after-tax costs related to our stock option investigation and litigation, a $2.6 million after-tax charge to write off unamortized capitalized deferred issuance costs associated with our repayment of our convertible subordinated notes, a charge of $2.2 million for in-process research and development ("IPR&D") related to our purchase of

Nuvonyx, $0.2 million after-tax costs related to the termination of the Excel merger agreement, a $3.6 million capital gain on the sale of our Condensa building in Santa Clara, California, and a $0.7 million after-tax gain from the sale of substantially all of the net assets of our Coherent Imaging Optics Limited (COIL) subsidiary to CVI Laser.

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(6) See Note 2, "Significant Accounting Policies" in our Notes to Consolidated Financial Statements under Item 15 of this Annual Report on Form 10-K for an explanation of the determination of the number of shares used in computing net income (loss) per share.

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 our Consolidated Financial Statements and related notes included in Item 8, "Financial Statements and Supplementary Data" in this annual report. This discussion contains forward- looking statements, which involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of certain factors, including but not limited to those discussed in Item 1A,"Risk Factors" and elsewhere in this annual report. Please see the discussion of forward-looking statements at the beginning of this annual report under "Special Note Regarding Forward-Looking Statements."

KEY PERFORMANCE INDICATORS

The following is a summary of some of the quantitative performance indicators (as defined below) that may be used to assess our results of operations and financial condition:

	Fiscal		
	2011	2010	2009
	(Dollars in thousands)		
Bookings	$ 895,017		