GSI GROUP INC
Form 10-K
March 14, 2012
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

þ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2011

OR

¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission File No. 001-35083

GSI Group Inc.

(Exact name of registrant as specified in its charter)

New Brunswick, Canada	98-0110412
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
125 Middlesex Turnpike Bedford, Massachusetts, USA (Address of principal executive offices)	01730 (Zip Code)

(781) 266-5700

(Registrant s telephone number, including area code)

Securities Registered Pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Exchange on Which Registered
Common Shares, no par value	The NASDAQ Stock Market LLC

Securities Registered Pursuant to Section 12(g) of the Act:

None

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

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

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

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

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. þ

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

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

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

The aggregate market value of the Registrant s outstanding common shares held by non-affiliates of the Registrant, based on the closing price of the common shares on the NASDAQ Global Select Market on the last business day of the Registrant s most recently completed second fiscal quarter (July 1, 2011) was $280,364,818. For purposes of this disclosure, common shares held by officers and directors of the Registrant and by persons who hold more than 5% of the Registrant s outstanding common shares have been excluded because such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily conclusive.

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Section 12 , 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court. Yes þ No ¨

There were approximately 33,515,041 of the Registrant s common shares, no par value, issued and outstanding on February 29, 2012.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant s Definitive Proxy Statement for the Registrant s Annual Meeting of Shareholders scheduled to be held on June 14, 2012 to be filed with the Securities and Exchange Commission are incorporated by reference in answer to Part III of this Annual Report on Form 10-K.

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GSI GROUP INC.

FORM 10-K

YEAR ENDED DECEMBER 31, 2011

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As used in this report, the terms we, us, our, GSI Group , GSI , GSIG and the Company mean GSI Group Inc. and its subsidiaries, unles context indicates another meaning.

Unless otherwise noted, all dollar amounts in this report are expressed in United States dollars.

The following brand and trade names of GSI Group are used in this report: GSI WaferMark, GSI WaferRepair, GSI WaferTrim, GSI CircuitTrim, MicroE Systems, Westwind Air Bearings, Synrad, JK Lasers, Continuum, Quantronix, Baublys, Control Laser, Cambridge Technology, ExoTec Precision, The Optical Corporation, General Scanning Thermal Printers, Photo Research, JK Fiber Lasers and Spectron Lasers.

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PART I

Cautionary Note Regarding Forward-Looking Statements

Except for historical information, the matters discussed in this Annual Report on Form 10-K are forward-looking statements that involve risks, uncertainties and assumptions that, if they never materialize or if they prove incorrect, could cause our consolidated results to differ materially from those expressed or implied by such forward-looking statements. The Company makes such forward-looking statements under the provision of the Safe Harbor section of the Private Securities Litigation Reform Act of 1995. Actual future results may vary materially from those projected, anticipated, or indicated in any forward-looking statements as a result of various factors, including those set forth in Item 1A of this Annual Report on Form 10-K under the heading Risk Factors. Readers should also carefully review the risk factors described in the other documents that we file from time to time with the SEC. In this Annual Report on Form 10-K, the words anticipates, believes, expects, intends, future, could, estimates, plans, , would, should, potential, continues and similar words or expressions (as well as other words or expr referencing future events, conditions or circumstances) identify forward-looking statements. Forward-looking statements also include the assumptions underlying or relating to any of the foregoing statements. The forward-looking statements contained in this Annual Report include, but are not limited to, statements related to: anticipated financial performance; expected liquidity and capitalization; drivers of revenue growth; management s plans and objectives for future operations, expenditures and product development, and investments in research and development; business prospects; potential of future product releases; anticipated sales performance; industry trends; market conditions; changes in accounting principles; changes in actual or assumed tax liabilities; expectations regarding tax exposures; anticipated reinvestment of future earnings; anticipated expenditures in regard to the Company s benefit plans; future acquisitions and dispositions and anticipated benefits from such acquisitions; anticipated outcomes of the legal proceedings and litigation matters; anticipated use of currency hedges; timing, scope and expected savings and charges related to realignment and restructuring initiatives; expected interest savings from our refinancing; ability to repay our indebtedness; our intentions regarding the use of cash; and other statements that are not historical facts. All forward-looking statements included in this document are based on information available to us on the date hereof. We will not undertake and specifically decline any obligation to update any forward-looking statements.

Item 1. ***Business***

OVERVIEW

GSI Group Inc. and its subsidiaries (collectively referred to as the Company , we , us , ours) design, develop, manufacture and sell laser-based solutions (consisting of lasers and laser-based systems), laser scanning devices, and precision motion and optical control technologies. Our technology is incorporated into customer products or manufacturing processes for a wide range of applications in a variety of markets, including: electronics, industrial, medical, and scientific. Our products enable customers to make advances in materials and processing technology and to meet extremely precise manufacturing specifications.

Our strategy is to drive sustainable, profitable growth through short term and long term initiatives, including:

- strengthening our strategic position in scanning solutions, fiber lasers, and medical components through continual investment in differentiated new products and solutions;
- expanding our market access and reach, particularly in higher growth, emerging regions, through investment in internal sales channels as well as external channel partners;
- broadening our product and service offerings through the acquisition of innovative and complementary technologies and solutions;
- streamlining our existing operations through site consolidations and strategic divestitures and expanding our business through strategic acquisitions;

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expanding operating margins by establishing a continuous improvement culture through formalized productivity programs and initiatives; and

attracting, retaining, and developing talented and motivated employees.

GSI Group Inc. was founded and initially incorporated in Massachusetts in 1968 as General Scanning, Inc. (General Scanning). General Scanning developed, manufactured and sold components and subsystems used for high-speed micro positioning of laser beams. In 1999, General Scanning merged with Lumonics Inc., a Canadian company that developed, manufactured and sold laser-based, advanced manufacturing systems for electronics, semiconductor, and general industrial applications. The post-merger entity, GSI Lumonics Inc., continued under the laws of the Province of New Brunswick, Canada. In 2005, we changed our name to GSI Group Inc. In August 2008, we acquired Excel Technology, Inc. (Excel), a designer, manufacturer and marketer of photonics-based solutions consisting of lasers, laser-based systems, precision motion devices, and electro-optical components primarily used in industrial and scientific applications.

We maintain a website with the address http://www.gsig.com. We are not including the information contained in our website as part of, or incorporating it by reference into, this Annual Report on Form 10-K. We make available, free of charge through our website, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to these reports as soon as reasonably practicable after we electronically file these materials with, or otherwise furnish them to, the Securities and Exchange Commission (SEC). In addition, our reports and other information are filed with securities commissions or other similar authorities in Canada, and are available over the Internet at http://www.sedar.com.

During the first quarter ended April 1, 2011, we modified our operating segments into three reportable segments: Laser Products, Precision Motion and Technologies, and Semiconductor Systems. The prior period information stated herein has been restated to conform to the new segment presentation. The following table shows the revenues and gross profit percentage for each of the three segments for the year ended December 31, 2011 (dollars in thousands):

	Sales	Gross Profit Margin
Laser Products	$ 130,957	37.2%
Precision Motion and Technologies	191,382	47.4%
Semiconductor Systems	43,941	47.6%
Total	$ 366,280	43.8%

See Note 13 to Consolidated Financial Statements for additional financial information about our segments.

Laser Products Segment

The Laser Products segment designs, manufactures and markets photonics-based solutions, consisting of lasers and laser-based systems, to customers worldwide. The segment serves highly demanding photonics-based applications such as cutting, welding, marking, engraving, micro-machining, and scientific research. The segment sells these products both directly utilizing our highly technical sales force and indirectly through resellers and distributors.

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The Laser Products segment is comprised of three major product lines:

Product Line	Key End Markets	Brand Names	Description
Industrial Lasers	Industrial, Electronics, Automotive, Medical, Packaging and Aerospace	JK Lasers, Spectron Lasers, JK Fiber Lasers and Synrad	Applications include welding, cutting, drilling, surface marking, and engraving
Custom Lasers	Industrial and Scientific	Continuum, Quantronix	Applications include scientific research, micro-machining, material processing, and laser diagnostics
Laser Systems	Industrial, Packaging and Semiconductor	Control Laser, Baublys	Applications include laser marking, engraving, semiconductor analysis and repair

Precision Motion and Technologies Segment

The Precision Motion and Technologies segment designs, manufactures and markets air bearing spindles, encoders, thermal printers, laser scanning devices, and light and color measurement systems to customers worldwide. The vast majority of the segment s product offerings are sold to original equipment manufacturers (OEM s) based on the segment s core competencies in precision motion and optical control technologies. The segment sells these products both directly utilizing a highly technical sales force and indirectly through resellers and distributors.

The Precision Motion and Technologies segment has five major product lines:

Product Line	Key End Markets	Brand Names	Description
Printed Circuit Board Spindles	Electronics	Westwind Air Bearings	High-speed air bearing spindles used to drill very small and precise holes in printed circuit boards (PCB)
Optical Encoders	Electronics, Industrial, Scientific and Medical	MicroE Systems	Linear and rotary electro-optical tracking devices that measure movement with sub-micron accuracy. Applications include motion control of semiconductor and electronic manufacturing equipment, confocal microscopes, positioning magnetic rings on hard drives, precision manufacturing, coordinate measuring systems, and robotic surgery equipment
Light and Color Measurement	Aerospace, Automotive, Lighting, Motion Picture, Research and Development, Electronics and related industries	Photo Research, Inc.	Color metrology devices are used by a wide variety of industries for research, quality control and on-line testing, including portable battery operated Spectro radio meter, photometers, and video photometers

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Product Line	Key End Markets	Brand Names	Description
Thermal Printers	Medical	General Scanning Thermal Printers	Rugged paper tape printers for the medical instruments and defibrillator markets
Laser Scanners	Industrial, Medical, Electronics, Scientific, Aerospace and Military	Cambridge Technology, The Optical Corporation and ExoTec Precision	High precision motors that, when coupled with a mirror, can direct a laser beam with a high degree of accuracy. Applications include laser marking and coding, laser machining and welding, high density via hole drilling of printed circuit boards, scanning microscopy, retinal scanning, laser-based vision correction, Optical Coherence Tomography imaging for laser-based biomedical diagnostics, high resolution printing, holographic imaging and storage, semiconductor wafer inspection and processing, 2D or 3D imaging, and laser projection and entertainment

Semiconductor Systems Segment

Our Semiconductor Systems segment designs, develops and sells laser-based production systems for semiconductor, microelectronics and electronics manufacturing. The segment offers a full spectrum of production systems, featuring high precision laser and motion technology, to process semiconductor wafers, LCD panels and microelectronic components. Semiconductor Systems solutions address a wide range of applications in a variety of end markets, including industrial, scientific, consumer electronics, medical, and aerospace. Today, the segment supplies leading global foundries, integrated device manufacturers and component manufacturers.

Our Semiconductor Systems segment has three major product lines:

Product Line	Key End Markets	Brand Names	Description
WaferRepair	Semiconductor DRAM, Flash Memory chips, and LCDs	GSI WaferRepair	Used to raise production yields for 300mm and 200mm DRAM and NAND wafers to commercially acceptable levels and to upgrade equipment for LCD panels and modules
WaferMark	Semiconductor silicon suppliers and integrated circuit factories	GSI WaferMark	Used to mark silicon wafers with characters or markings at various stages of the wafer and integrated circuit manufacturing process. The marks are designed to aid process control and device traceability

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Product Line	Key End Markets	Brand Names	Description
WaferTrim & Circuit Trim	Electronics high performance analog and mixed signal, sensor and chip resistor devices, and resistor devices	GSI WaferTrim and GSI CircuitTrim	Precision adjustment tools used by component manufacturers of all applications to achieve target specifications in electronic devices such as chip resistors, mixed signal ICs and sensors

Customers

We have a diverse group of customers that include companies that are global leaders in their industries. Many of our customers participate in several market segments. There were no customers with greater than 10% of our sales in 2011. In 2010, one customer within the Semiconductor Systems segment accounted for approximately 11% of our sales. In 2009, a different customer and certain related parties of that customer within the Semiconductor Systems segment accounted for approximately 10% of our sales.

Customers of our Semiconductor Systems segment include some of the major semiconductor, electronic device and silicon wafer producers. Most of these customers are end users who use our systems to manufacture products that include silicon wafers, memory chips, flat panel displays, and analog and hybrid micro-circuits in their factories. A large number of these customers are based in Asia.

Customers of our Precision Motion and Technologies and Laser Products segments include a large number of OEMs who integrate our products into their systems for sale to end users. Our Precision Motion and Technologies and Laser Products segments also sell directly to end users. Precision Motion and Technologies segment and Laser Products segment customers include leaders in the industrial systems, microelectronics, automotive, data storage, and medical equipment markets. A typical OEM customer will usually evaluate a product and our ability to provide application support and customization before deciding to incorporate our product into their product or system. Customers generally choose suppliers based on a number of factors, including product performance, reliability, application support, price, breadth of the supplier s product offering, the financial condition of the supplier and the geographical coverage offered by the supplier. Once products of our Precision Motion and Technologies segment and Laser Products segment have been designed into a given OEM customer s product or system, there are generally significant barriers to subsequent supplier changes.

Seasonality

While our sales are not highly seasonal on a consolidated basis, the sales of some of our individual product lines, particularly our laser businesses, are attributable to orders received from governmental entities or research institutions whose budgeting and funding cycles may be different from those of our commercial and industrial customers.

Backlog

As of December 31, 2011, our consolidated backlog was approximately $78.0 million. The majority of orders included in backlog represent open orders for products and services that management has concluded have a reasonable probability of being delivered over the subsequent twelve month period. Orders included in backlog may be canceled or rescheduled by customers without significant penalty. Management believes that backlog is not a meaningful indicator of future business prospects for any of our business segments due to the wide range of lead times required by our various types of customers and the ability of our customers to reschedule or cancel orders. Therefore, backlog as of any particular date should not be relied upon as indicative of our revenues for any future period.

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Manufacturing

Manufacturing functions are performed internally when management chooses to maintain control over critical portions of the production process or for cost related reasons. To the extent it makes financial sense, we will consider outsourcing additional portions of the production process. For example, our Semiconductor Systems segment focuses on outsourcing low value parts and modules and internally retains the tasks of final assembly of subsystems, testing and quality control.

Products offered by our Laser Products segment are manufactured at facilities in East Setauket, New York; Orlando, Florida; Santa Clara, California; Rugby, United Kingdom; Mukilteo, Washington; Suzhou, China; and Ludwigsburg, Germany.

Products offered by our Precision Motion and Technologies segment are primarily manufactured at facilities in Bedford and Lexington, Massachusetts; Poole and Taunton, United Kingdom; Chatsworth and Oxnard, California; and Suzhou, China.

The systems offered by our Semiconductor Systems segment are manufactured, assembled and tested in Bedford, Massachusetts.

Many of our products are manufactured under ISO 9001 certification and our encoders are manufactured under ISO 13485 certification.

Research and Development and Engineering

We incur research and development and engineering expenses as part of our ongoing operations. The following table shows total research and development and engineering expenses and as a percent of total sales for the years ended December 31, 2011, 2010 and 2009 (dollars in thousands):

	Year Ended December 31,		
	2011	**2010**	**2009**
Research and development and engineering expenses	$ 31,966	$ 29,857	$ 28,254
As a percentage of sales	8.7%	7.8%	11.1%

We are strongly committed to research and development for core technology programs directed at creating new products, product enhancements and new applications for existing products, as well as funding research into future market opportunities. Our markets have experienced rapid technological changes and product innovations. We believe that continued timely development of new products and product enhancements to serve existing and new markets is necessary for us to remain competitive.

Marketing, Sales and Distribution

We sell our products worldwide through our direct sales force and through distributors. Our local sales, applications and service teams and our distributors work closely with our customers to ensure customer satisfaction with our products.

Precision Motion and Technologies products are sold worldwide through our direct sales force and through distributors and manufacturer s representatives. We have sales and service centers located in North America, Europe, Asia Pacific, and Japan.

Semiconductor Systems products are sold directly and, in some territories, through distributors. Sales activities are directed from the product business unit sites in North America, Europe, Japan, and Asia Pacific. Field offices are located close to key customers manufacturing sites to maximize sales and support effectiveness. Significant revenues are derived from the sale of parts and services relating to the installed base of equipment previously sold to customers.

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Laser Products are sold worldwide through our direct sales force and through distributors, including manufacturer s representatives. We have sales and service centers located in North America, Europe, Asia Pacific, and Japan.

Competition

The markets in which we compete are dynamic and highly competitive. Due to the wide range of our products, we face many different types of competition and competitors. This affects our ability to sell our products and the prices at which these products are sold. Our competitors range from large foreign and domestic organizations, which produce a comprehensive array of goods and services and may have greater financial and other resources than we do, to small firms producing a limited number of goods or services for specialized market segments. We expect the proportion of large competitors to increase through the continued consolidation of competitors.

Competitive factors in our Precision Motion and Technologies and Laser Products segments include product performance, price, quality and reliability, features, flexibility, compatibility of products with existing systems, technical support, product breadth, market presence, on-time delivery and our overall reputation. The main competitive factors in the Semiconductor Systems segment include product performance, throughput and price. We believe that our products offer a number of competitive advantages; however, some of our competitors are substantially larger and have greater financial and other resources than us.

Raw Materials, Components and Supplies

Each of our businesses uses a wide variety of raw materials, key components and supplies that are generally available from alternative sources of supply and in adequate quantities from domestic and foreign sources. In some instances, we design and/or re-engineer the parts and components used in our products. For certain critical raw materials, key components and supplies used in the production of some of our principal products, we have identified only a limited number of suppliers or, in some instances, a single source of supply. We also rely on a limited number of independent contractors to manufacture subassemblies for some of our products.

In the Laser Products segment, we rely upon unaffiliated suppliers for the material components and parts used to assemble our products. Most parts and components purchased from suppliers are available from multiple sources.

Our Precision Motion and Technologies segment sources most of its parts externally while some critical parts are manufactured internally, particularly in the air bearing spindles business. Fully functional electronics as well as certain key components are purchased from external sources.

Our Semiconductor Systems segment purchases major subsystems, such as lasers, motion stages, vision systems and software, fully functional electronics, frames and racks from the merchant market. Some of the optical components used in our systems are internally manufactured while others are purchased externally. In some cases, upper level assemblies and entire subsystems are outsourced to electronic manufacturing services companies.

For a further discussion of the importance and risks associated with our supply chain, see applicable risk factors under Item 1A of this Annual Report on Form 10-K.

Patents and Intellectual Property

We rely upon a combination of copyrights, patents, trademarks, trade secret laws and restrictions on disclosure to protect our intellectual property rights. We hold a number of registered and pending patents in the United States and other countries. The issued patents cover various products in many of our key product

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categories, particularly semiconductor systems, laser scanning products, encoders, air bearing spindles, and lasers. In addition, we also have trademarks registered in the United States and foreign countries. We will continue to actively pursue application for new patents and trademarks as we deem appropriate. However, there can be no assurance that any other patents will be issued to us or that such patents, if and when issued, will provide any protection or benefit to us.

Although we believe that our patents and pending patent applications are important, we rely upon several additional factors that are essential to our business success, including: market position, technological innovation, know-how, application knowledge and product performance. There can be no assurance that we will realize any of these advantages.

We also protect our proprietary rights by controlling access to our proprietary information and by maintaining confidentiality agreements with our employees, consultants, and certain customers and suppliers. For a further discussion of the importance of risks associated with our intellectual property rights, see applicable risk factors under Item 1A of this Annual Report on Form 10-K.

Human Resources

As of December 31, 2011 and 2010, we employed 1,539 and 1,593 employees, respectively.

Geographic Information

We are a multinational company with approximately 66% of our 2011 sales outside the United States and approximately 21% of our long-lived assets outside the United States at December 31, 2011. Geographic information is discussed in Note 13 to Consolidated Financial Statements. For a further discussion of the risks associated with our foreign operations, see applicable risk factors under Item 1A of this Annual Report on Form 10-K.

Government Regulation

We are subject to the laser radiation safety regulations of the Radiation Control for Health and Safety Act administered by the National Center for Devices and Radiological Health, a branch of the United States Food and Drug Administration. Among other things, those regulations require laser manufacturers to file new product and annual reports, to maintain quality control and sales records, to perform product testing, to distribute appropriate operating manuals, to incorporate design and operating features in lasers sold to end-users and to certify and label each laser sold to end-users as one of four classes (based on the level of radiation from the laser that is accessible to users). Various warning labels must be affixed and certain protective devices installed depending on the class of product. The National Center for Devices and Radiological Health is empowered to seek fines and other remedies for violations of the regulatory requirements. We are also subject to certain safety regulations in the United Kingdom related to the manufacturing of beryllium structures. The Control of Substances Hazardous to Health (COSHH) regulations are administered by the Health and Safety Executive and require us to monitor beryllium levels, provide health safety information to our employees and limit exposure to beryllium. Non-compliance with these regulations could result in warnings, penalties or fines. We believe that we are currently in compliance with these regulations.

We are subject to similar regulatory oversight, including comparable enforcement remedies, in the European markets we serve.

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Item 1A. ***Risk Factors***

The following risk factors could have a material adverse effect on our business, financial position, results of operations and cash flows and could cause the market value of our common shares to fluctuate or decline. These risk factors may not include all of the important factors that could affect our business or that could cause our future financial results to differ materially from historic or expected results or cause the market price of our common shares to fluctuate or decline.

Risks Relating to our Business

Our results of operations could be adversely affected by economic and political conditions and the effects of these conditions on our customers businesses and level of business activity.

A large portion of our product sales are dependent on the need for increased capacity or replacement of inefficient manufacturing processes. These sales also tend to lag behind other businesses in an economic recovery. There was a rapid softening of the economy and tightening of the financial markets in the second half of 2008 that continued into the first half of 2009. This slowing of the economy reduced the financial capacity of our customers, thereby slowing spending on the products and services we provide. While business conditions improved during the second half of 2009 and throughout 2010, economic conditions have been softening again since the third quarter of 2011, particularly in the microelectronics markets. If such weak economic conditions continue or worsen, we may not be able to meet anticipated revenue levels on a quarterly or annual basis. A severe and/or prolonged economic downturn or a negative or uncertain political climate could adversely affect our customers financial condition and the timing or levels of business activity of our customers and the industries we serve. This may reduce the demand for our products or depress pricing for our products and have a material adverse effect on our results of operations. Changes in global economic conditions could also shift demand to products or services for which we do not have competitive advantages, and this could negatively affect the amount of business that we are able to obtain. In addition, if we are unable to successfully anticipate changing economic and political conditions, we may be unable to effectively plan for and respond to those changes, and our business could be negatively affected.

Our business depends significantly upon our customers capital expenditures, which are subject to cyclical market fluctuations.

The semiconductor and electronics materials processing industries are cyclical and have historically experienced periods of oversupply, resulting in downturns in demand for capital equipment, including the products that we manufacture. The timing, length and severity of these cycles, and their impact on our business, are difficult to predict. Further, our order levels or results of operations for a given period may not be indicative of order levels or results of operations for subsequent periods. We cannot assure investors that demand for our products will increase or that demand will not decrease. For the foreseeable future, our operations will continue to depend upon industries that are subject to market cycles which, in turn, could adversely affect the market for our products.

Cyclical variations may have the most pronounced effect on our Semiconductor Systems segment, which concentrates in the semiconductor and electronics industries. In past economic slowdowns, we have experienced significant cyclical fluctuations, and we cannot assure you that such slowdowns will not recur or that the impact of such slowdowns will be more or less significant compared to historical fluctuations.

Our business success depends upon our ability to respond to fluctuations in product demand, but doing so may require us to incur costs despite limited visibility toward future business declines.

If our business declines, we may be required to reduce costs while at the same time maintaining the ability to motivate and retain key employees. Additionally, to remain competitive, we must also continually invest in research and development, which may inhibit our ability to reduce costs in a down cycle. Long product lead-times create a risk that we may purchase or manufacture inventories of products that we are unable to sell.

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During a period of increasing demand and rapid growth, we must be able to increase manufacturing capacity quickly. Our inability to quickly increase production in response to a surge in demand could prompt customers to look for alternative sources of supply or leave our customers without a supply, both of which events could harm our reputation and make it difficult for us to retain our existing customers or to obtain new customers.

The success of our business requires that we continually innovate.

Technology requirements in our markets are consistently advancing. We must continually introduce new products that meet evolving customer needs. Our ability to grow depends on the successful development, introduction and market acceptance of new or enhanced products that address our customer s requirements. Developing new technology is a complex and uncertain process requiring us to accurately anticipate technological and market trends and meet those trends with responsive products. Additionally, this requires that we manage the transition from older products to minimize disruption in customer ordering patterns, avoid excess inventory and ensure adequate supplies of new products. Failed market acceptance of new products or problems associated with new product transitions could harm our business.

Delays in delivery of new products could have a negative impact on our business. If we do not introduce new products in a timely manner, we may lose market share and be unable to achieve revenue growth targets.

Our research and development efforts may not lead to the successful introduction of products within the time period our customers demand. Our competitors may introduce new or improved products, processes or technologies that make our current or proposed products obsolete or less competitive. We may encounter delays or problems in connection with our research and development efforts. Product development delays may result from numerous factors, including:

changing product specifications and customer requirements;

inability to manufacture products cost effectively;

difficulties in reallocating engineering resources and overcoming resource limitations;

changing market or competitive product requirements; and

unanticipated engineering complexities.

New products often take longer to develop, have fewer features than originally considered desirable and achieve higher cost targets than initially estimated. There may be delays in starting volume production of new products and/or new products may not be commercially successful. There may also be difficulty in sourcing components for new products.

Our reliance upon third party distribution channels subjects us to credit, inventory, business concentration and business failure risks beyond our control.

We sell products through resellers, distributors and system integrators. Selling products through third parties can subject us to credit and business risks. Our sales also depend upon the ability of our OEM customers to develop and sell systems that incorporate our products. Adverse economic conditions, large inventory positions, limited marketing resources and other factors influencing these OEM customers could have a substantial impact upon our financial results. We cannot assure investors that our OEM customers will not experience financial or other difficulties that could adversely affect their operations and, in turn, our financial condition or results of operations.

Our quarterly results of operations may fluctuate significantly from period to period. As a result, we may fail to meet or exceed the expectations of securities analysts or investors, which could cause our stock price to decline.

We sell a relatively small number of high revenue semiconductor systems within any period. These systems are complex and may have multiple elements for customer delivery including overall systems, spare parts,

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extended warranties, installation and training and may be subject to customer acceptance criteria. In certain transactions, we recognize all or a portion of revenue upon shipment provided that title and risk of loss have passed to the customer, evidence of an arrangement exists, fees are contractually fixed or determinable, collectability is reasonably assured through historical collection results and regular credit evaluations, and there are no uncertainties regarding the receipt or timing of customer acceptance. As a result, it is often difficult to project the timing of product revenue recognition. Consequently, our revenue and financial results could vary significantly from expectations in a particular quarter if anticipated orders from even a few customers are not received and fulfilled in time to satisfy customer obligations to the extent necessary to permit revenue to be recognized under generally accepted accounting principles. In addition, our product order backlog at the beginning of each quarter may not include all systems needed to achieve expected revenues for that quarter. Because we may build systems according to forecast, the absence of a significant backlog for an extended period of time could adversely affect financial results.

Customer order timing and other factors beyond our control may cause our operating results to fluctuate from period to period.

Changes in customer order timing and the existence of certain other factors beyond our control may cause our operating results to fluctuate from period to period. Such factors include:

- fluctuations in our customers businesses;
- timing and recognition of revenues from customer orders;
- timing and market acceptance of new products or enhancements introduced by us or our competitors;
- availability of parts from our suppliers and the manufacturing capacity of our subcontractors;
- changes in the prices of our products or of our competitors products; and
- fluctuations in exchange rates for foreign currencies.

Certain of our sales come from products with high selling prices and significant lead times. We may receive several large orders in one quarter from a customer and then receive no orders from that customer in the next quarter. As a result, the timing and recognition of sales from customer orders can cause significant fluctuations in our operating results from quarter to quarter.

A delay in a shipment or failure to meet our revenue recognition criteria near the end of a reporting period due, for example, to rescheduling or cancellations by customers or to unexpected difficulties experienced by us, may cause sales in the period to fall significantly and may have materially adverse effects on our operations for that period. Our inability to adjust quickly enough could magnify the adverse effects of that revenue shortfall on our results of operations.

As a result of these factors, our results of operations for any quarter are not necessarily indicative of results to be expected in future periods. We believe that fluctuations in quarterly results may cause the market prices of our common shares to fluctuate, perhaps substantially.

If we experience a significant disruption in, or breach in security of, our information technology systems, our business may be adversely affected.

We rely on information technology systems throughout our company to manage orders, process shipments to customers, manage inventory levels and maintain financial information. Events could result in the disruption of our systems, including power outages, computer attacks by hackers, viruses, catastrophes, hardware and software failures and other unforeseen events. If we were to experience a significant period of system disruption in information technology systems that involve our interactions with customers or suppliers, it could result in the loss of sales and customers and significant incremental costs, which could adversely affect our business. In

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addition, security breaches of our information technology systems could result in the misappropriation or unauthorized disclosure of confidential information belonging to us or to our employees, partners, customers or suppliers, which could result in our suffering significant financial or reputational damage.

We transact a significant portion of our sales, and maintain significant cash balances, in foreign currencies and in the past we have maintained and may in the future maintain foreign currency exchange contracts. As a result, changes in interest rates, credit ratings or foreign currency rates could have a material effect on our operations, financial position, results of operations and cash flows.

A significant portion of our sales are derived from our European and Asian operations and transacted primarily in Euros and Japanese yen, respectively, while our products are mainly manufactured in the United States. In the event of a decline in the value of the Euro or yen, we would typically experience a decline in our revenues. In addition, because our products are mainly manufactured in the United States, we may have to increase the sale prices on our products sold in Europe and Japan in order to maintain sales margins and recover costs. This may have a materially adverse impact on our operations, financial position and cash flows.

Additionally, balances we maintain in foreign currencies create additional financial exposure to changing interest and currency rates. We have in the past, and may in the future, attempt to mitigate these risks by purchasing foreign currency exchange contracts, and by investing in United States government issued treasury bills. However, if long term interest rates or foreign currency rates were to change rapidly, we could incur material losses. Further, if management chooses to invest in less risk adverse investment vehicles, the risk of losing principal and/or interest could increase.

International operations are an expanding part of our business and our operations in foreign countries subject us to risks not faced by companies operating exclusively in the United States.

During the year ended December 31, 2011, 66% of our revenues were derived from operations outside of the United States. The scope of our international operations subjects us to risks which could materially impact our results of operations, including:

- foreign exchange rate fluctuations;
- social and political unrest in countries where we operate;
- climatic or other natural disasters in regions where we operate;
- increases in shipping costs or increases in fuel costs;
- longer payment cycles;
- acts of terrorism;
- greater difficulty in collecting accounts receivable;