

ADVANCED ENERGY INDUSTRIES INC

Form 10-K

February 27, 2009

Table of Contents

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2008.

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 number: 000-26966

ADVANCED ENERGY INDUSTRIES, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or  
organization)

84-0846841

(I.R.S. Employer Identification No.)

1625 Sharp Point Drive, Fort Collins, CO

(Address of principal executive offices)

80525

(Zip Code)

Registrant's telephone number, including area code: (970) 221-4670

Securities registered pursuant to Section 12(b) of the Act:

Title of each class  
Common Stock, \$0.001 par value

Name of each exchange on which registered  
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 ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes ☐ No ☒

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 ☒ 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. ☐

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):

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

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

The aggregate market value of voting and non-voting common stock held by non-affiliates of the registrant was \$443,743,308 as of June 30, 2008, based upon the price at which such common stock was last sold on such date.

41,887,157

(Number of shares of Common Stock outstanding as of February 12, 2009)

**DOCUMENTS INCORPORATED BY REFERENCE**

Part III of this Annual Report on Form 10-K incorporates information by reference from the registrant's definitive proxy statement for its 2009 Annual Meeting of Stockholders, scheduled to be held on May 6, 2009. Except as expressly incorporated by reference, the registrant's definitive proxy statement shall not be deemed to be a part of this Annual Report on Form 10-K.

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**ADVANCED ENERGY INDUSTRIES, INC.  
FORM 10-K  
TABLE OF CONTENTS**

	<b>Page</b>
<b>PART I</b>	
<u>ITEM 1. BUSINESS</u>	3
<u>ITEM 1A. RISK FACTORS</u>	8
<u>ITEM 1B. UNRESOLVED STAFF COMMENTS</u>	15
<u>ITEM 2. PROPERTIES</u>	15
<u>ITEM 3. LEGAL PROCEEDINGS</u>	15
<u>ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS</u>	16
<b>PART II</b>	
<u>ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES</u>	16
<u>ITEM 6. SELECTED FINANCIAL DATA</u>	17
<u>ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS</u>	17
<u>ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK</u>	27
<u>ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA</u>	28
<u>ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE</u>	51
<u>ITEM 9A. CONTROLS AND PROCEDURES</u>	52
<u>ITEM 9B. OTHER INFORMATION</u>	52
<b>PART III</b>	
<u>ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT</u>	52
<u>ITEM 11. EXECUTIVE COMPENSATION</u>	52
<u>ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS</u>	53
<u>ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS</u>	53
<u>ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES</u>	53
<b>PART IV</b>	
<u>EXHIBITS, FINANCIAL STATEMENT SCHEDULES</u>	54

ITEM  
15.

SIGNATURES

59

EX-10.39  
EX-21.1  
EX-23.1  
EX-31.1  
EX-31.2  
EX-32.1  
EX-32.2

**Table of Contents**

*Unless the context otherwise requires, as used in this Form 10-K, references to Advanced Energy , the Company , we , us or our refer to Advanced Energy Industries, Inc. and its consolidated subsidiaries.*

**ITEM 1. BUSINESS**

**Overview**

We design, manufacture, sell and support industrial power conversion products that transform power into various usable forms. Our products enable manufacturing processes that use thin-film deposition for various products, such as semiconductor devices, flat panel displays, solar panels and architectural glass, as well as grid-tie power conversion in the solar market. We also supply gas flow control technology and thermal instrumentation products for control and detection of gases in the thin-film deposition process for these same markets.

Our global network of service centers provides local repair and field service capability in key regions. Our installed base provides a recurring revenue opportunity as we offer repair services, conversions, upgrades and refurbishments.

We provide solutions to a diverse range of markets and geographic regions, with the semiconductor capital equipment industry being our largest market. Sales to customers in the semiconductor capital equipment industry comprised 52% of our sales in 2008, 68% of our sales in 2007 and 69% of our sales in 2006. Other markets we serve include flat panel display, data storage, architectural glass, solar and other industrial thin-film manufacturing.

We incorporated in Colorado in 1981 and reincorporated in Delaware in 1995. Our executive offices are located at 1625 Sharp Point Drive, Fort Collins, Colorado 80525, and our telephone number is 970-221-4670.

**Products and Services**

Our products fall primarily into the categories of Power Conversion, Flow Control Technologies and Thermal Instrumentation. Our products are designed to enable new process technologies, improve productivity and lower the cost of ownership for our customers. We also provide repair and maintenance services for all of our products.

**POWER CONVERSION**

Our power conversion systems include direct current (DC), pulsed DC mid frequency, and radio frequency (RF) power supplies, matching networks and RF instrumentation as well as a line of photovoltaic (PV) energy inverters that offer an advanced, transformerless, grid-tie PV solution for commercial system installations. Our PV inverter is designed to convert DC power from standard solar arrays to high-quality AC grid electricity enabling commercial installations to produce targeted output power levels. Our power conversion systems refine, modify and control the raw electrical power from a utility and convert it into power that is customized, predictable and repeatable. Our power conversion systems are primarily used by semiconductor, solar panel and similar thin-film manufacturers including flat panel display, data storage and architectural glass manufacturers.

**FLOW CONTROL TECHNOLOGIES**

Our flow control technology products include thermal mass flow controllers (MFCs), pressure insensitive MFCs (PI-MFCs), pressure-based MFCs, liquid MFCs, liquid vapor delivery systems, and pressure control systems. Our flow control technology products control or monitor the flow of high-purity liquids, liquid vapor, and gases encompassing a wide range of input pressures. Our flow control technology products are primarily used in semiconductor, flat panel display and solar module manufacturing. They are also used in other industrial thin-film applications, and the fiber optics and silica industries.

**THERMAL INSTRUMENTATION**

Our thermal instrumentation products, used primarily in the semiconductor industry, provide thermal management and control solutions for applications in which time-temperature cycles affect productivity and yield. They are used in rapid thermal processing, chemical vapor deposition, and other semiconductor and solar applications requiring non-contact temperature measurement.

**GLOBAL SUPPORT SERVICES**

Our global support services group offers in-warranty and out-of-warranty repair services in the regions that we operate, also providing us with preventive maintenance opportunities. As semiconductor device manufacturers have become increasingly sensitive to the significant costs of system downtime, they have required that suppliers offer comprehensive local repair service and close customer support. Our customers require close support to enable them to repair, modify, upgrade and retrofit their equipment to improve yields and adapt new materials or processes. To meet these market requirements, we maintain a worldwide support organization in 7 countries, including the United States,

China, Japan, Korea, Taiwan, Germany and England. Our services group combines vast field data and years of experience with original equipment manufacturers (OEMs) to improve their feature-sets and statistically target service programs to prevent potential failures or problems before they occur and to extend the life of our customers' tools.

## **Table of Contents**

### **Markets, Applications and Customers**

#### **MARKETS**

The following is a discussion of the major markets for our products. These markets are not subject to seasonality, however; they are cyclical due to sudden changes in customers' manufacturing capacity requirements and spending, which depend in part on capacity utilization, demand for customers' products, inventory levels relative to demand, and access to affordable capital.

**SEMICONDUCTOR CAPITAL EQUIPMENT MARKET.** The largest market for our products has been the semiconductor capital equipment industry. These customers incorporate our products into equipment used in semiconductor processing steps that make integrated circuits. Our power conversion systems provide the energy to enable thin-film processes such as deposition and etch. Our flow control technology products control the fluid or gas being delivered to ensure accuracy, repeatability and stability. Our thermal instrumentation products measure the temperature of the process chamber. Precise control over the energy delivered to plasma-based processes enables the production of integrated circuits with reduced feature sizes and increased speed and performance. We anticipate that the semiconductor capital equipment industry will continue to be a significant part of our business for the foreseeable future.

**SOLAR PANEL CAPITAL EQUIPMENT MARKET.** We sell our products to OEMs and manufacturers of solar cells who use our products to produce thin-films using silicon substrates as well as glass or metal substrates. The majority of solar cell manufacturing currently uses a silicon wafer as the substrate, which employ both chemical vapor deposition (CVD) and physical vapor deposition (PVD) thin film processes. The solar cell industry also has developed processes for manufacturing solar cells on non-silicon substrates, such as glass and metal, using thin film processes that also employ CVD and PVD tools. Our RF and DC power supply and flow products are designed for use in these CVD and PVD tools. Our products are used in all leading thin film solar cell technologies, including amorphous and microcrystalline silicon, copper indium gallium selenide (CIGS) and cadmium telluride (CdTe).

**FLAT PANEL DISPLAY CAPITAL EQUIPMENT MARKET.** We sell our products to OEMs and manufacturers of flat panel displays, which use thin film deposition processes similar to those employed in manufacturing semiconductor integrated circuits. Flat panel display technology produces bright, sharp, large, color-rich images on flat screens for products ranging from hand-held devices to laptop and desktop computer monitors to plasma and liquid crystal display (LCD) screen televisions. The transition to larger panel sizes and higher display resolution is driving the need for tighter process controls to reduce manufacturing costs and defects.

**DATA STORAGE CAPITAL EQUIPMENT MARKET.** We sell products to OEMs and manufacturers of data storage equipment for use in producing a variety of products, including optical disks, such as CDs, DVDs and Blu-Ray; and magnetic storage, such as computer hard discs, including both magnetic media and thin-film heads. These products use a PVD process to produce optical and magnetic thin-film layers as well as a protective-wear layer. In this market, the trend towards higher recording densities requires thinner and more precise films. The use of equipment incorporating optical and magnetic media to store digital data expands with the growth of the laptop, desktop and network server computer markets and the consumer electronics audio, video, gaming, cell phone and entertainment markets.

**ARCHITECTURAL GLASS CAPITAL EQUIPMENT MARKET.** We sell our products to OEMs and to producers of Low Emissivity or Low-E architectural glass. This glass is used in commercial and residential buildings to reflect heat and cold through the use of thin films coated directly on the glass which reduces the energy used in the building. The thin film deposition process employs PVD tools which use our DC and mid frequency power products and our flow products. This market is driven by end market demand for glass related to the residential and commercial construction industry.

**INDUSTRIAL PRODUCTS CAPITAL EQUIPMENT MARKET.** We sell our products to OEMs and manufacturers who use thin film deposition processes to produce products for a variety of industrial markets. Thin films are applied to products in plasma-based processes to strengthen and harden surfaces on such diverse products as tools, automotive parts and various other end products. The advanced thin-film production processes allow precise control of various optical and physical properties, including color, transparency and electrical and thermal conductivity. The improved adhesion and high-film quality resulting from plasma-based processing make it the preferred method of applying the



thin films.

*COMMERCIAL SOLAR INVERTER MARKET.* We sell commercial solar inverters to integrators who integrate our Solaron® inverter into their solar array installations. The Solaron® converts DC power, which is produced by the solar panels in the array, into AC power for consumption on-site or to be sold back through the public utility grid. The commercial solar inverter market is characterized by installations generating power above 100 kW.

**Table of Contents****CUSTOMERS**

Our products are sold worldwide to approximately 300 OEMs and integrators and directly to more than 1,000 end users. Our ten largest customers accounted for 50% of our sales in 2008, 61%, of our sales in 2007, and 63% of our sales in 2006. We expect that the sale of products to our largest customers will continue to account for a significant percentage of our sales for the foreseeable future.

Applied Materials Inc., our largest customer, accounted for 21% of our sales in 2008, 29% of our sales in 2007, and 30% of our sales in 2006.

**Backlog**

Our backlog was \$29 million at December 31, 2008, a 37% decrease from \$46 million at December 31, 2007. This decrease was a result of a weakening of demand towards the later part of 2008, which was driven by softness in the global economy that may impact near-term expansion plans in both our semiconductor and non-semiconductor markets. Backlog includes firm orders scheduled to ship in the next 12 months. In addition, we supply our major OEMs under just-in-time agreements that are not included in backlog. Customers may delay delivery of products or cancel orders prior to shipment, subject to possible cancellation penalties. Delays in delivery schedules and/or a reduction of backlog during any particular period could have a material adverse effect on our business and results of operations.

**Marketing, Sales and Distribution**

We sell our products primarily through direct sales personnel to customers in the United States, Europe and Asia. Our sales personnel are located in the United States, China, England, Germany, Japan, South Korea, and Taiwan. In addition to our direct sales force, we also have sales representatives and distributors globally that support our selling efforts. We maintain customer service offices at many of the locations listed above, as well as other sites near our customer locations as we believe that customer service and technical support are important competitive factors and are essential to building and maintaining close, long-term relationships with our customers.

The following table represents our net sales by geographic region for the years ended 2008, 2007 and 2006:

	Years Ended December 31,					
	2008		2007		2006	
	(In thousands)					
Asia	\$ 140,505	43%	\$ 135,383	35%	\$ 130,514	32%
United States	137,966	42%	207,265	54%	238,468	58%
Europe	50,447	15%	42,051	11%	41,760	10%
	\$ 328,918		\$ 384,699		\$ 410,742	

See Item 1A. Risk Factors beginning on page 9 for a discussion of certain risks related to our foreign operations.

**Manufacturing**

The majority of our manufacturing is performed in Shenzhen, China, where we produce our high-volume products. The remainder of our manufacturing locations, in Fort Collins, Colorado; Hachioji, Japan; and Vancouver, Washington, perform low-volume manufacturing, service and support.

Manufacturing requires raw materials, including a wide variety of mechanical and electrical components, to be manufactured to our specifications. We use numerous companies, including contract manufacturers, to supply parts for the manufacture and support of our products. Although we make reasonable efforts to assure that parts are available from multiple qualified suppliers, this is not always possible. Accordingly, some key parts may be obtained from only a single supplier or a limited group of suppliers. We seek to reduce costs and to lower the risks of production and service interruptions, as well as shortages of key parts, by: (1) selecting and qualifying alternate suppliers for key parts; (2) monitoring the financial condition of key suppliers; (3) maintaining appropriate inventories of key parts; (4) qualifying new parts on a timely basis; and (5) locating certain manufacturing operations in areas that are closer to suppliers and customers.

**Intellectual Property**

We seek patent protection for inventions governing new products or technologies as part of our ongoing research and development. We currently hold 87 United States patents, 49 foreign-issued patents, and have over 100 patent applications pending in the United States, Europe and Asia. Generally, our efforts to obtain international patents have been concentrated in the industrialized countries of

## **Table of Contents**

Europe and Asia, because there are other manufacturers and developers of power conversion and control systems in those countries as well as customers for those systems.

Litigation may from time to time be necessary to enforce patents issued to us, to protect trade secrets or know-how owned by us, to defend us against claimed infringement of the rights of others or to determine the scope and validity of the proprietary rights of others. See Item 1A. Risk Factors We are highly dependent on our intellectual property.

### **Competition**

The markets we serve are highly competitive and characterized by ongoing technological development and changing customer requirements. Significant competitive factors in our markets include product performance, compatibility with adjacent products, price, quality and reliability and level of customer service and support. The markets in which we compete have seen an increase in global competition, especially from Asian and European-based component suppliers. We encounter substantial competition from foreign and domestic companies for each of our product lines. Some of our competitors have greater financial and other resources than us. In some cases, competitors are smaller than we are, but well established in specific product niches. MKS Instruments, Comdel, Daihen Kyosan, Hüttinger Electronics, SMA America, Inc., Schneider Electronics and SatCon offer products that compete with our power conversion products. MKS Instruments, STEC and Celerity offer products that compete with our product line of mass flow controllers.

Our ability to continue to compete successfully in these markets depends on our ability to make timely introductions of product enhancements and new products. We expect our competitors will continue to improve the design and performance of their products and to introduce new products with competitive performance characteristics. We believe that we currently compete effectively with respect to these factors, although we cannot assure that we will be able to compete effectively in the future.

### **Operating Segment**

We design, manufacture, sell and support industrial power conversion products that transform power into various usable forms. Segment financial information is found in Note 11 Foreign Operations and Major Customers in the accompanying consolidated financial statements included in Part II, Item 8 of this Form 10-K.

### **Research and Development**

The market for our products is characterized by ongoing technological changes. We believe that continued and timely development of new highly differentiated products and enhancements to existing products to support OEM requirements is necessary for us to maintain a competitive position in the markets we serve. Accordingly, we continue to devote a significant portion of our personnel and financial resources to research and development projects and seek to maintain close relationships with our customers and other industry leaders in order to remain responsive to their product requirements now and in the future. Research and development expenses were \$55.0 million in 2008, \$50.4 million in 2007, and \$44.8 million in 2006, representing 16.7% of our sales in 2008, 13.1% of our sales in 2007, and 10.9% of our sales in 2006.

### **Number of Employees**

As of December 31, 2008, we had a total of 1,679 employees. There is no union representation of our employees, notwithstanding statutory organization rights applicable to our employees in China, and we have never experienced an involuntary work stoppage. We consider our employee relations to be good.

### **Effect of Environmental Laws**

We are subject to federal, state and local environmental laws and regulations, as well as the environmental laws and regulations of the foreign federal and local jurisdictions in which we have manufacturing facilities. We believe we are in material compliance with all such laws and regulations.

Compliance with federal, state and local laws and regulations has not had, and is not expected to have, an adverse effect on our capital expenditures, competitive position, financial condition or results of operations.

### **Website Access**

Our website address is [www.advanced-energy.com](http://www.advanced-energy.com). We make available, free of charge on our website, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to these reports as soon as reasonably practicable after filing such reports with, or furnishing them to, the Securities and Exchange Commission (SEC). Such reports are also available at [www.sec.gov](http://www.sec.gov). Information contained on our website

is not incorporated by reference in, or otherwise part of, this Annual Report on Form 10-K or any of our other filings with the SEC.

**Table of Contents**

**Special Note Regarding Forward-Looking Statements**

This Annual Report on Form 10-K includes or incorporates by reference forward-looking statements within the meanings of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements contained or incorporated by reference in this Annual Report on Form 10-K, other than statements of historical fact, are forward-looking statements. For example, statements relating to our beliefs, expectations, plans and projections are forward-looking statements as are statements that specified actions, conditions or circumstances will continue or change. Forward-looking statements involve risks and uncertainties. In some cases, forward-looking statements can be identified by the inclusion of words such as believe, expect, plan, anticipate, estimate and similar words.

Some of the forward-looking statements in this Annual Report on Form 10-K are or reflect our expectations or projections relating to:

our future revenues;

our future gross profit;

reducing our operating breakeven point;

market acceptance of our products;

the fair value of our assets and financial instruments;

research and development expenses;

selling, general and administrative expenses;

sufficiency and availability of capital resources;

capital expenditures;

restructuring activities and expenses; and

general global economic conditions.

Our actual results could differ materially from those projected or assumed in our forward-looking statements, because forward-looking statements by their nature are subject to risks and uncertainties. Factors that could contribute to these differences or prove our forward-looking statements, by hindsight, to be overly optimistic or unachievable include the factors described in Item 1A. Risk Factors beginning on page 9. Other factors might also contribute to the differences between our forward-looking statements and our actual results. We assume no obligation to update any forward-looking statement or the reasons why our actual results might differ.

**Executive Officers of the Registrant**

Our executive officers, their positions and their ages as of December 31, 2008 are as follows:

Dr. Hans Georg Betz, 62, has been our Chief Executive Officer and President since August 2005 and has been a member of our Board of Directors since July 2004. From August 2001 until he became our Chief Executive Officer and President, Dr. Betz served as Chief Executive Officer of West Steag Partners GmbH, a German-based venture capital company focused on the high-technology industry. In his over 30-year career in the electronics industry, Dr. Betz also has served as Chief Executive Officer of STEAG Electronic Systems AG and a Managing Director at Leybold AG. Dr. Betz currently serves as a director of Mattson Technology, Inc., a publicly held supplier of advanced process equipment used to manufacture semiconductors, and serves as a member of its compensation committee.

Lawrence D. Firestone, 50, joined Advanced Energy in August 2006 as Executive Vice President and Chief Financial Officer. Immediately prior to joining AE, he was Chief Financial Officer at Applied Films Corporation, a

\$240 million thin-film deposition equipment provider based in Longmont, Colorado. Prior to joining Applied Films, Mr. Firestone served as Vice President and Chief Operating Officer of Avalanche Industries, an electronics manufacturing services company located in Colorado Springs, Colorado. Earlier, he held finance and operations positions at Woolson Spice and Coffee Company, TechniStar Corporation and Colorado Manufacturing Technology, Inc. in addition to performing consulting work for several early-stage technology companies.

## **Table of Contents**

Yuval Wasserman, 54, joined Advanced Energy in August 2007 as Executive Vice President, Sales, Marketing and Services. Immediately prior to joining AE, Mr. Wasserman served as the President and CEO of Tevet Process Control Technologies, Inc., where he led the development and growth of the company. Prior to that, he held senior executive and general management positions at Boxer Cross (metrology company: acquired by Applied Materials, Inc.), Fusion Systems (plasma strip: a division of Axcelis Technologies, Inc.), and AG Associates (RTP). Mr. Wasserman started his career at National Semiconductor, where he held various process engineering and management positions.

### **ITEM 1A. RISK FACTORS**

#### ***We are exposed to risks associated with the ongoing financial crisis and weakening global economy.***

Our business depends on the expansion of manufacturing capacity in our end markets and the installation base for the products we sell. The recent severe tightening of the credit markets, turmoil in the financial markets, and weakening global economy are contributing to slowdowns in the industries in which we operate. These slowdowns could worsen if the current economic conditions are prolonged or deteriorate further. Our markets depend largely on consumer spending and economic uncertainty exacerbates negative trends in consumer spending and may cause our customers to push out, cancel, or refrain from placing equipment orders.

Difficulties in obtaining capital and deteriorating market conditions may also lead to the inability of some customers to obtain affordable financing, resulting in a reduction of our sales. Customers with liquidity issues may also lead to additional bad debt expense. These conditions may also similarly affect key suppliers, which could affect their ability to deliver parts and result in delays for our products. Further, these conditions and uncertainty about future economic conditions make it challenging for us to forecast our operating results and evaluate the risks that may affect our business, financial condition and results of operations. If we are not able to timely and appropriately adapt to changes resulting from the difficult macroeconomic environment, our business, financial condition or results of operations may be materially and adversely affected.

#### ***The industries in which we compete are volatile and unpredictable.***

As a supplier to the global semiconductor, flat panel display, solar and related industries, we are subject to business cycles, the timing, length and volatility of which can be difficult to predict. These industries historically have been cyclical due to sudden changes in customers' manufacturing capacity requirements and spending, which depend in part on capacity utilization, demand for customers' products, inventory levels relative to demand, and access to affordable capital. These changes have affected the timing and amounts of customers' purchases and investments in technology, and continue to affect our orders, net sales, operating expenses and net income. In addition, we may not be able to respond adequately or quickly to the declining demand by reducing our costs. We may be required to record significant reserves for excess and obsolete inventory as demand for our products changes.

To meet rapidly changing demand in each of the industries we serve, we must effectively manage our resources and production capacity. During periods of decreasing demand for our products, we must be able to appropriately align our cost structure with prevailing market conditions; effectively manage our supply chain; and motivate and retain key employees. During periods of increasing demand, we must have sufficient manufacturing capacity and inventory to meet customer demand; effectively manage our supply chain; and attract, retain and motivate a sufficient number of qualified individuals. If we are not able to timely and appropriately adapt to changes in our business environment, our business, financial condition or results of operations may be materially and adversely affected.

#### ***Reduced product demand in the semiconductor equipment industry has a negative impact on our results of operations.***

Our business is affected by the capital equipment expenditures of semiconductor manufacturers, which in turn is affected by the current and anticipated market demand for integrated circuits and products using integrated circuits. The semiconductor industry is cyclical in nature and historically experiences periodic downturns. Business conditions historically have changed rapidly and unpredictably.

Fluctuating levels of investment by semiconductor manufacturers could continue to materially affect our revenues and operating results. Where appropriate, we will attempt to respond to these fluctuations with cost management programs aimed at aligning our expenditures with anticipated revenue streams, which sometimes result in restructuring charges. Even during periods of reduced revenues, we must continue to invest in research and development and maintain extensive ongoing worldwide customer service and support capabilities to remain



competitive, which may have a temporary adverse effect on our results of operations.

## **Table of Contents**

### ***We are exposed to risks as a result of ongoing changes specific to the solar industry.***

An increasing portion of our business is in the emerging solar market, which, in addition to the general industry changes described above in the risk factor ***The industries in which we compete are volatile and unpredictable,*** is also characterized by ongoing changes particular to the solar industry. Our business is subject to changes in technology or demand for solar products arising from, among other things, adoption of our products by our customers, compatibility of our technology with our customers' products, customers' and end-users' access to affordable financial capital, the cost and performance of solar technology compared to other energy sources, the adequacy of or changes in government energy policies, including the availability and amount of government incentives for solar power, and the extent of investment or participation in solar by utilities or other companies that generate, transmit or distribute power to end users.

If we do not successfully manage the risks resulting from these ongoing changes occurring in the solar industry, our business, financial condition and results of operations could be materially and adversely affected.

### ***We have transferred and continue to transfer the production of substantially all of our product lines to our manufacturing facility in Shenzhen, China, and may experience unforeseen difficulties and challenges with these operations.***

We have invested and will continue to invest significant human and financial resources to utilize our manufacturing facility in Shenzhen, China. These investments, such as the transition of legacy product lines, are made with the goal of reducing our overall global production costs by increasing our workforce in China and correspondingly decreasing our workforce in the United States. We cannot always predict with certainty the impact that these transitions will have on our operating results. We may incur unforeseen costs with respect to this facility, product transitions and the related workforce mix changes that could have an adverse effect on our results of operations.

### ***We might not realize all of the intended benefits of transitioning our supply base to Asian suppliers.***

We are continuing our transition to purchasing a substantial portion of components for our products from Asian suppliers to lower our materials costs and shipping expenses. These components might require us to incur higher than anticipated testing or repairing costs, which would have an adverse effect on our operating results. Customers who have strict and extensive qualification requirements might not accept our products if these lower-cost components do not meet their requirements. A delay or refusal by our customers to accept such products, as well as an inability of our suppliers to meet our purchasing requirements, might require us to continue to purchase higher-priced components from our existing suppliers or might cause us to lose sales to these customers, which would have an adverse effect on our results of operations.

### ***A significant portion of our sales is concentrated among a few customers.***

Our ten largest customers accounted for 50% of our sales in 2008, 61% of our sales in 2007 and 63% of our sales in 2006. Applied Materials Inc., our largest customer, accounted for 21% of our sales in 2008, 29% of our sales in 2007 and 30% of our sales in 2006. With the exceptions of Applied Materials, no other single customer accounted for more than 10% of our sales during 2008, 2007 or 2006. If we were to lose any of our significant customers or suffer a material reduction in their purchase orders, our business, financial condition and results of operations could be materially and adversely affected.

### ***Market pressures may reduce or eliminate our profitability.***

Our customers continually exert pressure on us to reduce our prices and extend payment terms. Given the nature of our customer base and the highly competitive markets in which we compete, we may be required to reduce our prices or extend payment terms to remain competitive. We may not be able to reduce our expenses in an amount sufficient to offset potential margin declines.

### ***Raw material, part, component and subassembly shortages, exacerbated by our dependence on sole and limited source suppliers, could affect our ability to manufacture products and systems and could delay our shipments.***

Our business depends on our ability to manufacture products that meet the rapidly changing demands of our customers. Our ability to manufacture our products timely depends in part on the timely delivery of raw materials, parts, components and subassemblies from suppliers. We rely on sole and limited source suppliers for some of our raw materials, parts, components and subassemblies that are critical to the manufacturing of our products. This reliance

involves several potential risks, including the following:

- inability to obtain an adequate supply of required parts, components or subassemblies;

- supply shortages if a sole or limited source provider ceases operations;

- having to fund the operating losses of a sole or limited source provider;

- reduced control over pricing and timing of delivery of raw materials and parts, components or subassemblies;

**Table of Contents**

need to qualify alternative suppliers which could be time consuming and lead to delays in delivery of products to our customers, as well as increased costs; and

inability of our suppliers to develop technologically advanced products to support our growth and development of new products.

If we are unable to qualify additional suppliers and manage relationships with our existing and future suppliers successfully, if our suppliers experience financial difficulties including bankruptcy or if our suppliers cannot meet our performance or quality specifications or timing requirements, we may experience shortages, delays, or increased costs of raw materials, parts, components or subassemblies. This in turn could limit our ability to manufacture and ship our products, which could materially and adversely affect our relationships with our current and prospective customers and our business, financial condition and results of operations.

***Our orders of raw materials, parts, components and subassemblies are based upon quarterly demand forecasts.***

We place orders with many of our suppliers based upon quarterly forecasts. These forecasts are based upon our expectations as to demand for our products from our customers. As the quarter progresses, such demand can change rapidly or we may realize that our expectations were overly optimistic, especially during a downturn in the industry and other adverse economic conditions. These orders cannot always be amended in response. In addition, in order to assure availability of certain components or to obtain priority pricing, we have entered into contracts with some of our suppliers that require us to purchase a specified amount of components and subassemblies each quarter, even if we are not able to use such components or subassemblies. Moreover, we have obligations to some of our customers to hold a minimum amount of finished goods in inventory, in order to fulfill just in time orders, regardless of whether the customers expect to place such orders. As a result, we may be required to purchase products that we do not anticipate needing and to manufacture systems that we do not anticipate our customers ordering. In addition, such purchases and manufacturing can result in significant write-offs for excess and obsolete inventory, which can have a materially adverse effect on our results of operations.

***We generally have no written long-term contracts with our customers requiring them to purchase any specified quantities from us.***

Our sales are primarily made on a purchase order basis, and we generally have no written long-term purchase commitments from our customers, which is typical in the industries we serve. As a result, we are limited in our ability to predict the level of future sales or commitments from our current customers, which may diminish our ability to allocate labor, materials and equipment in the manufacturing process effectively. In addition, we may accumulate inventory in anticipation of sales that do not materialize, resulting in excess and obsolete inventory write-offs.

***If we are unable to adjust our business strategy successfully for some of our product lines to reflect the increasing price sensitivity on the part of our customers, our business and financial condition could be harmed.***

Our business strategy for many of our product lines has been focused on product performance and technology innovation to provide enhanced efficiencies and productivity. As a result of recent economic conditions and changes in various markets that we serve, our customers have experienced significant cost pressures and, as a result, we have observed increased price sensitivity on the part of our customers. If competition for any of our product lines should come to focus solely on price rather than on product performance and technology innovation, we will need to adjust our business strategy and product offerings accordingly and, if we are unable to do so, our business, financial condition and results of operations could be materially and adversely affected.

***The markets in which we operate are highly competitive.***

We face substantial competition, primarily from established companies, some of which have greater financial, marketing and technical resources than we do. We expect our competitors will continue to develop new products in direct competition with ours, improve the design and performance of their products and introduce new products with enhanced performance characteristics.

To remain competitive, we must improve and expand our products and product offerings. In addition, we may need to maintain a high level of investment in research and development and expand our sales and marketing efforts, particularly outside of the United States. We might not be able to make the technological advances and investments necessary to remain competitive. If we were unable to improve and expand our products and product offerings, our

business, financial condition and results of operations could be materially and adversely affected.

***Our competitive position could be weakened if we are unable to convince end users to specify that our products be used in the equipment sold by our customers.***

The end users in our markets may direct equipment manufacturers to use a specified supplier's product in their equipment at a particular facility. This occurs with frequency because our products are critical in manufacturing process control for thin-film

## **Table of Contents**

applications. Our success therefore, depends in part on our ability to have end users specify that our products be used at their facilities. In addition, we may encounter difficulties in changing established relationships of competitors that already have a large installed base of products within such facilities.

### ***Our products may suffer from defects or errors leading to damage or warranty claims.***

Our products use complex system designs and components that may contain errors or defects, particularly when we incorporate new technology into our products or release new versions. If any of our products are defective, we might be required to redesign or recall those products or pay damages or warranty claims and suffer significant harm to our reputation. Product defects could result in substantial product liability. We maintain product liability insurance, but cannot be certain that it is adequate or will remain available on acceptable terms. We accrue a warranty reserve for estimated costs to provide warranty services, including the cost of technical support, product repairs, and product replacement for units that cannot be repaired. Our estimate of costs to fulfill our warranty obligations is based on historical experience and expectation of future conditions. To the extent we experience increased warranty claim activity or increased costs associated with servicing those claims, our warranty accrual will increase, resulting in decreased gross profit.

### ***We must achieve design wins to retain our existing customers and to obtain new customers, although design wins achieved do not necessarily result in substantial sales.***

The constantly changing nature of semiconductor fabrication and flat panel display technology causes equipment manufacturers to continually design new systems. We must work with these manufacturers early in their design cycles to modify our equipment or design new equipment to meet the requirements of their new systems. Manufacturers typically choose one or two vendors to provide the components for use with the early system shipments. Selection as one of these vendors is called a design win. It is critical that we achieve these design wins in order to retain existing customers and to obtain new customers.

We believe that equipment manufacturers often select their suppliers based on factors including long-term relationships and end user demand. Accordingly, we may have difficulty achieving design wins from equipment manufacturers who are not currently our customers. In addition, we must compete for design wins for new systems and products of our existing customers, including those with whom we have had long-term relationships. Our efforts to achieve design wins are time consuming and expensive, and may not be successful. If we are successful and our customers do not win the business or if we are not successful in achieving design wins, our business, financial condition and results of operations could be materially and adversely impacted.

Once a manufacturer chooses a component for use in a particular product, it is likely to retain that component for the life of that product. Our sales and growth could experience material and prolonged adverse effects if we fail to achieve design wins. However, design wins do not always result in substantial sales, as sales of our products are dependent upon our customers' sales of their products.

### ***We are subject to risks inherent in international operations.***

Sales to our customers outside the United States were approximately 58% in 2008, 46% in 2007 and 42% in 2006. Our success competing in international markets is subject to our ability to manage various risks and difficulties, including, but not limited to:

- our ability to effectively manage our employees at remote locations who are operating in different business environments from the United States;

- our ability to develop relationships with suppliers and other local businesses;

- compliance with product safety requirements and standards that are different from those of the United States;

- variations and changes in laws applicable to our operations in different jurisdictions, including enforceability of intellectual property and contract rights;

- trade restrictions, political instability, disruptions in financial markets and deterioration of economic conditions;

customs regulations and the import and export of goods;

the ability to provide sufficient levels of technical support in different locations;

**Table of Contents**

our ability to obtain business licenses that may be needed in international locations to support expanded operations;

collecting accounts receivable from foreign customers timely; and

changes in tariffs, taxes and foreign currency exchange rates.

Our ability to implement our business strategies, maintain market share and compete successfully in international markets will be compromised if we are unable to manage these and other international risks successfully.

***We are subject to risks related to holding cash, cash equivalents and marketable securities in foreign countries.***

A majority of our cash, cash equivalents and marketable securities are held in accounts in Japan and Germany. Repatriation of such cash is subject to limitations and may be subject to significant taxation. We cannot be certain that we will be able to repatriate such cash, on favorable terms or in a timely manner. If we continue to incur losses in our operations and need the cash held in these international accounts, but are unable to repatriate such cash in a timely manner, we may be prevented from taking advantage of business opportunities that arise or from executing some of our business plans, either of which could cause our business, financial condition or results of operations to be materially and adversely affected.

***Unfavorable currency exchange rate fluctuations may lead to lower operating margins, or may cause us to raise prices, which could result in reduced sales.***

Currency exchange rate fluctuations could have an adverse effect on our sales and results of operations and we could experience losses with respect to forward exchange contracts into which we may enter. Unfavorable currency fluctuations could require us to increase prices to foreign customers, which could result in lower net sales by us to such customers. Alternatively, if we do not adjust the prices for our products in response to unfavorable currency fluctuations, our results of operations could be materially and adversely affected. In addition, most sales made by our foreign subsidiaries are denominated in the currency of the country in which these products are sold and the currency they receive in payment for such sales could be less valuable at the time of receipt as a result of exchange rate fluctuations. From time to time, we enter into forward exchange contracts and local currency purchased options to reduce currency exposure arising from intercompany sales of inventory. However, we cannot be certain that our efforts will be adequate to protect us against significant currency fluctuations or that such efforts will not expose us to additional exchange rate risks, which could adversely affect our results of operations.

At December 31, 2008, a 10% change in exchange rates would have had an approximately 2% to 5% impact on reported revenues and expenses.

***Changes in the value of the Chinese yuan could impact the cost of our operation in Shenzhen, China.***

The Chinese government is continually pressured by its trading partners to allow its currency to float in a manner similar to other major currencies. Any change may impact our ability to control the cost of our products in the world market. Specifically, the decision by the Chinese government to allow the yuan to begin to float against the United States dollar could significantly increase the labor and other costs incurred in the operation of our Shenzhen facility and the cost of raw materials, parts, components and subassemblies that we source in China, thereby having a material and adverse effect on our financial condition and results of operations.

***We are highly dependent on our intellectual property.***

Our success depends significantly on our proprietary technology. We attempt to protect our intellectual property rights through patents and non-disclosure agreements; however, we might not be able to protect our technology, and competitors might be able to develop similar technology independently. In addition, the laws of some foreign countries might not afford our intellectual property the same protections as do the laws of the United States. Our intellectual property is not protected by patents in several countries in which we do business, and we have limited patent protection in other countries, including China. The cost of applying for patents in foreign countries and translating the applications into foreign languages requires us to select carefully the inventions for which we apply for patent protection and the countries in which we seek such protection. Generally, our efforts to obtain international patents have been concentrated in the European Union and certain industrialized countries in Asia, including Korea, Japan and Taiwan. If we are unable to protect our intellectual property successfully, our business, financial condition



and results of operations could be materially and adversely affected.

China commercial law is relatively undeveloped compared to the commercial law in the United States. Limited protection of intellectual property is available under Chinese law. Consequently, manufacturing our products in China may subject us to an increased risk that unauthorized parties may attempt to copy our products or otherwise obtain or use our intellectual property. We

## **Table of Contents**

cannot give assurance that we will be able to protect our intellectual property rights effectively or have adequate legal recourse in the event that we encounter infringements of our intellectual property in China.

***We have been, and in the future may again be, involved in litigation. Litigation is costly and could result in further restrictions on our ability to conduct business or an inability to prevent others from using technology or make use of market relationships we have developed.***

Litigation may be necessary to enforce our commercial or property rights, to defend ourselves against claimed violations of such rights, or to protect our interests in regulatory disputes or similar matters. Litigation often requires substantial management time and attention, as well as financial and other resources, including:

substantial costs in the form of legal fees, fines and royalty payments;

restrictions on our ability to sell certain products or in certain markets;

an inability to prevent others from using technology we have developed; and

a need to redesign products or seek alternative marketing strategies.

Any of these events could have a significant adverse effect on our business, financial condition and results of operations.

***Funds associated with auction rate securities that we have traditionally held as short-term investments may not be liquid or readily available.***

Our investment securities include auction rate securities (ARS) that are not currently liquid or readily available to convert to cash. In November 2008, we executed a non-transferrable auction rate securities rights agreement (the Put Agreement ) with a financial institution that provides us with the ability to sell certain of our ARS to the financial institution, at our sole discretion, and obligates the financial institution to purchase such ARS, at par during the period June 30, 2010 through July 2, 2012. Our ARS holdings to which this relates have a cost basis of approximately \$30.9 million and a fair value of approximately \$24.9 million at December 31, 2008. \$28.8 million of ARS are in student loan securities and the remaining \$2.0 million are in municipal securities. Additionally, the Put Agreement had a fair value of \$5.5 million at December 31, 2008. The benefits of the Put Agreement are subject to the continued performance by the financial institution of its obligations under the agreement.

We will not be able to utilize the Put Agreement to liquidate our ARS before June 30, 2010. The lack of liquidity associated with these investments may require us to borrow against these securities or repatriate cash from international locations at a significant cost. In light of current economic conditions and other factors, we cannot be certain that we will be able to borrow against these securities or repatriate cash, on favorable terms or at all. If we are unable to do so, our available cash may be reduced until some or all of our auction rate securities can be liquidated. The lack of available cash may prevent us from taking advantage of business opportunities that arise and may prevent us from executing some of our business plans, either of which could cause our business, financial condition or results of operations to be materially and adversely affected.

***Our goodwill and intangible assets may become impaired.***

At December 31, 2008, we had \$66.2 million in goodwill. Generally accepted accounting principles in the United States of America require that we review the value of goodwill on at least an annual basis or when indicators of impairment arise to determine whether the recorded value has been impaired and should be reduced. As required by SFAS 142, the goodwill impairment test is accomplished using a two-step approach. The first step screens for impairment by comparing the fair value of the Company to its carrying amount, including goodwill. If under the first step an impairment is indicated, a second step is employed to measure any impairment. This step compares the implied fair value of the goodwill with the carrying amount of the goodwill. As of October 31, 2008, and again as of December 31, 2008, after completing the first step of the impairment test, no indication of impairment existed because our market capitalization exceeded our carrying value as of each date. Subsequent to December 31, 2008, there have been continued adverse changes in the business climate and in the markets in which we operate and as a result our market capitalization has declined. As of February 18, 2009, our market capitalization was below our carrying value and our goodwill may be impaired. In the event that our goodwill is impaired, any impairment charge could have a

material impact on our financial position and results of operations, and could harm the trading price of our common stock.

In addition we have \$6.8 million in other intangible assets. We periodically review the estimated useful lives of our identifiable intangible assets, taking into consideration any events or circumstances that might result in either a diminished fair value or revised useful life. The events and circumstances include significant changes in the business climate, legal factors, operating performance indicators and competition. Any impairment or revised useful life could have a material and adverse effect on our financial position and results of operations, and could harm the trading price of our common stock. We expect to proceed with step two of the goodwill impairment analysis during the first quarter of 2009, which may result in an impairment charge of up to \$66.2 million in 2009.

## **Table of Contents**

### ***Changes in tax rates, tax liabilities, or utilization of our deferred tax assets could materially affect our results.***

We are subject to taxation in the United States and various other countries. Significant judgment is required to determine and estimate worldwide tax liabilities. Our future annual and quarterly tax rates could be affected by numerous factors, including changes in the applicable tax laws, composition of earnings in countries with differing tax rates or our valuation and utilization of deferred tax assets and liabilities. Recently, there have been adverse changes in the business climate and in the markets in which we operate and as a result we have recorded a valuation allowance against our deferred tax assets of \$23.3 million. We must generate a minimum of \$45.3 million of taxable income in the United States to utilize our net deferred tax assets. However, if we do not anticipate generating that level of U.S. taxable income we may have to recognize additional valuation allowances against our deferred tax assets. In addition, we are subject to regular examination of our income tax returns by the Internal Revenue Service and other tax authorities. 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 from the treatment reflected in our historical income tax provisions and accruals, which could materially and adversely affect our results of operations.

### ***We are subject to numerous governmental regulations.***

We are subject to federal, state, local and foreign regulations, including environmental regulations and regulations relating to the design and operation of our products and control systems. We might incur significant costs as we seek to ensure that our products meet safety and emissions standards, many of which vary across the states and countries in which our products are used. In the past, we have invested significant resources to redesign our products to comply with these directives. Compliance with future regulations, directives and standards could require us to modify or redesign some products, make capital expenditures or incur substantial costs. If we do not comply with current or future regulations, directives and standards:

we could be subject to fines;

our production or shipments could be suspended; or

we could be prohibited from offering particular products in specified markets.

If we were unable to comply with current or future regulations, directives and standards our business, financial condition and results of operations could be materially and adversely affected.

### ***The market price of our common stock has fluctuated and may continue to fluctuate for reasons over which we have no control.***

The stock market has from time to time experienced, and is likely to continue to experience, extreme price and volume fluctuations. Prices of securities of technology companies have been especially volatile and have often fluctuated for reasons that are unrelated to their operating performance. In the past, companies that have experienced volatility in the market price of their stock have been the subject of securities class action litigation. If we were the subject of securities class action litigation, it could result in substantial costs and a diversion of our management's attention and resources.

### ***Our Chairman of the Board owns a significant percentage of our outstanding common stock, which could enable him to influence our business and affairs and future sales of our common stock by our Chairman of the Board may negatively affect the market price of our common stock.***

Douglas S. Schatz, our Chairman of the Board, beneficially owns approximately 21% of our outstanding common stock as of February 12, 2009. This stockholding gives Mr. Schatz significant voting power and influence. Depending on the number of shares that abstain or otherwise are not voted on a particular matter, Mr. Schatz may be able to elect all of the members of our board of directors and to influence our business affairs for the foreseeable future in a manner with which our other stockholders may not agree. In addition, the sale of a substantial amount of the shares beneficially owned by him could negatively affect the market price of our common stock. The trust through which Mr. Schatz beneficially owns a significant number of shares has entered into a written trading plan pursuant to Rule 10b5-1 under the Securities Exchange Act of 1934, which, as of February 12, 2009, provided for the sale of up to

733,333 shares of common stock if certain price targets and other conditions are met.

***The loss of any of our key personnel could significantly harm our results of operations and competitive position.***

Our success depends to a significant degree upon the continuing contributions of our key management, technical, marketing and sales employees. There can be no assurance that we will be successful in retaining our key employees or that we can attract or retain

**Table of Contents**

additional skilled personnel as required. Many of the stock options held by our employees have exercise prices that are higher than the current trading price of our common stock, and these underwater options do not serve their purpose as incentives for our employees to remain with the Company. Failure to retain or attract key personnel could significantly harm our results of operations and competitive position.

**ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

**ITEM 2. PROPERTIES**

Information concerning our principal properties at December 31, 2008 is set forth below.

<b>Location</b>	<b>Type</b>	<b>Principal Use</b>	<b>Square Footage</b>	<b>Ownership</b>
Fort Collins, CO	Office, plant	Headquarters, research and development, manufacturing, distribution, sales, and service	198,500	Leased
Shenzhen, China	Office, plant	Manufacturing, distribution	131,500	Leased
Hachioji, Japan	Office, plant	Research and development, manufacturing, distribution, sales, and service	46,400	Owned
San Jose, CA	Office	Distribution, sales, service	19,800	Leased
Vancouver, WA	Office, plant	Research and development, manufacturing, distribution, sales, and service	19,600	Leased
Filderstadt, Germany	Office	Distribution, sales, service	15,400	Leased
Sungam City, South Korea	Office	Distribution, sales, service	14,000	Owned
Taipei, Taiwan	Office	Distribution, sales, service	13,100	Leased
Shanghai, China	Office	Distribution, sales	11,700	Leased
Hsinchu, Taiwan	Office	Distribution, sales, service	9,000	Leased
Austin, TX	Office	Distribution, service	7,000	Leased
Dallas, TX	Office	Distribution, service	1,700	Leased
Osaka, Japan	Office	Sales	1,300	Leased
Bicester, England	Office	Sales, service	1,200	Leased
Sendai-shi Miyagi-ken, Japan	Office	Sales, service	1,000	Leased
Kumamoto-ken, Japan	Office	Service	800	Leased
Hiroshima, Japan	Office	Service	300	Leased

**ITEM 3. LEGAL PROCEEDINGS**

We are involved in disputes and legal actions arising in the normal course of our business. While we currently believe that the amount of any ultimate loss would not be material to our financial position, the outcome of these actions is inherently difficult to predict. In the event of an adverse outcome, the ultimate loss could have a material adverse effect on our financial position or reported results of operations. An unfavorable decision in patent litigation also could require material changes in production processes and products or result in our inability to ship products or components found to have violated third-party patent rights. We accrue loss contingencies in connection with our commitments and contingencies, including litigation, when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated.

During 2008, the Customs Office of Taipei, Taiwan issued a series of orders to our Taiwanese subsidiary, Advanced Energy Taiwan, Ltd., requiring that certain Company products manufactured in mainland China and allegedly imported without proper authorization be removed from Taiwan. We have protested the orders based upon recent rulings of the Taiwan Bureau of Foreign Trade that the products were authorized for unrestricted import.

Although our appeal remains pending, we have recorded a charge of \$0.3 million as our best estimate of the amount we are likely to pay to resolve this matter. The maximum penalty related to this matter is \$2.3 million if the Customs Office determines that we have not complied with the removal orders. We believe the likelihood of the Customs Office determining that we have not complied with the removal orders to be remote.

**Table of Contents**

On May 9, 2008, the Company filed a complaint in the District Court for the City and County of Denver, Colorado against Charles S. Rhoades, former Chief Operating Officer of the Company, and SatCon Technology Corp. for breach of contract and other claims relating to Mr. Rhoades' separation from the Company on April 30, 2008. In his answer filed on November 18, 2008, Mr. Rhoades lodged a counterclaim against the Company for recovery of amounts allegedly owed by the Company to Mr. Rhoades under his Executive Transition Agreement entered into with the Company on December 31, 2007, along with attorneys' fees and costs. Trial in the action has been set for March 2010. The Company believes that the claimed amounts, even if awarded, would be immaterial to the Company's results of operations.

On November 5, 2007, a complaint was filed in the U.S. District Court for the District of Colorado by Xantrex Technology, Inc., alleging various breaches of confidence and interference with contractual duties in connection with the Company's hiring of a former employee of Xantrex. Xantrex sought injunctive relief against both the Company and its former employee, and we filed a motion to dismiss all claims. On May 23, 2008, the District Court denied our motion to dismiss and granted injunctive relief to Xantrex, which we appealed to the Tenth Circuit Court of Appeals. On November 24, 2008, the actions in both the District Court and the Court of Appeals were dismissed with prejudice on December 1, 2008 under the terms of a settlement agreement in which the Company stipulated to entry of the terms of the injunctive relief ordered by the District Court as permanent, and both the Company and Xantrex released each other from all further claims or demands in connection with the dispute.

**ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS**

None.

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

Our common stock is listed on the NASDAQ Global Select Market under the symbol AEIS. At February 12, 2009, the number of common stockholders of record was 575, and the closing sale price of our common stock on the NASDAQ Global Select Market on that day was \$8.51 per share.

The table below shows the range of high and low closing sale prices for the common stock as quoted (without retail markup or markdown and without commissions) on the NASDAQ Global Select Market:

	2008		2007	
	High	Low	High	Low
First Quarter	\$13.81	\$ 9.88	\$21.46	\$16.69
Second Quarter	\$16.10	\$13.09	\$25.68	\$21.30
Third Quarter	\$16.82	\$12.63	\$24.12	\$13.93
Fourth Quarter	\$13.42	\$ 5.94	\$17.31	\$12.56

We have not declared or paid any cash dividends on our capital stock since we terminated our election to be treated as an S-corporation for tax purposes, effective January 1, 1994. We currently intend to retain all future earnings to finance our business and do not anticipate paying cash or other dividends on our common stock in the foreseeable future.

In December 2007, the Board of Directors authorized a program to repurchase up to \$75 million of our common stock over a 12 month period. Under this program we repurchased and retired 3,775,000 shares of our common stock for a total of \$49.8 million. We suspended this stock repurchase program in April 2008. All shares repurchased were executed in the open market and no shares were repurchased from related parties. Repurchased shares were retired and assumed the status of authorized and unissued shares.

**Performance Graph**

The performance graph below shows the five-year cumulative total stockholder return on our common stock during the period from January 1, 2004 through December 31, 2008. This is compared with the cumulative total return of the Nasdaq Composite and the Philadelphia Semiconductor Index (SOXX) over the same period. The comparison assumes \$100 was invested on January 1, 2004 in Advanced Energy common stock and in each of the foregoing indices and assumes reinvestment of dividends, if any. Dollar amounts in the graph are rounded to the nearest whole



dollar. The performance shown in the graph represents past performance and should not be considered an indication of future performance.

**Table of Contents****ITEM 6. SELECTED FINANCIAL DATA**

The selected consolidated statement of operations data and the related consolidated balance sheet data were derived from the audited consolidated financial statements. The information 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 of Part II of this Form 10-K in order to understand more fully the factors that may affect the comparability of the information presented below.

	Years Ended December 31,				
	2008	2007	2006	2005	2004
	(In thousands, except per share data)				
Statement of Operations Data:					
Sales	\$ 328,918	\$ 384,699	\$ 410,742	\$ 325,482	\$ 380,537
Gross profit	124,782	162,809	175,218	117,081	114,626
Total operating expenses	111,658	116,869	107,829	101,107	118,093
Income (loss) from operations	13,124	45,940	67,389	15,974	(3,467)
Income (loss) from continuing operations before income taxes	16,007	50,750	72,066	3,622	(14,670)
Net income (loss)	(1,779)	34,361	88,322	12,817	(12,747)
Diluted earnings (loss) per share from continuing operations	\$ (0.04)	\$ 0.75	\$ 1.93	\$ 0.10	\$ (0.45)
Diluted earnings (loss) per share	\$ (0.04)	\$ 0.75	\$ 1.95	\$ 0.34	\$ (0.39)
Diluted weighted-average common shares outstanding	42,537	45,704	45,265	37,434	32,649
Balance Sheet Data:					
Cash, cash equivalents, marketable securities, and long-term investments	\$ 180,115	\$ 206,747	\$ 145,416	\$ 62,571	\$ 111,532
Working capital	239,566	305,955	247,798	143,633	206,915
Total assets	420,637	459,028	411,903	310,117	394,407
Total debt	164	243	329	4,190	196,123
Stockholder's equity	376,549	407,061	355,790	257,430	144,978

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

Certain statements set forth below under this caption constitute forward-looking statements. See Business Special Note Regarding Forward-Looking Statements in Item 1 of this report for additional factors relating to such statements, and see Risk Factors beginning on page 9 for a discussion of certain risks applicable to our business, financial condition and results of operations.

***Business Overview and Presentation***

We design, manufacture, sell and support industrial power conversion products that transform power into various usable forms. Our products enable manufacturing processes that use thin-film deposition for various products, such as semiconductor devices, flat panel displays, solar panels and architectural glass, as well as grid-tie power conversion in the solar market. We also supply gas flow control technology and thermal instrumentation products for control and detection of gases in the thin-film deposition process for these same markets.

Our global network of service centers provides local repair and field service capability in key regions. Our installed base provides a recurring revenue opportunity as we offer repair services, conversions, upgrades and refurbishments.

**Table of Contents**

In 2008, there were adverse changes in the overall business climate which caused deterioration in the markets in which we operate and as a result our revenues have declined substantially.

Our analysis presented below is organized to provide the information we believe will be instructive for understanding the relevant trends going forward. However, this discussion should be read in conjunction with our consolidated financial statements in Item 8 of this report, including the notes thereto.

***Results of Operations***

The following table sets forth, for the periods indicated, certain data derived from our Consolidated Statements of Operations:

	<b>Years Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>
	<b>(In thousands)</b>		
Sales	\$ 328,918	\$ 384,699	\$ 410,742
Gross profit	124,782	162,809	175,218
Operating expenses:			
Research and development	54,952	50,393	44,848
Selling, general and administrative	52,273	62,179	61,062
Amortization of intangible assets	946	1,010	1,808
Restructuring charges	3,487	3,287	111
Total operating expenses	111,658	116,869	107,829
Income from operations	13,124	45,940	67,389
Other income, net	2,883	4,810	4,677
Income from continuing operations before income taxes	16,007	50,750	72,066
Provision (benefit) for income taxes	17,786	16,389	(15,118)
Income (loss) from continuing operations	(1,779)	34,361	87,184
Income from discontinued operations, net of tax			1,138
Net income (loss)	\$ (1,779)	\$ 34,361	\$ 88,322

The following table sets forth, for the periods indicated, the percentage of revenues represented by certain items reflected in our Statements of Operations:

	<b>Years Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>
Sales	100.0%	100.0%	100.0%
Gross profit	37.9	42.3	42.7
Operating expenses:			
Research and development	16.7	13.1	10.9
Selling, general and administrative	15.9	16.2	14.9
Amortization of intangible assets	0.3	0.3	0.5
Restructuring charges	1.0	0.8	0.0
Total operating expenses	33.9	30.4	26.3
Income from operations	4.0	11.9	16.4

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Other income, net	0.9	1.3	1.1
Income from continuing operations before income taxes	4.9	13.2	17.5
Provision (benefit) for income taxes	5.4	4.3	(3.7)
Income (loss) from continuing operations	(0.5)	8.9	21.2
Income from discontinued operations, net of tax			0.3
Net income (loss)	(0.5)%	8.9%	21.5%

**Table of Contents****SALES**

The following tables summarize annual net sales, and percentages of net sales, by customer type for each of the years ended 2008, 2007 and 2006:

	Years Ended December 31,			Increase/(Decrease)		Percentage Change	
	2008	2007 (In thousands)	2006	2008 v 2007	2007 v 2006	2008 v 2007	2007 v 2006
				(In thousands)			
Semiconductor capital equipment	\$ 170,535	\$ 262,740	\$ 283,470	\$ (92,205)	\$ (20,730)	(35.1)%	(7.3)%
Non-semiconductor equipment	158,383	121,959	127,272	36,424	(5,313)	29.9	(4.2)
Total Sales	\$ 328,918	\$ 384,699	\$ 410,742	\$ (55,781)	\$ (26,043)	(14.5)%	(6.3)%

	Years Ended December 31,		
	2008	2007	2006
Semiconductor capital equipment	52%	68%	69%
Non-semiconductor equipment	48%	32%	31%
	100%	100%	100%

We provide product and services to a diverse range of markets and geographic regions with semiconductor capital equipment being our largest market, while sales to the solar market grew to become our second largest market during 2008. Total sales decreased by \$55.8 million, or 14.5%, in 2008 compared to 2007 and by \$26.0 million, or 6.3%, in 2007 as compared to 2006, primarily as a result of a weakened demand in the semiconductor capital equipment market. Sales to the semiconductor capital equipment market decreased by \$92.2 million, or 35.1%, in 2008 as compared to 2007 and by \$20.7 million, or 7.3%, in 2007 as compared to 2006.

Applied Materials Inc., our largest customer, accounted for \$69.3 million, or 21%, of our sales in 2008, as compared to \$111.6 million, or 29%, of our sales in 2007 and \$123.2 million, or 30%, in 2006. Our sales to Applied Materials include sales for the semiconductor capital equipment market, as well as the solar and flat panel display markets.

Sales to customers in the non-semiconductor markets accounted for 48% in 2008, 32% in 2007 and 31% in 2006. This shift in the balance of our business partially offset the decline in the semiconductor capital equipment market. The markets that comprise our non semiconductor markets include solar, flat panel display, data storage, architectural glass, and other industrial thin-film manufacturing equipment. Our customers in these markets, other than the solar market, are predominantly large original equipment manufacturers (OEM s) for new equipment.

The solar market was our fastest growing market in 2008 and 2007. Overall, product sales to customers in the solar market, which is included in non-semiconductor revenue above, comprised 17% in 2008, 7% in 2007 and 2% in 2006. Our investments in capacity for solar panel production lines have driven this growth in revenue. Our products are used in leading thin-film solar cell production technologies, such as polysilicon, copper indium gallium selenide (CIGS), copper indium selenide (CIS) and cadmium telluride. Sales of our Solaron® solar inverter are included in sales to the solar market.

Although we experienced growth in our non-semiconductor business in 2008, demand for our products is driven by requirements for capacity expansion in each of the markets we serve. We expect near term weakness in 2009 from the softness in the global economy that may impact our customers expansion plans, coupled with difficulties in obtaining

capital and deteriorating market conditions which may lead to the inability of our customers to obtain financing, resulting in a reduction of our sales to the non-semiconductor markets. We do, however, anticipate a continued shift in our business towards our non-semiconductor markets as we continue to invest in new technology and products for the solar market.

**GROSS PROFIT**

Our gross profit was \$124.8, or 37.9% in 2008, \$162.8 million, or 42.3% in 2007, and \$175.2 million, or 42.7% in 2006. The decrease in our gross profit, in both absolute dollars and as a percentage of revenue, in 2008 as compared to 2007 was primarily attributable to the decrease in revenue in the semiconductor capital equipment market which impacted utilization and additional costs incurred in transitioning additional manufacturing from the United States to Shenzhen, China as well as a decrease in the value of the US dollar, which resulted in increased material costs from our key European and Japanese suppliers.

Additionally, as a result of the weakening global economy, current market conditions and changing customer demand, we reviewed our end of life product and inventory strategies and our excess and obsolete inventory reserve policies. We determined that the uncertain market conditions negatively affected the longer-term demand for our parts and components on hand. This change in estimate resulted in an approximately \$4.0 million increase to our reserve for excess and obsolete inventory, therefore increasing cost of goods sold and decreasing gross profit.

**Table of Contents**

The decrease in our gross profit, in both absolute dollars and as a percentage of revenue, in 2007 as compared to 2006 was primarily attributable to lower revenue which impacted utilization as well as the cost incurred for the transition of manufacturing from Stolberg, Germany to Shenzhen, China and an additional charge of \$2.2 million related to a change in estimates of warranty expenses for two products.

***OPERATING EXPENSES***

The following table summarizes our operating expenses as a percentage of sales for the years ended 2008, 2007 and 2006:

	Years Ended December 31,					
	2008		2007		2006	
	(In thousands)					
Research and development	\$ 54,952	16.7%	\$ 50,393	13.1%	\$ 44,848	10.9%
Selling, general and administrative	52,273	15.9%	62,179	16.2%	61,062	14.9%
Amortization of intangible assets	946	0.3%	1,010	0.3%	1,808	0.5%
Restructuring charges	3,487	1.0%	3,287	0.8%	111	0.0%
Total operating expenses	\$ 111,658		\$ 116,869		\$ 107,829	

***RESEARCH AND DEVELOPMENT***

The market for our products is characterized by ongoing technological changes. We believe that continued and timely development of new, highly differentiated products and enhancements to our existing products in support of customer requirements is necessary for us to maintain a competitive position in the markets we serve. Accordingly, we continue to devote a significant portion of our personnel and financial resources to research and development projects and seek to maintain close relationships with our customers and other industry leaders in order to remain responsive to their current and future product requirements. We believe that the continued investment in research and development and ongoing development of new products are essential to the expansion of our markets, and expect to continue to make significant investments in research and development activities. All of our research and development costs have been expensed as incurred.

Research and development costs were \$55.0 million, or 16.7% of sales, in 2008, \$50.4 million, or 13.1% of sales, in 2007 and \$44.8 million, or 10.9% of sales, in 2006. The increase in both periods is a result of increases in compensation and material expenses related to the development of new platforms and the costs associated with the sustaining engineering of existing platforms. Research and development costs have supported business growth opportunities, including the development and release of several new power conversion platforms including Paramount®, an advanced RF power supply, and Solaron®, our transformerless photovoltaic (PV) inverter.

We expect to continue these investments in order to deliver an expanded product suite to many of the markets we currently serve.

***SELLING, GENERAL AND ADMINISTRATIVE***

Our selling expenses support domestic and international sales and marketing activities that include personnel, trade shows, advertising, third-party sales representative commissions, and other selling and marketing activities. Our general and administrative expenses support our worldwide corporate, legal, tax, financial, governance, administrative, information systems and human resource functions in addition to our general management.

Selling, general and administrative costs were \$52.3 million, or 15.9% of sales, in 2008, \$62.2 million, or 16.2% of sales, in 2007 and \$61.1 million, or 14.9% of sales, in 2006.

The decrease in selling, general and administrative costs in 2008 as compared to 2007 was a result of the reductions of personnel and related costs aimed at reducing administrative burden and increasing efficiencies. We have also implemented cost reductions in all discretionary spending areas, such as travel, trade shows and professional fees. Additionally, third party sales compensation to independent sales representatives was lower due to a decrease in overall sales revenue.

As part of our cost reduction efforts in 2008 related to general and administrative expenses, we continue to consolidate worldwide accounting processing functions in a shared services center in Shenzhen, China.



## **Table of Contents**

The increase in selling, general and administrative costs in 2007 as compared to 2006 was driven by increased fees related to audit and legal services as well as compensation expense, offset by decreases in insurance expense, property tax expense and depreciation.

### ***AMORTIZATION OF INTANGIBLE ASSETS***

Amortization of intangible assets was \$0.9 million in 2008, \$1.0 million in 2007 and \$1.8 million in 2006. This amortization is related to the value of non-technology-related assets, such as contracts and non-compete agreements, and were acquired in connection with previously completed acquisitions.

### ***RESTRUCTURING CHARGES***

Restructuring costs are related to actions we took primarily in response to downturns in the semiconductor capital equipment industry. These costs were incurred to exit an activity or cancel an existing contractual obligation, including the closure of facilities and employee termination related charges.

During 2008, we recognized restructuring costs of \$3.5 million, of which \$3.2 million was associated with global cost reduction plans implemented at various times throughout the year made through job elimination. The remaining \$0.3 million of restructuring charges recognized in 2008 was a result of a plan to transition the production of a number of our legacy products from our manufacturing facility in Fort Collins, Colorado to our manufacturing facility in Shenzhen, China. This activity in 2008 led to the elimination of approximately 140 positions on a worldwide basis.

In 2007, we closed our operation in Stolberg, Germany. Related to this closure, we recorded restructuring charges of \$3.3 million, consisting primarily of impairment on real and personal property and employee severance and benefit costs associated with the reduction of employees at the facility.

### ***OTHER INCOME (EXPENSE)***

Other income (expense) consists primarily of interest income and expense, foreign exchange gains and losses and other miscellaneous gains, losses, income and expense items.

Other income was \$2.9 million in 2008, \$4.8 million in 2007 and \$4.7 million in 2006. The decrease of \$1.9 million in 2008 as compared to 2007 was primarily driven by a \$1.4 million decrease in interest income and a net \$0.5 million loss related to the valuation of our auction rate securities and Put Agreement. The decrease related to interest income was a result of lower interest rate opportunities being offered in the financial markets and a decrease in our invested funds due to a \$49.8 million buyback of the Company's stock.

The increase of \$0.1 million in 2007 as compared to 2006 was driven by a \$2.6 million increase in interest income, which resulted from higher interest rates on short-term securities as well as an improved cash position of investable cash over the comparable period. This increase was offset by a \$2.5 million increase in foreign exchange loss. These losses were attributable to an increase in realized and unrealized foreign currency transaction losses, primarily related to the Japanese yen, Korean won and the euro strengthening relative to the US dollar.

### ***PROVISION FOR INCOME TAXES***

We account for income taxes in accordance with SFAS No. 109, Accounting for Income Taxes. SFAS No. 109 requires deferred tax assets and liabilities to be recognized for temporary differences between the tax basis and financial reporting basis of assets and liabilities, computed at the enacted tax rates for the periods in which the assets or liabilities will be realized, as well as for the expected tax benefit of net operating loss and tax credit carryforwards.

Prior to December 31, 2006, management could not conclude that it was more likely than not that these net deferred tax assets would be realized.

Based on our 2005 and 2006 operating results, our management, in accordance with SFAS No. 109, evaluated the recoverability of our net deferred tax assets and concluded that it was more likely than not that the majority of net deferred tax assets would be realized, resulting in a reduction in the valuation allowance of \$39.3 million during the year ended December 31, 2006. Based on our 2008 operating results and projection of future operating results within the United States, our management evaluated the recoverability of our deferred tax assets in the United States and concluded a portion of our U.S. deferred tax assets were not recoverable under the more likely than not criteria in SFAS 109. As such, an increase to the valuation allowance of \$18.0 million dollars was recorded during the year ended December 31, 2008. The ultimate realization of these deferred tax assets is dependent upon the generation of

**Table of Contents**

approximately \$45.3 million of future taxable income in the U.S., the timing and amount of which is uncertain. We assess the recoverability of our net deferred tax assets on a quarterly basis. If our expectation of future realization of our deferred tax assets changes, we will adjust the valuation allowance with a corresponding change in income tax expense in such period.

The income tax expense of \$17.8 million in 2008 represents an effective tax rate on income from continuing operations of 111.1%. The income tax expense of \$16.4 million in 2007 represents an effective tax rate on income from continuing operations of 32.3%. The income tax benefit of \$15.1 million in 2006 represents an effective tax rate on income from continuing operations of 21.0%.

The increase in the effective tax rate in 2008 as compared to 2007 resulted primarily from the recording of the additional valuation allowance discussed above and a change in the profitability mix between the U.S. and our global subsidiaries, whereby more income was generated at our lower income tax subsidiaries during 2008 than in the comparable period. The negative rate in 2006 includes the impact of the reversal of the valuation allowance discussed above.

**DISCONTINUED OPERATIONS**

Income from discontinued operations was \$1.1 million in 2006 from the release of funds held in escrow relating to the EMCO product line sold in 2005.

**GOODWILL IMPAIRMENT**

We experienced a cyclical slowdown in demand during fiscal 2008 that has continued into the first quarter of 2009. As a result, our market capitalization has declined below the levels of our carrying value of the Company. As of February 18, 2009, our market capitalization was below our carrying value and our goodwill may be impaired. We expect to proceed with step two of the goodwill impairment analysis during the first quarter of 2009, which may result in an impairment charge of up to \$66.2 million in 2009.

**QUARTERLY RESULTS OF OPERATIONS**

The following tables present unaudited quarterly results in dollars and as a percentage of sales for each of the eight quarters in the period ended December 31, 2008. We believe that all necessary adjustments have been included in the amounts stated below to present fairly such quarterly information. Due to the volatility of the industries in which our customers operate, the operating results for any quarter are not necessarily indicative of results for any subsequent period.

	Quarter Ended							
	Dec. 31, 2008	Sept. 30, 2008	Jun. 30, 2008	Mar. 31, 2008	Dec. 31, 2007	Sept. 30, 2007	Jun. 30, 2007	Mar. 31, 2007
	(In thousands, except per share data)							
Sales	\$ 67,525	\$ 84,510	\$ 87,996	\$ 88,887	\$ 83,836	\$ 90,491	\$ 103,049	\$ 107,323
Gross Profit	18,397	35,261	35,276	35,848	32,819	36,726	44,955	48,309
Restructuring	1,898	522	393	674	(219)	556	158	2,792
Income (loss)								
from operations	(6,695)	5,498	6,940	7,381	4,235	7,495	16,270	17,940
Net income (loss)	\$ (18,977)	\$ 5,369	\$ 5,863	\$ 5,966	\$ 4,167	\$ 5,856	\$ 11,667	\$ 12,671
Diluted earnings per share	\$ (0.45)	\$ 0.13	\$ 0.14	\$ 0.13	\$ 0.09	\$ 0.13	\$ 0.25	\$ 0.28

	Quarter Ended							
	Dec. 31, 2008	Sept. 30, 2008	Jun. 30, 2008	Mar. 31, 2008	Dec. 31, 2007	Sept. 30, 2007	Jun. 30, 2007	Mar. 31, 2007

**Percentage of  
Sales:**

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Sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Gross Profit	27.2%	41.7%	40.1%	40.3%	39.1%	40.6%	43.6%	45.0%
Restructuring	2.8%	0.6%	0.4%	0.8%	-0.3%	0.6%	0.2%	2.6%
Income (loss)								
from operations	-9.9%	6.5%	7.9%	8.3%	5.1%	8.3%	15.8%	16.7%
Net income (loss)	-28.1%	6.4%	6.7%	6.7%	5.0%	6.5%	11.3%	11.8%

**Impact of Inflation**

In recent years, inflation has not had a significant impact on our operations. However, we continuously monitor operating price increases, particularly in connection with the supply of component parts used in our manufacturing process. To the extent permitted by competition, we pass increased costs on to our customers by increasing sales prices over time. Sales price increases, however, were not significant in any of the years presented herein.

**Recent Accounting Pronouncements**

In December 2007, the FASB issued SFAS No. 141(R), Business Combinations, ( SFAS 141(R) ) as part of a joint project with the International Accounting Standards Board. SFAS 141(R) provides for several significant changes to existing accounting practices

## **Table of Contents**

for business combinations. Most notably, (i) acquisition-related transaction costs, such as legal and professional fees, shall be expensed rather than accounted for as part of the acquisition cost; (ii) acquired in-process research and development shall be capitalized rather than expensed at the acquisition date; and (iii) contingent consideration shall be recorded at fair value at the acquisition date rather than the points in time that payment becomes probable. SFAS 141(R) applies to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. The adoption of SFAS 141(R) will likely impact our results of operations and financial position to the extent that we make acquisitions subsequent to December 31, 2008.

We adopted the provisions of SFAS No. 157, Fair Value Measurements (SFAS 157) on January 1, 2008. SFAS 157 defines fair value, establishes a market-based framework or hierarchy for measuring fair value, and expands disclosures about fair value measurements. SFAS 157 is applicable whenever another accounting pronouncement requires or permits assets and liabilities to be measured at fair value. SFAS 157 does not expand or require any new fair value measures; however the application of this statement may change current practice. In February 2008, the FASB decided that an entity need not apply this standard to nonfinancial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a nonrecurring basis until 2009. Accordingly, our adoption of this standard in 2008 was limited to financial assets and liabilities, which primarily affects the valuation of our foreign currency contracts and marketable securities.

In February 2007, the FASB issued SFAS No. 159, The Fair Value Option for Financial Assets and Financial Liabilities Including an amendment of FASB Statement No. 115 (SFAS 159). SFAS 159 expands the use of fair value accounting but does not affect existing standards that require assets or liabilities to be carried at fair value. Under SFAS 159, a company may elect to use fair value to measure accounts and loans receivable, available-for-sale and held-to-maturity securities, equity method investments, accounts payable, guarantees and issued debt. Other eligible items include firm commitments for financial instruments that otherwise would not be recognized at inception and non-cash warranty obligations where a warrantor is permitted to pay a third party to provide the warranty goods or services. If the use of fair value is elected, any upfront costs and fees related to the item must be recognized in earnings and cannot be deferred, such as debt issuance costs. The fair value election is irrevocable and generally made on an instrument-by-instrument basis, even if a company has similar instruments that it elects not to measure based on fair value. At the adoption date, unrealized gains and losses on existing items for which fair value has been elected are reported as a cumulative adjustment to beginning retained earnings. Subsequent to the adoption of SFAS 159, changes in fair value are recognized in earnings. SFAS 159 is effective for financial statements issued for fiscal years beginning after November 15, 2007. We have elected this fair value option for the Put Agreement entered into with the financial institution that manages our ARS. Our ARS holdings to which the Put Agreement relates have a cost basis of approximately \$30.9 million and a fair value at December 31, 2008 of approximately \$24.9 million. We expect that the value of the Put Agreement and subsequent changes in the value of the Put Agreement will largely offset the other-than-temporary impairment on the ARS and subsequent fair value movements of the ARS, subject to the continued expected performance by the financial institution of its obligations under the agreement. The fair value of the Put Agreement as of December 31, 2008 was \$5.5 million.

In March 2008, the FASB issued SFAS No. 161, Disclosures about Derivative Instruments and Hedging Activities an amendment of FASB Statement No. 133. This statement requires additional disclosures regarding the effect of hedging activities on a company's results. This statement is effective for financial statements issued for fiscal years and interim periods beginning after November 15, 2008, which would be our first quarter of 2009. The implementation of this standard will impact our disclosures about our derivative instruments, including our forward currency contracts.

In April 2008, the Financial Accounting Standards Board (FASB) issued FASB Staff Position (FSP) No. 142-3, Determination of the Useful Life of Intangible Assets (FSP 142-3). FSP 142-3 amends the factors an entity should consider in developing renewal or extension assumptions used in determining the useful life of recognized intangible assets under FASB Statement No. 142, Goodwill and Other Intangible Assets. This new guidance applies prospectively to intangible assets that are acquired individually or with a group of other assets in business combinations and asset acquisitions. FSP 142-3 is effective for financial statements issued for fiscal years and interim periods beginning after December 15, 2008. Early adoption is prohibited. We are evaluating the potential impact of the implementation of FSP 142-3 on our financial position and results of operations.

In October 2008, the FASB issued Staff Position No. FAS 157-3, *Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active* ( FSP FAS 157-3 ). FSP FAS 157-3 clarified the application of FAS 157. FSP FAS 157-3 demonstrated how the fair value of a financial asset is determined when the market for that financial asset is inactive. FSP FAS 157-3 was effective upon issuance, including for prior periods for which financial statements had not been issued. Our ARS holdings to which this relates have a cost basis of approximately \$30.9 million and a fair value of approximately \$24.9 million at December 31, 2008.

From time to time, new accounting pronouncements are issued by the FASB or other standards setting bodies that are adopted by us as of the specified effective date. Unless otherwise discussed, our management believes that the impact of recently issued standards that are not yet effective will not have a material impact on our consolidated financial statements upon adoption.

## **Table of Contents**

### **Liquidity and Capital Resources**

Our primary sources of liquidity are our available cash and investments. We utilize these capital resources to make capital expenditures primarily for our operational needs, investment in technology applications and tools to further develop our products and for other general corporate purposes, which have included repurchase of our common stock in the open market and acquisitions. In future periods, we intend similar uses of these funds.

During 2008, we generated \$72.9 million from the sale of marketable securities, \$24.6 million in cash from operating activities and \$1.4 million in cash from the issuance of stock under our employee equity plans. Further, we used \$49.8 million in cash for the repurchase and retirement of our common stock, purchased \$21.2 million of marketable securities, used \$7.2 million for capital expenditures and used \$0.1 million in other financing activities, resulting in a \$21.9 million increase in available cash (including the favorable effects of international currency exchange rates on cash of \$1.2 million).

Net cash flows provided by operating activities in 2008 were \$24.6 million, compared to \$61.8 million in 2007 and \$88.3 million in 2006. The \$37.2 million decrease in net cash flows from operating activities was due to a \$28.5 million decrease in net income after adjusting for non-cash reconciling items such as depreciation and amortization, stock-based compensation and deferred income taxes and a net decrease of \$8.7 million in cash flows from changes in operating assets and liabilities.

Capital expenditures, which are generally funded by cash generated from operating activities and available cash balances, were \$7.2 million in 2008, compared to \$8.9 million in 2007 and \$6.1 million in 2006. Capital expenditures in all three years primarily include the cost of lab and testing equipment to support sustaining engineering and new product development efforts.

At December 31, 2008, our long-term investments had a fair value of \$24.9 million and consisted of ARS whose underlying assets are primarily student loans originated under the Federal Family Education Loan Program ( FFELP ). FFELP student loans are guaranteed by state guarantors who have reinsurance agreements with the U.S. Department of Education. These ARS were intended to provide liquidity via an auction process that resets the applicable interest rate approximately every 30 days and allows investors to either roll over their holdings or gain immediate liquidity by selling such investments at par. The underlying maturities of these investments range from 18 to 39 years. As a result of negative conditions in the global credit markets, since February 2008, the majority of the auctions for our investment in these securities have failed to settle, causing us to hold such securities. Consequently, the investments are not currently liquid and we will not be able to access these funds until a future auction of these investments is successful or a buyer is found outside of the auction process. To this end, in November 2008, we executed the Put Agreement and expect to liquidate all of our remaining ARS at par during the latter half of 2010. We do not expect to incur any loss of principal; however, until we liquidate our ARS, we will recognize any changes in fair value of the ARS or Put Agreement in earnings. We expect the value of the Put Agreement and subsequent changes in the value of the Put Agreement will largely offset the other-than-temporary impairment on the ARS and subsequent fair value movements of the ARS, subject to the continued performance by the financial institution of its obligations under the agreement.

During 2007, we generated \$88.5 million from the sale of marketable securities, \$61.8 million in cash from operating activities, received \$4.9 million from the issuance of stock and generated \$2.2 million from the proceeds of asset sales. Further, we used \$112.4 million in the purchase of marketable securities, \$8.9 million in the purchase of property and equipment and \$0.1 million to repay senior borrowings and capital lease obligations. All of the above activity resulted in a \$36.3 million increase in available cash (including the favorable effects of international currency exchange rates on cash of \$0.3 million).

During 2006, we generated \$88.3 million from operating activities, \$3.3 million from the issuance of stock, \$2.0 million in proceeds from the sale of marketable securities and \$0.5 million from the sale of assets. Further, we used \$79.4 million for the purchase of marketable securities, \$6.1 million for the purchase of property and equipment and \$4.0 million for the repayment of senior borrowings and capital lease obligations. All of the above activity resulted in a \$5.4 million increase in available cash (including the favorable effects of international currency exchange rates on cash of \$0.8 million).

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Our working capital decreased \$66.4 million, or 21.7%, to \$239.6 million at December 31, 2008 from \$306.0 million at December 31, 2007. The decrease was primarily due to decreases in cash and marketable securities of \$55.6 million as a result of the reclassification of auction rate securities to long-term investments and the stock repurchase program.

On July 5, 2008, our \$25 million secured revolving line of credit expired and was not renewed.

**Table of Contents**

At December 31, 2008, we had \$180.1 million in cash, cash equivalents and marketable securities, including our auction rate securities. We believe that our current cash levels and cash flows from future operations will be adequate to meet anticipated working capital needs, funding of potential acquisitions, anticipated levels of capital expenditures and contractual obligations for the foreseeable future.

**Off Balance Sheet Arrangements**

We have no off-balance sheet arrangements as defined under Item 303 (a)(4) of Regulation S-K.

**Contractual Obligations**

The following table sets forth our future payments due under contractual obligations as of December 31, 2008:

<b>Contractual Obligations</b>	<b>Total</b>	<b>Less than 1 year</b>	<b>1-3 years</b>	<b>3-5 years</b>	<b>More than 5 years</b>
Long-term debt obligations	\$	\$	\$	\$	\$
Capital lease obligations	164	89	62	13	
Operating lease obligations	20,284	5,734	7,316	3,767	3,467
Purchase obligations	26,365	26,365			
Other long-term liabilities reflected on the registrant's balance sheet under GAAP					
<b>Total</b>	<b>\$ 46,813</b>	<b>\$ 32,188</b>	<b>\$ 7,378</b>	<b>\$ 3,780</b>	<b>\$ 3,467</b>

As of December 31, 2008, we have \$7.9 million in uncertain tax positions, net of federal benefit. Because of the uncertainty of the amounts to be ultimately paid as well as the timing of such payments, these liabilities are not reflected in the contractual obligations table.

**Critical Accounting Policies and Estimates**

The preparation of consolidated financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America requires management to make judgments, assumptions and estimates that affect the amounts reported. Note 1 of Notes to Consolidated Financial Statements describes the significant accounting policies used in the preparation of the consolidated financial statements. Certain of these significant accounting policies are considered to be critical accounting policies.

A critical accounting policy is defined as one that is both material to the presentation of our consolidated financial statements and requires management to make difficult, subjective or complex judgments that could have a material effect on our financial condition or results of operations. Specifically, these policies have the following attributes: (1) We are required to make assumptions about matters that are highly uncertain at the time of the estimate; and (2) different estimates we could reasonably have used, or changes in the estimate that are reasonably likely to occur, would have a material effect on our financial condition or results of operations.

Estimates and assumptions about future events and their effects cannot be determined with certainty. We base our estimates on historical experience and on various other assumptions believed to be applicable and reasonable under the circumstances. These estimates may change as new events occur, as additional information is obtained and as our operating environment changes. These changes have historically been minor and have been included in the consolidated financial statements as soon as they became known. In addition, management is periodically faced with uncertainties, the outcomes of which are not within its control and will not be known for prolonged periods of time. These uncertainties are discussed in the section above entitled Risk Factors. Based on a critical assessment of our accounting policies and the underlying judgments and uncertainties affecting the application of those policies, management believes that our consolidated financial statements are fairly stated in accordance with accounting principles generally accepted in the United States of America, and provide a meaningful presentation of our financial



condition and results of operations.

Management believes that the following are critical accounting estimates:

**WARRANTY COSTS** We offer warranty coverage for a majority our products for periods typically ranging from 12 to 24 months after shipment. We warrant our solar inverter for five years, and we offer extended warranties for up to an additional five years. We estimate the anticipated costs of repairing products under warranty based on the historical or expected cost of the repairs and expected failure rates. The assumptions used to estimate warranty accruals are reevaluated quarterly, at a minimum, in light of actual experience and, when appropriate, the accruals or the accrual percentage is adjusted based on specific estimates of project repair

25

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**Table of Contents**

costs and quantity of product returns. Our determination of the appropriate level of warranty accrual is based on estimates of the percentage of units affected and the repair costs. Estimated warranty costs are recorded at the time of sale of the related product, and are recorded within cost of sales in the consolidated statements of operations.

**EXCESS AND OBSOLETE INVENTORY** Reserves are provided for excess and obsolete inventory, which are estimated based on a comparison of the quantity of inventory on hand to management's forecast of customer demand. Customer demand is dependent on many factors, including both micro and macroeconomic, and requires us to use significant judgment in our forecasting process. We must also make assumptions regarding the rate at which new products will be accepted in the marketplace, the rate at which customers will transition from older products to newer products, effect of engineering changes to a product or discontinuance of a product line. If actual market conditions or our customers' product demands are less favorable than those projected, additional valuation adjustments may be necessary.

In the fourth quarter of 2008, as a result of the weakening global economy, current market conditions and changing customer demand, we reviewed our end of life product and inventory strategies and our excess and obsolete inventory reserve policies. We determined that the uncertain market conditions negatively affected our longer-term demand on our parts and components on hand. This change in estimate resulted in an approximate \$4.0 million increase to our reserve for excess and obsolete inventory, therefore increasing cost of goods sold and decreasing gross profit.

We will continue to evaluate the estimates related to our excess and obsolete inventory reserve. If market conditions and customer demand continue to weaken in future periods, we may determine that increases in our reserve and, therefore, further increases in cost of goods sold and decreases in gross profit may be necessary.

**GOODWILL IMPAIRMENT** Goodwill represents the excess of the cost over the fair market value of net tangible and identifiable intangible assets of acquired businesses. Goodwill is not amortized. We use a two-step approach to assess our goodwill annually, or more frequently, if events or changes in circumstances indicate that goodwill might be impaired. We have elected to perform our annual goodwill impairment testing as required under FAS 142 on October 31 of each fiscal year. In step 1 of the assessment we compare the fair value of the reporting unit to the carrying value of the reporting unit to determine if an impairment of goodwill is indicated. If no impairment is indicated in Step 1 no additional analysis is performed. Should an impairment be indicated we would determine any loss in Step 2 by comparing the implied fair value of goodwill to the carrying amount of goodwill. We have estimated fair value in step 1 based on our market capitalization. As of October 31, 2008 and December 31, 2008, our market capitalization exceeded the fair value of our reporting unit. As such we have concluded no impairment of goodwill existed at either date.

We experienced a cyclical slowdown in demand during fiscal 2008 that has continued into the first quarter of 2009. As a result, as of February 18, 2009, our market capitalization was below our carrying value and goodwill may be impaired. We expect to proceed with step 2 of the goodwill impairment analysis during the first quarter of 2009, which may result in an impairment charge of up to \$66.2 million in 2009.

**FAIR VALUE OF AUCTION RATE SECURITIES** We value our financial assets and liabilities using the methods of fair value measurement as described in SFAS No. 157. As defined in SFAS No. 157, fair value is based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In order to increase consistency and comparability in fair value measurements, SFAS No. 157 establishes a fair value hierarchy that prioritizes observable and unobservable inputs used to measure fair value into three broad levels, which are described below:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that are accessible at the measurement date for assets or liabilities. The fair value hierarchy gives the highest priority to Level 1 inputs.

Level 2: Observable prices that are based on inputs not quoted in active markets, but corroborated by direct or indirect market data.

Level 3: Unobservable inputs, developed using the Company's estimates and assumptions, which reflect those that market participants would use. Such inputs are used when little or no market data is available. The fair value hierarchy gives the lowest priority to Level 3 inputs.

The fair value of our ARS and Put Agreement were determined using Level 3 inputs. Some of the inputs into the discounted cash flow models we use are unobservable in the market and have a significant effect on valuation. The

assumptions used in preparing the models include, but are not limited to, periodic coupon rates, market required rates of return and the expected term of each security. The coupon rate was estimated using implied forward rate data on interest rate swaps and U.S. treasuries, and limited where necessary by any contractual maximum rate paid under a scenario of continuing auction failures. We believe implied forward rates inherently account for a lack of liquidity. In making assumptions of the required rates of return, we considered risk-free interest rates and credit spreads for investments of similar credit quality. The expected term for the ARS was based on a weighted probability-based estimate of the time the principal will become available to us. The expected term for the Put Agreement was based on the earliest date on which we can exercise our put. The principal can become available under three different scenarios: (1) the ARS is called; (2) the market has returned to normal and auctions have recommenced and are successful; and (3) the principal has reached maturity.

**INCOME TAXES** We assess the recoverability of our net deferred tax assets on a quarterly basis. Our assessment includes a number of factors, including historical results and income projections for each jurisdiction. At December 31, 2008, the Company has gross deferred income tax assets of \$40.0 million in the United States, a significant portion of which relates to net operating loss and tax credit carryforwards, for which a valuation allowance of \$23.3 million has been provided. The ultimate realization of deferred income tax assets is dependent on the generation of future taxable income in appropriate jurisdictions during the periods in which those temporary differences are deductible. Management considers the scheduled reversal of deferred income tax liabilities, projected future taxable income, and tax planning strategies in determining the amount of the valuation allowance. Based on the level of historical taxable income and projections for future taxable income over the periods in which the deferred income tax assets are deductible, management determines if it is more likely than not that the Company will realize the benefits of these deductible differences. As of December 31, 2008, the most significant factors considered in determining the realizability of these deferred tax assets was our profitability over the past three years, the historical cyclicity of the markets in which we operate and our projected profitability during these cycles. The Company needs to generate approximately \$45.3 million in pre-tax income in the United States prior to the expiration of our net operating loss and tax credit carryforwards to fully utilize these net deferred tax assets.

We adopted the provisions of FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes* an interpretation of FASB Statement 109 ( FIN 48 ) as of January 1, 2007. FIN 48 requires use of a benefit recognition model with a two-step approach: (i) a more-likely-than-not recognition criterion and (ii) a measurement attribute that measures the position as the largest amount of tax benefit that is greater than 50% likely of being realized upon ultimate settlement. If it is not more likely than not that the benefit will be sustained on its technical merits, no benefit is recorded. We recognize accrued interest related to unrecognized tax benefits as a portion of our income tax provision in the consolidated statements of operations.

## **Table of Contents**

**STOCK-BASED COMPENSATION** We apply the provisions of SFAS No. 123(R) to account for its stock plans and employee stock purchase plan, which requires the recognition of the fair value of stock-based compensation in the statement of income. The fair value of stock options and purchase rights pursuant to the employee stock purchase plan is estimated using the Black-Scholes valuation model. This model requires the input of highly subjective assumptions, including expected life of the award and expected stock price volatility. The fair value of restricted stock units is determined based upon our closing stock price on the grant date. The fair value of stock-based awards expected to vest is amortized over the requisite service period, typically the vesting period, of the award on a straight-line basis.

**COMMITMENTS AND CONTINGENCIES** From time to time we are involved in disputes and legal actions arising in the normal course of our business. While we currently believe that the amount of any ultimate loss would not be material to our financial position, the outcome of these actions is inherently difficult to predict. In the event of an adverse outcome, the ultimate loss could have a material adverse effect on our financial position or reported results of operations in a particular quarter. An unfavorable decision, particularly in patent litigation, could require material changes in production processes and products or result in our inability to ship products or components found to have violated third-party patent rights. We accrue loss contingencies in connection with our commitments and contingencies, including litigation, when it is probable that a loss has occurred or will occur and the amount of the loss can be reasonably estimated.

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

### **Interest Rate Risk**

Our market risk exposure relates to changes in interest rates in our investment portfolio. We generally place our investments with high-credit quality issuers and by policy are averse to principal loss and seek to protect and preserve our invested funds by limiting default risk, market risk and reinvestment risk. As of December 31, 2008, our investments consisted primarily of commercial paper, municipal bonds, auction rate securities and notes and institutional money markets.

As a measurement of the sensitivity of our portfolio, if interest rates were to fluctuate by 100 basis points, the impact on total yield would be approximately \$0.7 million.

### **Auction Rate Securities Risk**

We face market risk exposure associated with our investments in auction rate securities. Our investments in auction rate securities ARS were classified as available for sale securities and recorded at fair value of \$24.9 million at December 31, 2008. The underlying securities related to these investments were student loans, which accounted for \$23.3 of the recorded fair value, and other municipal holdings, which accounted for the remaining \$1.6 million of the recorded fair value. These ARS are intended to provide liquidity via an auction process that resets the applicable interest rate approximately every 30 days and allows investors to either roll over their holdings or gain immediate liquidity by selling such investments at par. As a result of current negative conditions in the global credit markets, since February 2008, the large majority of the auctions for our investment in these securities have failed to settle, causing us to continue to hold the securities. Based on the estimated fair value of the ARS, during 2008, we recorded an unrealized loss on these securities of approximately \$5.9 million, reflecting the decline in the estimated fair value of these securities. We continue to monitor the market for auction rate securities and consider its impact, if any, on the fair value of these investments. If current market conditions deteriorate further, we may be required to record additional unrealized losses.

In November 2008, we executed a non-transferrable auction rate securities rights agreement (the Put Agreement) with a financial institution that provides us with the ability to sell certain of our ARS to the financial institution, at our sole discretion, and obligates the financial institution to purchase such ARS, at par during the period June 30, 2010 through July 2, 2012. The Put Agreement had a fair value of \$5.5 million at December 31, 2008. The benefits of the Put Agreement are subject to the continued performance by the financial institution of its obligations under the agreement.

### **Foreign Currency Exchange Rate Risk**

We transact business in various foreign countries. Our primary foreign currency cash flows are generated in countries in Asia and Europe. It is highly uncertain how currency exchange rates will fluctuate in the future. Periodically, we enter into various foreign currency forward exchange contracts to mitigate risk of currency

fluctuations in the British pound, European euro, Japanese yen, Taiwanese dollar, South Korean won and Chinese yuan.

We incurred a loss of \$0.8 million in 2008 on foreign currency forward contract transactions. This loss was recorded in other income (expense), net on the income statement. As of December 31, 2008, we had no outstanding foreign currency contracts.

**Table of Contents**

**ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

<u>Reports of Grant Thornton LLP, Independent Registered Public Accounting Firm</u>	29
<u>Consolidated Balance Sheets as of December 31, 2008 and 2007</u>	31
<u>Consolidated Statements of Operations for the Years Ended December 31, 2008, 2007 and 2006</u>	32
<u>Consolidated Statements of Stockholders' Equity for the Years Ended December 31, 2008, 2007 and 2006</u>	33
<u>Consolidated Statements of Cash Flows for the Years Ended December 31, 2008, 2007 and 2006</u>	34
<u>Notes to Consolidated Financial Statements</u>	35

**Table of Contents**

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

Board of Directors and Stockholders

Advanced Energy Industries, Inc.

We have audited the accompanying consolidated balance sheets of Advanced Energy Industries, Inc. (a Delaware corporation) and subsidiaries (the Company) as of December 31, 2008 and 2007, and the related statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2008. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Advanced Energy Industries, Inc. and subsidiaries as of December 31, 2008 and 2007, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2008, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Notes 1 and 7 to the consolidated financial statements, the Company adopted Financial Accounting Standards Board Interpretation No. 48, *Accounting for Uncertainty in Income Taxes*—an interpretation of FASB Statement No. 109, on January 1, 2007. As discussed in Notes 1 and 5 to the consolidated financial statements, the Company adopted Statement of Financial Accounting Standard No. 157, *Fair Value Measurements*, and Statement of Financial Accounting Standard No. 159, *The Fair Value Option for Financial Assets and Liabilities*—Including an amendment of FASB Statement No. 115, on January 1, 2008.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Advanced Energy Industries, Inc. and subsidiaries' internal control over financial reporting as of December 31, 2008, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and our report dated February 25, 2009 expressed an unqualified opinion.

/s/ GRANT THORNTON LLP

Denver, Colorado

February 25, 2009

**Table of Contents**

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

Board of Directors and Shareholders

Advanced Energy Industries, Inc.

We have audited Advanced Energy Industries, Inc. (a Delaware Corporation) and subsidiaries (the Company) internal control over financial reporting as of December 31, 2008, based on criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting appearing under Item 9A of the Company's Annual Report on Form 10-K for the year ended December 31, 2008. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

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

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

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Advanced Energy Industries, Inc. and subsidiaries maintained, in all material respects, effective internal control over financial reporting as of December 31, 2008, based on criteria established in *Internal Control Integrated Framework* issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Advanced Energy Industries, Inc. and subsidiaries as of December 31, 2008 and 2007, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2008, and our report dated February 25, 2009 expressed an unqualified opinion.

/s/ GRANT THORNTON LLP

Denver, Colorado

February 25, 2009



**Table of Contents**

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**  
**Consolidated Balance Sheets**  
(In thousands, except per share amounts)

	<b>December 31,</b>	
	<b>2008</b>	<b>2007</b>
<b>ASSETS</b>		
<b>CURRENT ASSETS:</b>		
Cash and cash equivalents	\$ 116,448	\$ 94,588
Marketable securities	33,266	110,676
Accounts receivable, net	56,549	61,545
Inventories, net	46,659	50,532
Deferred income tax assets	13,253	23,696
Other current assets	5,324	6,932
Total current assets	271,499	347,969
PROPERTY AND EQUIPMENT, net	31,322	30,912
<b>OTHER ASSETS:</b>		
Deposits and other	7,505	5,562
Long-term investments	30,401	1,483
Goodwill	66,163	61,406
Other intangible assets, net	6,755	6,362
Customer service equipment, net	23	1,236
Deferred income tax assets	6,969	4,098
Total assets	\$ 420,637	\$ 459,028
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES:</b>		
Accounts payable	\$ 8,005	\$ 12,424
Income taxes payable	2,679	5,692
Accrued payroll and employee benefits	7,951	11,945
Accrued warranty expense	6,189	8,812
Accrued restructuring	1,825	36
Other accrued expenses	4,168	2,215
Customer deposits and deferred revenue	1,027	759
Capital lease obligations, current portion	89	131
Total current liabilities	31,933	42,014
<b>LONG-TERM LIABILITIES:</b>		
Capital leases, net of current portion	75	112
Deferred income tax liabilities	2,660	1,891
Uncertain tax position	7,877	5,800
Other long-term liabilities	1,543	2,150
Total liabilities	44,088	51,967

Commitments and contingencies (Note 10)

STOCKHOLDERS' EQUITY:

Preferred stock, \$0.001 par value, 1,000 shares authorized, none issued and outstanding		
Common stock, \$0.001 par value, 70,000 shares authorized; 41,849 and 45,288 shares issued and outstanding at December 31, 2008 and 2007, respectively	42	45
Additional paid-in capital	224,139	267,205
Retained earnings	119,966	121,745
Other comprehensive income	32,402	18,066
Total stockholders' equity	376,549	407,061
Total liabilities and stockholders' equity	\$ 420,637	\$ 459,028

The accompanying notes are an integral part of these consolidated financial statements.

**Table of Contents**

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**  
**Consolidated Statements of Operations**  
(In thousands, except per share amounts)

	<b>2008</b>	<b>2007</b>	<b>2006</b>
SALES	\$ 328,918	\$ 384,699	\$ 410,742
COST OF SALES	204,136	221,890	235,524
GROSS PROFIT	124,782	162,809	175,218
OPERATING EXPENSES:			
Research and development	54,952	50,393	44,848
Selling, general and administrative	52,273	62,179	61,062
Amortization of intangible assets	946	1,010	1,808
Restructuring charges	3,487	3,287	111
Total operating expenses	111,658	116,869	107,829
INCOME FROM OPERATIONS	13,124	45,940	67,389
OTHER INCOME (EXPENSE):			
Interest income	4,955	6,329	3,659
Other income (expense), net	(2,072)	(1,519)	1,018
Total other income (expense)	2,883	4,810	4,677
Income from continuing operations before income taxes	16,007	50,750	72,066
PROVISION (BENEFIT) FOR INCOME TAXES	17,786	16,389	(15,118)
INCOME (LOSS) FROM CONTINUING OPERATIONS	(1,779)	34,361	87,184
INCOME FROM DISCONTINUED OPERATIONS			1,138
NET INCOME (LOSS)	\$ (1,779)	\$ 34,361	\$ 88,322
BASIC EARNINGS (LOSS) PER SHARE:			
Income (loss) from continuing operations	\$ (0.04)	\$ 0.76	\$ 1.95
Income (loss) from discontinued operations			\$ 0.02
NET INCOME (LOSS) PER SHARE	\$ (0.04)	\$ 0.76	\$ 1.97
DILUTED EARNINGS (LOSS) PER SHARE:			
Income (loss) from continuing operations	\$ (0.04)	\$ 0.75	\$ 1.93
Income (loss) from discontinued operations			\$ 0.02
NET INCOME (LOSS) PER SHARE	\$ (0.04)	\$ 0.75	\$ 1.95
BASIC WEIGHTED AVERAGE COMMON SHARES OUTSTANDING	42,537	45,156	44,721
DILUTED WEIGHTED AVERAGE COMMON SHARES OUTSTANDING	42,537	45,704	45,265

The accompanying notes are an integral part of these consolidated financial statements.



**Table of Contents**

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**  
**Consolidated Statements of Stockholders' Equity**  
(In thousands)

	Common Stock		Additional	Retained	Deferred	Accumulated Other Comprehensive (Loss) Income	Total Stockholders' Equity
	Shares	Amount	Capital	Earnings	Compensation		
BALANCES, December 31, 2005	44,500	\$ 45	\$ 253,675	\$ 22	\$ (1,290)	\$ 4,978	\$ 257,430
Exercise of stock options for cash	304		2,913				2,913
Sale of common stock through employee stock purchase plan	32		379				379
Stock-based compensation	19		3,011				3,011
Adoption of SFAS 123(R)			(1,290)		1,290		
Comprehensive income: Equity adjustment from foreign currency translation						4,739	4,739
Unrealized holding losses						(40)	(40)
Reclassification adjustment for amounts included in net income related to sales of securities						(964)	(964)
Net income				88,322			88,322
Total comprehensive income							92,057
BALANCES, December 31, 2006	44,855	\$ 45	\$ 258,688	\$ 88,344	\$	\$ 8,713	\$ 355,790
Adoption of FIN 48				(960)			(960)
Exercise of stock options for cash	339		4,518				4,518
Sale of common stock through employee stock purchase plan	28		403				403

Stock-based compensation	66		3,596				3,596
Comprehensive income:							
Equity adjustment from foreign currency translation						9,676	9,676
Unrealized holding losses						(323)	(323)
Net income				34,361			34,361
Total comprehensive income							43,714
BALANCES, December 31, 2007	45,288	\$ 45	\$ 267,205	\$ 121,745	\$	\$ 18,066	\$ 407,061
Exercise of stock options for cash	187		1,637				1,637
Sale of common stock through employee stock purchase plan	36		371				371
Stock-based compensation	113		4,696				4,696
Stock buyback	(3,775)	(3)	(49,770)				(49,773)
Comprehensive income:							
Equity adjustment from foreign currency translation						14,777	14,777
Unrealized holding gains						(441)	(441)
Net loss				(1,779)			(1,779)
Total comprehensive income							12,557
BALANCES, December 31, 2008	41,849	\$ 42	\$ 224,139	\$ 119,966	\$	\$ 32,402	\$ 376,549

The accompanying notes are an integral part of these consolidated financial statements.

**Table of Contents**

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**  
**Consolidated Statements of Cash Flows**  
(In thousands)

	<b>Years Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>			
Net income (loss)	\$ (1,779)	\$ 34,361	\$ 88,322
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	10,718	12,218	16,451
Stock-based compensation expense	4,599	4,105	3,011
Provision (benefit) for deferred income taxes	7,927	5,125	(22,280)
Restructuring and asset impairment charges	3,487	3,287	111
Provision for excess and obsolete inventory	5,784	918	2,644
Provision for (recovery of) for doubtful accounts	679	(119)	(56)
Unrealized loss on foreign currency forward contracts		39	41
Net loss on disposal of assets	19	555	(1,577)
Changes in operating assets and liabilities			
Accounts receivable	8,917	14,163	(5,330)
Inventories	(2,347)	1,877	1,553
Other current assets	370	277	2,673
Accounts payable	(4,596)	(4,063)	(5,925)
Other current liabilities and accrued expenses	(2,722)	(6,320)	7,055
Income taxes payable/receivable, net	(2,615)	(3,967)	1,497
Non-current assets	(2,269)	(1,576)	(1,360)
Non-current liabilities	(2,095)	930	1,477
Net cash provided by operating activities	24,077	61,810	88,307
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>			
Purchase of marketable securities	(21,156)	(112,370)	(79,441)
Proceeds from sale of marketable securities	72,855	88,523	1,992
Proceeds from sale of assets		2,149	539
Purchase of property and equipment	(7,202)	(8,870)	(6,142)
Net cash (used in) provided by investing activities	44,497	(30,568)	(83,052)
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>			
Payments on senior borrowings and capital lease obligations	(114)	(101)	(4,033)
Purchase and retirement of treasury stock	(49,773)		
Proceeds from common stock transactions	2,008	4,921	3,292
Net cash (used in) provided by financing activities	(47,879)	4,820	(741)
<b>EFFECT OF CURRENCY TRANSLATION ON CASH</b>	1,165	286	852
<b>INCREASE IN CASH AND CASH EQUIVALENTS</b>	21,860	36,348	5,366
CASH AND CASH EQUIVALENTS, beginning of year	94,588	58,240	52,874

CASH AND CASH EQUIVALENTS, end of year	\$ 116,448	\$ 94,588	\$ 58,240
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SUPPLEMENTAL DISCLOSURE OF CASH FLOW  
INFORMATION:

Cash paid for interest	\$ 9	\$ 82	\$ 413
Cash paid for income taxes	\$ 6,052	\$ 13,432	\$ 5,665
Cash held in banks outside the United States	\$ 73,516	\$ 70,220	\$ 29,280

The accompanying notes are an integral part of these consolidated financial statements.



**Table of Contents**

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**NOTE 1. COMPANY OPERATIONS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

We design, manufacture, sell and support industrial power conversion products that transform power into various usable forms. Our products enable manufacturing processes that use thin-film deposition for various products, such as semiconductor devices, flat panel displays, solar panels and architectural glass, as well as grid-tie power conversion in the solar market. We also supply gas flow control technology and thermal instrumentation products for control and detection of gases in the thin-film deposition process for these same markets.

Our global network of service centers provides local repair and field service capability in key regions. Our installed base provides a recurring revenue opportunity as we offer repair services, conversions, upgrades and refurbishments.

***BASIS OF PRESENTATION*** The consolidated financial statements include the accounts of Advanced Energy Industries, Inc. and its wholly-owned subsidiaries (collectively, the Company). All intercompany accounts and transactions have been eliminated in consolidation. The consolidated financial statements are stated in United States dollars and are prepared in accordance with accounting principles generally accepted in the United States.

***ESTIMATES AND ASSUMPTIONS*** The preparation of our consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Significant estimates are used when establishing allowances for doubtful accounts, determining useful lives for depreciation and amortization, assessing the need for impairment charges, establishing warranty reserves, establishing the fair value and forfeiture rate of stock-based compensation, accounting for income taxes, and assessing excess and obsolete inventory. Management evaluates these estimates and judgments on an ongoing basis and bases its estimates on historical experience, current conditions and various other assumptions that are believed to be reasonable under the circumstances. The results of these estimates form the basis for making judgments about the carrying values of assets and liabilities as well as identifying and assessing the accounting treatment with respect to commitments and contingencies. Actual results may differ from these estimates under different assumptions or conditions.

***SEGMENT INFORMATION*** We design, manufacture, sell and support industrial power conversion products that transform power into various usable forms.

***REVENUE RECOGNITION*** We recognize product revenue when title passes to the customer, based on the terms of the sale, at shipment, delivery, or customer acceptance. In limited instances we provide installation of our products. In accordance with Emerging Issues Task Force Issue 00-21, Accounting for Revenue Arrangements With Multiple Deliverables, we allocate revenue based on the fair value of the delivered item, generally the product, and the undelivered item, installation, based on their respective fair values. Revenue related to the undelivered item is deferred until the services have been completed. As of December 31, 2008, we did not have any deferred installation revenue.

Based on the credit worthiness of certain customers, we may require our customers to pay for a portion or all of their purchases prior to the manufacture or shipping of these products. Cash payments received prior to shipment are recorded as customer deposits and deferred revenue and then recognized as revenue as appropriate based upon the transfer of title of the products. We do not offer price protection to customers, or allow returns, unless covered by our normal policy for repair of defective products.

***SHIPPING AND HANDLING COSTS*** Amounts billed to customers for shipping and handling are recorded in sales. Shipping and handling costs incurred by the Company for the delivery of products to customers are included in cost of sales.

***WARRANTY COSTS*** We offer warranty coverage for a majority our products for periods typically ranging from 12 to 24 months after shipment. We warrant our solar inverter for five years, and we offer extended warranties for up to an additional five years. We estimate the anticipated costs of repairing products under warranty based on the historical or expected cost of the repairs and expected failure rates. The assumptions used to estimate warranty accruals are reevaluated quarterly, at a minimum, in light of actual experience and, when appropriate, the accrual or the accrual percentage is adjusted. Our determination of the appropriate level of warranty accrual is based on estimates of the percentage of units affected and the repair costs. Estimated warranty costs are recorded at the time of sale of the

related product, and are recorded within cost of sales in the consolidated statements of operations. We recorded warranty charges of \$11.3 million in 2008, \$11.2 million in 2007 and \$12.9 million in 2006.

**Table of Contents**

The following summarizes the activity in our warranty reserves during 2008, 2007, and 2006:

	<b>2008</b>	<b>2007</b>	<b>2006</b>
		(In thousands)	
Balance at beginning of period	\$ 8,812	\$ 7,845	\$ 6,313
Additions charged to expense	11,335	11,159	12,900
Deductions	(13,958)	(10,192)	(11,368)
Balance at end of period	\$ 6,189	\$ 8,812	\$ 7,845

**INVENTORIES** Inventories include costs of materials, direct labor, manufacturing overhead, in-bound freight and duty. Inventories are valued at the lower of cost or market, computed on a first-in, first-out basis and are presented net of reserves for excess and obsolete inventory.

Reserves are provided for excess and obsolete inventory, which are estimated based on a comparison of the quantity of inventory on hand to management's forecast of customer demand. Customer demand is dependent on many factors, including both micro and macroeconomic, and requires us to use significant judgment in our forecasting process.

We must also make assumptions regarding the rate at which new products will be accepted in the marketplace, the rate at which customers will transition from older products to newer products, effect of engineering changes to a product or discontinuance of a product line. If actual market conditions or our customers' product demands are less favorable than those projected, additional valuation adjustments may be necessary.

In the fourth quarter of 2008, as a result of the weakening global economy, current market conditions and changing customer demand, we reviewed our end of life product and inventory strategies and our excess and obsolete inventory reserve policies. We determined that the uncertain market conditions negatively affected our longer-term demand on our parts and components on hand. This change in estimate resulted in an approximate \$4.0 million increase to our reserve for excess and obsolete inventory, therefore increasing cost of goods sold and decreasing gross profit.

The following summarizes the activity in our reserve for excess and obsolete inventory during 2008, 2007 and 2006:

	<b>2008</b>	<b>2007</b>	<b>2006</b>
		(In thousands)	
Balance at beginning of period	\$ 7,891	\$ 8,594	\$ 10,588
Additions charged to expense	5,784	918	2,644
Deductions	(1,308)	(1,621)	(4,638)
Balance at end of period	\$ 12,367	\$ 7,891	\$ 8,594

**ADVERTISING EXPENSES** Advertising costs in the accompanying consolidated statements of income were expensed as incurred and were \$0.2 million, \$0.2 million and \$0.1 million in 2008, 2007 and 2006, respectively.

**RESEARCH AND DEVELOPMENT EXPENSES** Research and development costs are charged to operations as incurred. These costs include internal labor, materials and overhead expenses associated with our ongoing research and development activity.

**ALLOWANCE FOR DOUBTFUL ACCOUNTS** Our allowance for doubtful accounts reflects management's best estimate of probable losses inherent in the account receivable balance. Management determines the allowance based on known troubled accounts, historical experience, and other currently available evidence. We write off accounts receivable when they become uncollectible and payments subsequently received on such receivables are credited to the allowance for doubtful accounts.



**Table of Contents**

The following summarizes the activity in our allowance for doubtful accounts during 2008, 2007 and 2006:

	2008	2007	2006
		(In thousands)	
Balance at beginning of period	\$ 360	\$ 545	\$ 645
Additions charged to expense	1,654	360	357
Recoveries	(975)	(496)	(423)
Deductions	(68)	(49)	(34)
Balance at end of period	\$ 971	\$ 360	\$ 545

**INCOME TAXES** We account for income taxes in accordance with SFAS No. 109, Accounting for Income Taxes. SFAS No. 109 requires deferred tax assets and liabilities to be recognized for temporary differences between the tax basis and financial reporting basis of assets and liabilities, computed at the enacted tax rates for the periods in which the assets or liabilities will be realized, as well as for the expected tax benefit of net operating loss and tax credit carryforwards. We assess the recoverability of our net deferred tax assets on a quarterly basis. If our expectation of the future realization of our deferred tax assets changes, we will adjust the valuation allowance with a corresponding change in income tax expense in such period. We adopted the provision of FASB Interpretation No. 48, Accounting for Uncertainty in Income Taxes an interpretation of FASB Statement 109 ( FIN 48 ) as of January 1, 2007. FIN 48 requires use of a benefit recognition model with a two-step approach: (i) a more-likely-than-not recognition criterion and (ii) a measurement attribute that measures the position as the largest amount of tax benefit that is greater than 50% likely of being realized upon ultimate settlement. If it is not more likely than not that the benefit will be sustained on its technical merits, no benefit is recorded. We recognize accrued interest related to unrecognized tax benefits as a portion of our income tax provision in the consolidated statements of operations.

**STOCK-BASED COMPENSATION** We apply the provisions of SFAS No. 123(R), Share Based Payment , to account for our stock plans and employee stock purchase plan, which requires the recognition of the fair value of stock-based compensation in the statement of operations. The fair value of stock options and purchase rights pursuant to the employee stock purchase plan is estimated using the Black-Scholes valuation model. This model requires the input of highly subjective assumptions, including expected life of the award and expected stock price volatility. The fair value of restricted stock units is determined based upon our closing stock price on the grant date. The fair value of stock-based awards expected to vest is amortized over the requisite service period, typically the vesting period, of the award on a straight-line basis.

**COMMITMENTS AND CONTINGENCIES** We are involved in disputes and legal actions arising in the normal course of our business. While we currently believe that the amount of any ultimate loss would not be material to our financial position, the outcome of these actions is inherently difficult to predict. In the event of an adverse outcome, the ultimate loss could have a material adverse effect on our financial position or reported results of operations in a particular quarter. An unfavorable decision, particularly in patent litigation, could require material changes in production processes and products or result in our inability to ship products or components found to have violated third-party patent rights. We accrue loss contingencies in connection with its commitments and contingencies, including litigation, when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated.

**CASH AND CASH EQUIVALENTS** We consider all amounts on deposit with financial institutions and highly liquid investments with an original maturity of 90 days or less to be cash equivalents.

**CONCENTRATIONS OF CREDIT RISK** Financial instruments, which potentially subject the Company to credit risk, include cash and cash equivalents, marketable securities and trade accounts receivable. We maintain cash and cash equivalents, marketable securities and other financial instruments with various major financial institutions. We perform periodic evaluations of the relative credit standing of these financial institutions to limit the amount of credit exposure with any one institution. Our customers generally are concentrated in the semiconductor capital equipment industry. As a result we are generally exposed to credit risk associated with this industry. Sales by our foreign

subsidiaries are primarily denominated in currencies other than the United States dollar. We established an allowance for doubtful accounts based upon factors surrounding the credit risk of specific customers, historical trends and other information.

**FORWARD CONTRACTS** We transact business in various foreign countries. Our primary foreign currency cash flows are generated in countries in Asia and Europe. It is highly uncertain how currency exchange rates will fluctuate in the future. Periodically, we enter into various foreign currency forward exchange contracts to mitigate risk of currency fluctuations in the British pound, European euro, Japanese yen, Taiwanese dollar, South Korean won and Chinese yuan. We utilize foreign currency forward contracts to hedge foreign currency-denominated intercompany payables and receivables. To date, we have not hedged forecasted transactions or firm commitments denominated in foreign currencies and therefore, financial reporting of our foreign operations is subject to

**Table of Contents**

foreign currency risk. We do not invest in contracts for speculative purposes.

We had no outstanding foreign currency contracts as of December 31, 2008.

**FAIR VALUE MEASUREMENTS** On January 1, 2008, we adopted the methods of fair value measurement as described in SFAS No. 157 to value our financial assets and liabilities. As defined in SFAS No. 157, fair value is based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In order to increase consistency and comparability in fair value measurements, SFAS No. 157 establishes a fair value hierarchy that prioritizes observable and unobservable inputs used to measure fair value into three broad levels, which are described below:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that are accessible at the measurement date for assets or liabilities. The fair value hierarchy gives the highest priority to Level 1 inputs.

Level 2: Observable prices that are based on inputs not quoted in active markets, but corroborated by direct or indirect market data.

Level 3: Unobservable inputs, developed using the Company's estimates and assumptions, which reflect those that market participants would use. Such inputs are used when little or no market data is available. The fair value hierarchy gives the lowest priority to Level 3 inputs.

Determining where an asset or liability falls within the hierarchy depends on the lowest level input that is significant to the fair value measurement as a whole. In determining fair value, the Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible and considers counterparty credit risk in the assessment of fair value.

	Level 1	Level 2	Level 3	Total
Auction Rate Securities	\$	\$	\$ 30,397	\$ 30,397
Certificates of deposit	29,199			29,199
Commercial paper	1,270			1,270
Common stock	4			4
Treasury Bills	2,797			2,797
Total	\$ 33,270	\$	\$ 30,397	\$ 63,667

**PROPERTY AND EQUIPMENT** Property and equipment is stated at cost or estimated fair value if acquired in a business combination. Depreciation is computed using the straight-line method over twenty to forty years for buildings; three to ten years for machinery, equipment, furniture and fixtures and vehicles; and three years for computer and communication equipment. Amortization of leasehold improvements and leased equipment is calculated using the straight-line method over the lease term or the estimated useful life of the assets, whichever period is shorter. Additions, improvements, and major renewals are capitalized, while maintenance, repairs, and minor renewals are expensed as incurred. When depreciable assets are retired, or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts and any related gains or losses are included in the consolidated statement of income. Property and other long-lived assets are reviewed for impairment whenever events or circumstances indicate that their carrying amount may not be recoverable.

**GOODWILL AND OTHER INTANGIBLE ASSETS** Goodwill represents the excess of the cost over the fair market value of net tangible and identifiable intangible assets of acquired businesses. Goodwill is not amortized. Instead, goodwill is subject to periodic (at least annual) tests for impairment. Impairment testing is performed in two steps: (i) we assesses goodwill for potential impairment by comparing the fair value of its reporting unit with its carrying value, and (ii) if potential impairment is indicated because the reporting unit's fair value is less than its carrying amount, we measure the amount of impairment loss by comparing the implied fair value of goodwill with the carrying amount of that goodwill. In the fourth quarter of 2008, we tested our goodwill for impairment and concluded that no impairment of goodwill existed at the measurement date, as the estimated fair value of our reporting unit

exceeded its carrying amount.

Finite-lived intangible assets are amortized using the straight-line method over their estimated useful lives and are reviewed for impairment whenever events or circumstances indicate that their carrying amount may not be recoverable.

**TAXES COLLECTED FROM CUSTOMERS** In the course of doing business we collect various taxes from customers including, but not limited to, sales taxes and value added taxes. It is our policy to record these on a net basis in the consolidated statement of income and, therefore, we do not include taxes collected from customers as a component of revenue.



## Table of Contents

**CUSTOMER SERVICE EQUIPMENT** Customer service equipment is manufactured product that is utilized as replacement and loaner equipment to existing customers. Customer service equipment is valued at the cost of repairing the units in the pool.

**FOREIGN CURRENCY TRANSLATION** The functional currency of our foreign subsidiaries is their local currency, with the exception of our manufacturing facility in Shenzhen, China where the United States dollar is the functional currency. Assets and liabilities of international subsidiaries are translated to United States dollars at period-end exchange rates, and statement of income activity and cash flows are translated at average exchange rates during the period. Resulting translation adjustments are recorded as a separate component of stockholders' equity.

Transactions denominated in currencies other than the local currency are recorded based on exchange rates at the time such transactions arise. Subsequent changes in exchange rates result in foreign currency transaction gains and losses which are reflected in income as unrealized (based on period end translation) or realized (upon settlement of the transactions). Unrealized transaction gains and losses applicable to permanent investments by the Company in its foreign subsidiaries are included as cumulative translation adjustments, and unrealized translation gains or losses applicable to non-permanent intercompany receivables from or payables to us and our foreign subsidiaries are included in income.

**NEW ACCOUNTING PRONOUNCEMENTS** In December 2007, the FASB issued SFAS No. 141(R), Business Combinations, ( SFAS 141(R) ) as part of a joint project with the International Accounting Standards Board. SFAS 141(R) provides for several significant changes to existing accounting practices for business combinations. Most notably, (i) acquisition-related transaction costs, such as legal and professional fees, shall be expensed rather than accounted for as part of the acquisition cost; (ii) acquired in-process research and development shall be capitalized rather than expensed at the acquisition date; and (iii) contingent consideration shall be recorded at fair value at the acquisition date rather than the points in time that payment becomes probable. SFAS 141(R) applies to business combinations for which the acquisition date is after December 31, 2008. The adoption of SFAS 141(R) will likely impact our results of operations and financial position to the extent that we make acquisitions subsequent to December 31, 2008.

We adopted the provisions of SFAS No. 157, Fair Value Measurements ( SFAS 157 ) on January 1, 2008. SFAS 157 defines fair value, establishes a market-based framework or hierarchy for measuring fair value, and expands disclosures about fair value measurements. SFAS 157 is applicable whenever another accounting pronouncement requires or permits assets and liabilities to be measured at fair value. SFAS 157 does not expand or require any new fair value measures; however the application of this statement may change current practice. In February 2008, the FASB decided that an entity need not apply this standard to nonfinancial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a nonrecurring basis until 2009. Accordingly, our adoption of this standard in 2008 was limited to financial assets and liabilities, which primarily affects the valuation of our forward currency contracts and marketable securities.

In February 2007, the FASB issued SFAS No. 159, The Fair Value Option for Financial Assets and Financial Liabilities Including an amendment of FASB Statement No. 115 ( SFAS 159 ). SFAS 159 expands the use of fair value accounting but does not affect existing standards that require assets or liabilities to be carried at fair value. Under SFAS 159, a company may elect to use fair value to measure accounts and loans receivable, available-for-sale and held-to-maturity securities, equity method investments, accounts payable, guarantees and issued debt. Other eligible items include firm commitments for financial instruments that otherwise would not be recognized at inception and non-cash warranty obligations where a warrantor is permitted to pay a third party to provide the warranty goods or services. If the use of fair value is elected, any upfront costs and fees related to the item must be recognized in earnings and cannot be deferred, such as debt issuance costs. The fair value election is irrevocable and generally made on an instrument-by-instrument basis, even if a company has similar instruments that it elects not to measure based on fair value. At the adoption date, unrealized gains and losses on existing items for which fair value has been elected are reported as a cumulative adjustment to beginning retained earnings. Subsequent to the adoption of SFAS 159, changes in fair value are recognized in earnings. SFAS 159 is effective for financial statements issued for fiscal years beginning after November 15, 2007. We have elected this fair value option for the Put Agreement entered into with the financial institution that manages our ARS. Our ARS holdings to which the Put Agreement relates have a cost

basis of approximately \$30.9 million and a fair value at December 31, 2008 of approximately \$24.9 million. The fair value of the Put Agreement as of December 31, 2008 was \$5.5 million.

In March 2008, the FASB issued SFAS No. 161, Disclosures about Derivative Instruments and Hedging Activities an amendment of FASB Statement No. 133. This statement requires additional disclosures regarding the effect of hedging activities on a company's results. This statement is effective for financial statements issued for fiscal years and interim periods beginning after November 15, 2008, which would be our first quarter of 2009. The implementation of this standard will impact our disclosures about our derivative instruments, including our forward currency contracts.

In April 2008, the Financial Accounting Standards Board (FASB) issued FASB Staff Position (FSP) No. 142-3, Determination of the Useful Life of Intangible Assets (FSP 142-3). FSP 142-3 amends the factors an entity should consider in developing renewal or

**Table of Contents**

extension assumptions used in determining the useful life of recognized intangible assets under FASB Statement No. 142, Goodwill and Other Intangible Assets. This new guidance applies prospectively to intangible assets that are acquired individually or with a group of other assets in business combinations and asset acquisitions. FSP 142-3 is effective for financial statements issued for fiscal years and interim periods beginning after December 15, 2008. Early adoption is prohibited. We are evaluating the potential impact of the implementation of FSP 142-3 on our financial position and results of operations.

In October 2008, the FASB issued Staff Position No. FAS 157-3, Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active ( FSP FAS 157-3 ). FSP FAS 157-3 clarified the application of FAS 157. FSP FAS 157-3 demonstrated how the fair value of a financial asset is determined when the market for that financial asset is inactive. FSP FAS 157-3 was effective upon issuance, including for prior periods for which financial statements had not been issued. Our ARS holdings to which this relates have a cost basis of approximately \$30.9 million and a fair value of approximately \$24.9 million at December 31, 2008.

From time to time, new accounting pronouncements are issued by the FASB or other standards setting bodies that are adopted by us as of the specified effective date. Unless otherwise discussed, our management believes that the impact of recently issued standards that are not yet effective will not have a material impact on our consolidated financial statements upon adoption.

**NOTE 2. STOCK-BASED COMPENSATION*****Stock Plans and ESPP***

As of December 31, 2008, we had two active stock plans; the 2008 Omnibus Incentive Plan and the ESPP. All new equity compensation grants are issued under the 2008 Omnibus Incentive Plan; however, outstanding grants previously issued under inactive plans will continue to mature in accordance with the respective plans.

***Stock Options and RSUs***

**2008 OMNIBUS INCENTIVE PLAN** The 2008 Omnibus Incentive Plan (the Plan ) provides officers, directors, key employees, and other persons an opportunity to acquire or increase a direct proprietary interest in our operations and future success. The Board of Directors currently administers the Plan, and makes all decisions concerning which officers, directors, employees and other persons are granted awards, how many to grant to each optionee, when awards are granted, how the plan should be interpreted, whether to amend or terminate the plan, and whether to delegate administration of the plan to a committee. The Plan provides for the issuance of 3,500,000 shares of common stock and provides for the grant of stock options, stock appreciation rights, restricted stock, stock units (including deferred stock units), unrestricted stock, and dividend equivalent rights. Any of these awards may, but need not, be made as performance incentives to reward attainment of annual or long-term performance goals in accordance with the terms hereof. Stock options granted under the Plan may be non-qualified stock options or incentive stock options, as provided herein, except that stock options granted to outside directors and any consultants or advisers providing services to us shall in all cases be non-qualified stock options. The Plan will terminate on May 7, 2018 unless the administrator terminates the Plan earlier. As of December 31, 2008, 2.7 million shares of common stock were available for grant under the Plan.

A summary of the status of our stock options for the year ended December 31, 2008 is presented below:

	<b>Shares</b>	<b>Weighted-Average Exercise Price</b>
	<b>In thousands, (except share prices)</b>	
Stock options:		
Options outstanding at beginning of period	3,241	\$ 19.27
Options granted	1,465	12.20
Options exercised	(187)	8.78
Options cancelled	(587)	17.41

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Options outstanding at end of period	3,932	17.42
Options exercisable at end of period	1,986	20.85
Price range of outstanding options	\$ 7.15-\$60.75	
Price range of options cancelled	\$ 7.15-\$38.55	

The weighted average fair value of options issued to employees was \$6.98, \$11.59 and \$9.90 for the years ended December 31, 2008, 2007 and 2006, respectively. The total intrinsic value of options exercised during the years ended December 31, 2008, 2007 and

**Table of Contents**

2006 was \$1.0 million, \$4.2 million and \$1.8 million, respectively, determined as of the exercise date. The aggregate intrinsic value of employee options outstanding and exercisable at December 31, 2008 and 2007 was \$0.6 million and \$3.1 million, respectively. As of December 31, 2008, there was \$13.9 million of total unrecognized compensation cost related to stock options granted and outstanding, which is expected to be recognized through fiscal year 2012, with a weighted average remaining vesting period of 2.9 years.

The following table summarizes information about the stock options outstanding at December 31, 2008:

Range of Exercise Prices	Options Outstanding			Options Exercisable	
	Number Outstanding	Weighted-Average Remaining Contractual Life	Weighted-Average Exercise Price	Number Exercisable	Weighted-Average Exercise Price
(In thousands, except share prices and lives)					
\$7.15 to \$13.70	1,599	7.9 years	\$10.66	525	\$ 9.29
\$14.02 to \$22.30	1,426	7.0 years	17.35	738	19.11
\$22.47 to \$60.75	907	4.3 years	29.47	723	31.03
	3,932	6.7 years	\$17.42	1,986	\$20.85

The fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model and the expected forfeiture rate with the following weighted-average assumptions:

	2008	2007
Risk-free interest rates	3.1%	4.7%
Expected dividend yield rates	0.0%	0.0%
Expected lives	5.5 years	5.5 years
Expected volatility	61.9%	65.5%
Expected forfeiture rate	26.0%	22.0%

A summary of the status of our non-vested RSUs as of December 31, 2008, and changes during the year then ended are presented below:

	Shares (in thousands, except fair values)	Weighted-Average Grant-date Fair Value
Non-vested RSUs outstanding December 31, 2007	468	\$ 16.04
RSUs granted	157	\$ 12.54
RSUs vested	(141)	\$ 12.19
RSUs forfeited	(89)	\$ 15.90
Non-vested RSUs outstanding December 31, 2008	395	\$ 15.26

The fair value of our RSUs is determined based upon the closing fair market value of our common stock on the grant date. As of December 31, 2008, there was \$1.1 million of total unrecognized compensation cost, net of forfeitures related to non-vested RSUs granted, which cost is expected to be recognized over a weighted average period of 1.4 years. During the years ended December 31, 2008 and 2007, the total fair value of RSUs that vested was

\$1.8 million and \$1.7 million, respectively.

RSUs granted to employees situated at our China locations are usually settled in cash. The fair value of these awards as of December 31, 2008 was \$0.1 million and is recorded as a long-term liability.

*Employee Stock Purchase Plan (the ESPP )*

*EMPLOYEE STOCK PURCHASE PLAN* The ESPP, a stockholder-approved plan, provides for the issuance of up to 500,000

**Table of Contents**

shares of common stock. Employees are eligible to participate in the ESPP if employed by us for at least 20 hours per week during at least five months per calendar year. Participating employees may contribute the lesser of 5% of their earnings or \$1,250 per six-month period withheld. The purchase price of common stock purchased under the ESPP is equal to 85% of the lower of the fair market value on the commencement date of each offering period or the relevant purchase date. Each plan period is six months. At December 31, 2008, approximately 51,089 shares remained available for future issuance under the ESPP.

Purchase rights granted under the ESPP are valued using the Black-Scholes model. As of December 31, 2008, there was \$38,772 of total unrecognized compensation cost related to the ESPP that is expected to be recognized over a remaining period of four months. During the years ended December 31, 2008, 2007 and 2006, the total compensation expense related to the ESPP was \$0.1 million each year.

The fair value of each purchase right granted under the ESPP was estimated on the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions:

	<b>2008</b>	<b>2007</b>
Risk-free interest rates	1.8%	4.5%
Expected dividend yield rates	0.0%	0.0%
	0.5	0.5
Expected lives	years	years
Expected volatility	61.9%	60.5%

**NOTE 3. BALANCE SHEET DETAIL**

	<b>December 31,</b>	
	<b>2008</b>	<b>2007</b>
	<b>(In thousands)</b>	
<b>ACCOUNTS RECEIVABLE</b>		
Domestic	\$ 14,903	\$ 18,909
Foreign	42,617	42,996
Less Allowance for doubtful accounts	(971)	(360)
	\$ 56,549	\$ 61,545
<b>INVENTORIES</b>		
Parts and raw materials	\$ 44,999	\$ 45,116
Work in process	2,209	2,212
Finished goods	11,818	11,095
	59,026	58,423
Less excess and obsolete reserves	(12,367)	(7,891)
	\$ 46,659	\$ 50,532
<b>PROPERTY AND EQUIPMENT*</b>		
Buildings and Land	\$ 13,318	\$ 9,296
Machinery and equipment	41,606	44,740
Computer and communication equipment	29,021	27,927
Furniture and fixtures	7,523	6,828
Vehicles	496	609

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Leasehold improvements	28,550	23,688
	120,514	113,088
Less accumulated depreciation	(89,192)	(82,176)
	\$ 31,322	\$ 30,912

\* Aggregate depreciation expense related to property and equipment was \$8.8 million in 2008, \$10.4 million in 2007 and \$12.1 million in 2006.



**Table of Contents****GOODWILL, PURCHASED TECHNOLOGY AND OTHER INTANGIBLE ASSETS**

Goodwill and other intangible assets consisted of the following as of December 31, 2008:

	Gross	Effect of Changes in		Net	Weighted-
	Carrying	Exchange	Accumulated	Carrying	Average
	Amount	Rates	Amortization	Amount	Useful
					Life
					in Years
	(In thousands, except weighted-average useful life)				
Amortizable intangibles:					
Technology-based	\$ 7,015	\$ 1,552	\$ (8,457)	\$ 110	5
Trademarks and other	8,604	3,215	(5,174)	6,645	17
Total amortizable intangibles	15,619	4,767	(13,631)	6,755	
Goodwill	49,396	16,767		66,163	
Total goodwill and other intangible assets	\$ 65,015	\$ 21,534	\$ (13,631)	\$ 72,918	

Goodwill and other intangible assets consisted of the following as of December 31, 2007:

	Gross	Effect of Changes in		Net	Weighted-
	Carrying	Exchange	Accumulated	Carrying	Average
	Amount	Rates	Amortization	Amount	Useful
					Life in
					Years
	(In thousands, except weighted-average useful life)				
Amortizable intangibles:					
Technology-based	\$ 7,015	\$ 1,553	\$ (7,990)	\$ 578	5
Trademarks and other	8,604	1,905	(4,725)	5,784	17
Total amortizable intangibles	15,619	3,458	(12,715)	6,362	
Goodwill	49,581	12,010	(185)	61,406	
Total goodwill and other intangible assets	\$ 65,200	\$ 15,468	\$ (185)	\$ 67,768	

Our goodwill and other intangible assets have primarily resulted from business acquisitions. Carrying amounts for these assets are impacted by changes in foreign currency exchange rates. In accordance with SFAS No. 142, goodwill of \$0.2 million was allocated to the 2007 sale of one of our product lines based upon its estimated fair value relative to the portion of the reporting unit that was retained.

As of October 31, 2008, and again as of December 31, 2008, after completing the first step of the impairment test, no indication of impairment existed because our market capitalization exceeded our carrying value as of that date. We

experienced a cyclical slowdown in demand during fiscal 2008 that has continued into the first quarter of 2009. Subsequent to December 31, 2008, there have been adverse changes in the business climate and as a result our market capitalization has declined below the levels of our carrying value. As of February 18, 2009, our market capitalization was below our carrying value and our goodwill may be impaired. We expect to proceed with step two of the goodwill impairment analysis during the first quarter of 2009, which may result in an impairment charge of up to \$66.2 million in 2009.

Aggregate amortization expense related to amortizable intangibles was \$0.9 million in 2008, \$1.0 million in 2007, and \$1.8 million in 2006. Amortization expense related to our acquired intangibles fluctuates with changes in foreign currency exchange rates between the United States dollar and the Japanese yen and the euro.

**Table of Contents**

Estimated amortization expense related to amortizable intangibles for each of the five years 2009 through 2013 is as follows:

	<b>Estimated Amortization Expense (In thousands)</b>
2009	\$ 521
2010	418
2011	418
2012	418
2013	511
Thereafter	4,076

**NOTE 4. RESTRUCTURING COSTS**

Restructuring costs are related to actions we took primarily in response to downturns in the semiconductor capital equipment industry. These costs were incurred to exit an activity or cancel an existing contractual obligation, including the closure of facilities and employee termination related charges.

During 2008, we recognized restructuring costs of \$3.5 million, of which \$3.3 million was associated with global cost reduction plans implemented at various times throughout the year made through job elimination. The remaining \$0.2 million of restructuring charges recognized in 2008 was a result of a plan to transition the production of a number of our legacy products from our manufacturing facility in Fort Collins, Colorado to our manufacturing facility in Shenzhen, China. This activity in 2008 led to the elimination of approximately 140 positions on a worldwide basis.

In 2007, we closed our operation in Stolberg, Germany. Related to this closure, we recorded restructuring charges of \$3.3 million, consisting primarily of impairment on real and personal property and employee severance and benefit costs associated with the reduction of employees at the facility.

The following table summarizes the components of the restructuring costs, the payments and non-cash charges, and the remaining accrual as of December 31, 2008, 2007 and 2006:

	<b>Employee Severance and Termination Costs</b>	<b>Facility Closure &amp; Other Costs</b>	<b>Impairment of Facility-Related Assets and Other (In thousands)</b>	<b>Total Restructuring Charges</b>
Accrual balance December 31, 2005	\$ 130	\$ 486	\$	\$ 616
Total net restructuring charges in 2006		111		111
Payments and other settlements in 2006	(130)	(597)		(727)
Accrual balance December 31, 2006				
Total net restructuring charges in 2007	1,879	743	854	3,476
Gain on sale of assets			(189)	(189)
Payments and other settlements in 2007	(1,843)	(743)	(665)	(3,251)
Accrual balance December 31, 2007	36			36
Total net restructuring charges in 2008	3,487			3,487
Payments and other settlements in 2008	(1,698)			(1,698)

Accrual balance December 31, 2008	\$ 1,825	\$	\$	\$ 1,825
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**NOTE 5. MARKETABLE SECURITIES AND LONG-TERM INVESTMENTS**

Investment securities with original maturities of more than three months but less than one year at time of purchase are considered marketable securities. Investment securities that are not liquid within twelve months are considered long-term investments. Marketable securities and long-term investments as of December 31, 2008 included commercial paper, treasury bills, certificates of deposit, corporate and municipal bonds and notes, institutional money markets and auction rate securities. Our investments, other than auction rates securities, are classified as available for sale securities, and are recorded at fair value with changes in fair market value recorded as unrealized holding gains or losses in other comprehensive income (loss), net of tax.

**Table of Contents**

For purposes of determining realized gains and losses, the cost of securities sold is based on specific identification. The composition of securities is as follows at December 31, 2008, and December 31, 2007:

	Dec 31, 2008		Dec 31, 2007	
	Cost	Fair Value	Cost	Fair Value
	(In thousands)	(In thousands)	(In thousands)	(In thousands)
Current:				
Commercial paper	\$ 1,269	\$ 1,270	\$ 1,475	\$ 1,496
Treasury Bills	2,792	2,797		
Certificates of deposit	29,199	29,199	6,299	6,299
Corporate bonds/notes			2,375	2,398
Municipal bonds/notes			24,662	24,595
Auction rate securities			50,563	51,003
Institutional money markets			24,885	24,885
Total Current	33,260	33,266	110,259	110,676
Non-current:				
Long-term deposits			1,479	1,479
Common stock	4	4	4	4
Auction rate securities	30,850	24,938		
Put agreement		5,459		
Total Non-current	30,854	30,401	1,483	1,483
Total securities	\$ 64,114	\$ 63,667	\$ 111,742	\$ 112,159

The value and liquidity of these securities are affected by market conditions as well as the ability of the issuer to make principal and interest payments when due, and the functioning of the markets in which these securities are traded.

We have classified our auction rate securities as long-term investments because of our inability to determine when the investments will settle. In November 2008, we executed a non-transferrable auction rate securities rights agreement (the Put Agreement) with a financial institution that provides us with the ability to sell certain of our ARS to the financial institution, at our sole discretion, and obligates the financial institution to purchase such ARS, at par during the period June 30, 2010 through July 2, 2012.

Upon executing the Put Agreement, we have determined that an other-than-temporary impairment should be recorded in the fourth quarter of 2008, since we do not intend to hold the securities until the value fully recovers. We also recorded the Put Agreement at its fair value, pursuant to SFAS 159, and recognized a gain equal to that fair value in other income. Our ARS holdings at December 31, 2008 have a cost basis of approximately \$30.9 million and a fair value of approximately \$24.9 million. The fair value of the Put Agreement as of December 31, 2008 was \$5.5 million.

The fair value of our ARS and Put Agreement were determined using Level 3 inputs. Some of the inputs into the discounted cash flow models we use are unobservable in the market and have a significant effect on valuation. The assumptions used in preparing the models include, but are not limited to, periodic coupon rates, market required rates of return and the expected term of each security. The coupon rate was estimated using implied forward rate data on interest rate swaps and U.S. treasuries, and limited where necessary by any contractual maximum rate paid under a scenario of continuing auction failures. We believe implied forward rates inherently account for a lack of liquidity. In making assumptions of the required rates of return, we considered risk-free interest rates and credit spreads for investments of similar credit quality. The expected term for the ARS was based on a weighted probability-based estimate of the time the principal will become available to us. The expected term for the Put Agreement was based on

the earliest date on which we can exercise our put. The principal can become available under three different scenarios: (1) the ARS is called; (2) the market has returned to normal and auctions have recommenced and are successful; and (3) the principal has reached maturity.

Investment income for the years ended December 31, 2008, 2007 and 2006 consisted of the following:

	<b>2008</b>	<b>2007</b>	<b>2006</b>
		<b>(In thousands)</b>	
Gross realized gains from sale of securities	\$	\$ 232	\$ 1,667
Gross realized losses from sale of securities			
Dividend and interest income	4,873	3,800	3,663
Unrealized holding gains (losses)	(453)	323	
Investment income	\$ 4,420	\$ 4,355	\$ 5,330

**Table of Contents****NOTE 6. EARNINGS PER SHARE**

Basic earnings per share ( EPS ) is computed by dividing income available to common stockholders by the weighted-average number of common shares outstanding during the period. The computation of diluted EPS is similar to the computation of basic EPS except that the numerator is increased to exclude charges which would not have been incurred, and the denominator is increased to include the number of additional common shares that would have been outstanding (using the if-converted and treasury stock methods), if securities containing potentially dilutive common shares (convertible notes payable, stock options and restricted stock units) had been converted to such common shares, and if such assumed conversion is dilutive. As of December 31, 2008, 2007 and 2006, stock options and restricted stock units totaling approximately 4.3 million , 3.7 million and 3.5 million shares, respectively, were outstanding, of which 3.9 million, 3.2 million and 2.9 million shares issuable upon the expiration of options, respectively, are not included in the computation of diluted earnings per share because the exercise price exceeded the average price per share for the period. For the year ended December 31, 2008, all potentially dilutive common shares were excluded from the computation as the effect of including such options in the computation would be anti-dilutive to our net loss for the year.

The following is a reconciliation of the numerators and denominators used in the calculation of basic and diluted EPS for the years ended December 31, 2008, 2007 and 2006:

	<b>Years Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>
	<b>(In thousands, except per share data)</b>		
<b>Earnings (Loss) Per Common Share    Basic</b>			
Net Income (loss)	\$ (1,779)	\$ 34,361	\$ 88,322
Weighted Average common shares outstanding	42,537	45,156	44,721
Earnings (loss) per common share    basic	\$ (0.04)	\$ 0.76	\$ 1.97
<b>Earnings (Loss) Per Common Share    Diluted</b>			
Net Income (loss)	\$ (1,779)	\$ 34,361	\$ 88,322
Weighted average common shares outstanding	42,537	45,156	44,721
Effect of dilution:			
Stock option and restricted stock units		548	544
Adjusted weighted average common shares outstanding	42,537	45,704	45,265
Earnings (loss) per common share    diluted	\$ (0.04)	\$ 0.75	\$ 1.95

In December 2007, the Board of Directors authorized a program to repurchase up to \$75 million of our common stock over a 12 month period. Under this program we repurchased and retired 3,775,000 shares of our common stock for a total of \$49.8 million. We suspended this stock repurchase program in April 2008.

All shares repurchased were executed in the open market and no shares were repurchased from related parties. Repurchased shares were retired and assumed the status of authorized and unissued shares.

**NOTE 7. INCOME TAXES**

At December 31, 2008, the Company has gross deferred income tax assets of \$40.0 million in the United States, a significant portion of which relates to net operating loss and tax credit carryforwards, for which a valuation allowance of \$23.3 million has been provided. The ultimate realization of deferred income tax assets is dependent on the generation of taxable income in appropriate jurisdictions during the periods in which those temporary differences are deductible. Management considers the scheduled reversal of deferred income tax liabilities, projected future taxable income, and tax planning strategies in determining the amount of the valuation allowance. Based on the level of

historical taxable income and projections for future taxable income over the periods in which the deferred income tax assets are deductible, management determines if it is more likely than not that the Company will realize the benefits of these deductible differences. As of December 31, 2008, the most significant factors considered in determining the realizability of these deferred tax assets was our profitability over the past three years, the historical cyclicity of the markets in which we operate and our projected profitability during these cycles. The Company needs to generate approximately \$45.3 million in pre-tax income in the United States prior to the expiration of our net operating loss and tax credit carryforwards to fully utilize these net deferred tax assets.



**Table of Contents**

When recording acquisitions, we have recorded valuation allowances due to the uncertainty related to the realization of certain deferred tax assets existing at the acquisition dates. The amount of deferred tax assets considered realizable is subject to adjustment in future periods if estimates of future taxable income are changed. At December 31, 2006, approximately \$2.9 million of the valuation allowance related to deferred tax assets was obtained through acquisitions. For the year ended December 31, 2006, \$3.7 million of the valuation allowance, representing 100% of the valuation allowances established in purchase accounting, was reversed with a corresponding reduction in goodwill. There are no further adjustments related to deferred tax assets established in purchase accounting to be booked in the current or future periods.

The provision (benefit) for income taxes for the years ended December 31, 2008, 2007 and 2006 was, as follows:

	<b>Years Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>
		<b>(In thousands)</b>	
Federal	\$ 7,312	\$ 5,363	\$ (18,719)
State and local	1,200	667	(2,120)
Foreign taxes	9,274	10,358	5,721
	\$ 17,786	\$ 16,388	\$ (15,118)
Current	\$ 9,969	\$ 11,264	\$ 7,162
Deferred	7,817	5,125	(22,280)
	\$ 17,786	\$ 16,389	\$ (15,118)

The following reconciles our effective tax rate on income from continuing operations to the federal statutory rate for the years ended December 31, 2008, 2007 and 2006:

	<b>Years Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>
		<b>(In thousands)</b>	
Income taxes per federal statutory rate	\$ 5,602	\$ 17,767	\$ 25,223
State income taxes, net of federal deduction	(524)	565	889
Effect of discontinued operations			398
Extraterritorial income exclusion		(340)	(1,543)
Other permanent items, net	(286)	(120)	(1,686)
Effect of foreign taxes	(4,795)	(1,074)	(581)
Change in valuation allowance	17,984	54	(39,283)
Tax credits and other items	(195)	(463)	1,465
	\$ 17,786	\$ 16,389	\$ (15,118)

**Table of Contents**

The sources of our net deferred income tax assets are summarized as follows:

	<b>December 31,</b>	
	<b>2008</b>	<b>2007</b>
	<b>(In thousands)</b>	
Current:		
Employee bonuses and commissions	\$ 74	\$ 803
Warranty reserve	2,258	3,193
Bad debt reserve	234	
Vacation accrual	901	1,762
Restructuring accrual	501	
Excess and obsolete inventory	4,787	3,201
Other, net	4,498	4,562
Net operating loss and tax credit carryforward		10,175
Current	\$ 13,253	\$ 23,696
Long-term:		
Net operating loss and tax credit carryforward	\$ 23,410	\$ 7,012
Depreciation and amortization, net	1,426	560
Other, net	2,823	
Valuation allowance	(23,349)	(5,365)
Long-term, net	\$ 4,310	\$ 2,207
Total deferred tax assets, net	\$ 17,563	\$ 25,903

As of December 31, 2008, we had a gross federal net operating loss, capital loss, alternative minimum tax credit and research and development credit carryforwards of approximately \$50.3 million, \$1.2 million, \$2.8 million and \$5.6 million, respectively, which may be available to offset future federal income tax liabilities. In addition, there is an additional \$1.4 million research and development credit that will become an unrecognized tax benefit as our net operating losses are utilized. Approximately \$13.9 million of the gross federal net operating losses are limited by certain provisions of the US tax code which restricts their utilization in the future. Approximately \$11.2 million of the gross federal net operating losses are not included in the deferred tax asset due to a limitation regarding recognition of the tax benefit of the deduction as required under SFAS 123R. The federal net operating loss and research and development credit carryforwards expire at various dates through December 31, 2028. The alternative minimum tax credit carryforward has no expiration date. The capital loss carry forward expires at various times through 2013. In addition, as of December 31, 2008, we had a gross foreign net operating loss carryforward of \$1.1 million, which may be available to offset future foreign income tax liabilities and expire at various dates through December 31, 2013. Approximately \$5.7 million of net deferred tax assets at December 31, 2008 related to certain US net operating and capital loss carryforwards that are subject to limitations under the US tax code.

Undistributed earnings of foreign subsidiaries are considered to be permanently reinvested and accordingly, no provision for U.S. federal and state income taxes or foreign withholding taxes has been made. These earnings could become subject to U.S. income taxes (subject to a reduction for foreign tax credits) and withholding taxes payable to the various foreign countries if they are remitted as dividends, are loaned to us, or if we sell our stock in the subsidiaries.

The domestic versus foreign component of our income from continuing operations before income taxes for the years ended December 31, 2008, 2007 and 2006, was as follows:

<b>2008</b>	<b>2007</b>	<b>2006</b>
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		(In thousands)	
Domestic	\$ (24,277)	\$ 19,570	\$ 44,064
Foreign	40,284	31,180	28,002
	\$ 16,007	\$ 50,750	\$ 72,066

### Tax Contingencies

Effective January 1, 2007, we adopted the provisions of FASB Interpretation No. 48, Accounting for Uncertainty in Income Taxes an interpretation of FASB Statement No. 109 ( FIN 48 ). FIN 48 establishes a single model to address accounting for uncertain

**Table of Contents**

tax positions. FIN 48 clarifies the accounting for income taxes by prescribing a minimum recognition threshold a tax position is required to meet before being recognized in the financial statements. FIN 48 also provides guidance on derecognition, measurement classification, interest and penalties, accounting in interim periods, disclosure and transition. Upon adoption, we increased the long-term liability associated with uncertain tax positions by approximately \$6 million and also increased the long-term receivable by approximately \$5 million consisting of offsetting tax benefits. The balance of \$1 million was an adjustment to the opening balance of retained earnings on January 1, 2007.

The reconciliation of our tax contingencies is as follows (in thousands):

Balance at January 1, 2008	\$ 9,985
Additions based on tax positions taken during a prior period	1,126
Reductions based on tax positions taken during a prior period	
Additions based on tax positions taken during the current period	2,357
Reductions based on tax positions taken during the current period	
Reductions related to settlement of tax matters	
Reductions related to a lapse of applicable statute of limitations	
Balance at December 31, 2008	\$ 13,468

If the \$7.9 million of tax contingencies recorded on our balance sheet reverse, \$1.5 million will affect our effective tax rate. The tax years 2004 through 2008 remain open to examination by the United States taxing jurisdictions to which we are subject. The foreign jurisdictions have open tax years from 2001 to 2008. In accordance with our accounting policy, we recognize accrued interest and penalties related to unrecognized tax benefits as a component of tax expense. This policy did not change as a result of the adoption of FIN 48. We had \$16,000 in accrued interest and penalties at December 31, 2008. We do not anticipate a material change to the amount of unrecognized tax positions within the next 12 months.

While management believes it has adequately provided for all tax positions, amounts asserted by taxing authorities could materially differ from our accrued positions as a result of uncertain and complex application of tax regulations. Additionally, the recognition and measurement of certain tax benefits includes estimates and judgment by management and inherently includes subjectivity. Accordingly, additional provisions on federal and foreign tax-related matters could be recorded in the future as revised estimates are made or the underlying matters are settled or otherwise resolved.

**NOTE 8. DISPOSITIONS AND DISCONTINUED OPERATIONS**

Income from discontinued operations was \$1.1 million in 2006 from the release of funds held in escrow relating to the EMCO product line sold in 2005.

**NOTE 9. RETIREMENT PLANS**

We have a 401(k) profit sharing and retirement savings plan covering substantially all full-time US employees. Participants may defer up to the maximum amount allowed as determined by law. Participants are immediately vested in their contributions. Profit sharing contributions to the plan, which are discretionary, are approved by the Board of Directors.

For the years ended December 31, 2008 and 2007, the Company's contribution for participants in its 401(k) plan was 50% matching on contributions by employees up to 6% of the employee's compensation. For the year ended December 31, 2006, the Company's contribution for participants in its 401(k) plan was 25% matching on contributions by employees up to 6% of the employee's compensation.

The Company's total contributions to the plan were approximately \$1.3 million, in both 2008 and 2007 and \$0.6 million in 2006. Vesting in the profit sharing contribution account is based on years of service, with most participants fully vested after four years of credited service.

In January of 2009, we temporarily suspended our 401(k) match on employee contributions as part of an overall cost reduction plan. The matching component of our 401(k) profit sharing plan will be reviewed on a periodic basis

and may be reinstated at such time that our results of operations warrant a reinstatement.

**Table of Contents****NOTE 10. COMMITMENTS AND CONTINGENCIES*****DISPUTES AND LEGAL ACTIONS***

We are involved in disputes and legal actions from time to time in the ordinary course of business.

In 2008, the Customs Office of Taipei, Taiwan issued a series of orders to our Taiwanese subsidiary, Advanced Energy Taiwan, Ltd., requiring that certain Company products manufactured in mainland China and allegedly imported without proper authorization be removed from Taiwan. We have protested the orders based upon recent rulings of the Taiwan Bureau of Foreign Trade that the products were authorized for unrestricted import. Although our appeal remains pending, we have recorded a charge of \$0.3 million as our best estimate of the amount we are likely to pay to resolve this matter. The maximum penalty related to this matter is \$2.3 million if the Customs Office determines that we have not complied with the removal orders. We believe the likelihood of the Customs Office determining that we have not complied with the removal orders to be remote.

On May 9, 2008, the Company filed a complaint in the District Court for the City and County of Denver, Colorado against Charles S. Rhoades, former Chief Operating Officer of the Company, and SatCon Technology Corp. for breach of contract and other claims relating to Mr. Rhoades' separation from the Company on April 30, 2008. In his answer filed on November 18, 2008, Mr. Rhoades lodged a counterclaim against the Company for recovery of amounts allegedly owed by the Company to Mr. Rhoades under his Executive Transition Agreement entered into with the Company on December 31, 2007, along with attorneys' fees and costs. Trial in the action has been set for March 2010. The Company believes that the claimed amounts, even if awarded, would be immaterial to the Company's results of operations.

***PURCHASE COMMITMENTS***

We have firm purchase commitments and agreements with various suppliers to ensure the availability of components. The obligation at December 31, 2008 under these arrangements is approximately \$26.4 million. Substantially all amounts under these arrangements are due at various times throughout 2009. Actual expenditures will vary based upon the volume of the transactions and length of contractual service provided. In addition, the amounts paid under these arrangements may be less in the event that the arrangements are renegotiated, settled, or cancelled. Certain agreements provide for potential cancellation penalties. Our policy with respect to all purchase commitments is to record losses, if any, when they are probable and reasonably estimable. We believe that we have adequate provision for potential exposure related to inventory on order which may go unused.

***OPERATING LEASES***

The Company has various operating leases for automobiles, equipment, and office and production facilities. Lease expense under operating leases was approximately \$6.1 million in 2008 and \$5.8 million in each of 2007 and 2006. The future minimum rental payments required under non-cancelable operating leases as of December 31, 2008 are as follows:

2009	\$ 5,734
2010	4,641
2011	2,675
2012	2,155
2013	1,612
Thereafter	3,467
	\$ 20,284

The Company finances a portion of its property and equipment under capital lease obligations at interest rates averaging approximately 3%. Pursuant to the capital lease agreements, future minimum lease payments totaling \$0.2 million are due in varying monthly increments through 2013.

**NOTE 11. FOREIGN OPERATIONS AND MAJOR CUSTOMERS**

Our chief operating decision-makers manage our business as a single operating segment, which includes the design, manufacture, sale and support of industrial power conversion products that transform power into various

usable forms and, therefore, our chief decision-makers manage our business as a single operating segment.

We have operations in the United States, Europe and Asia. Enterprise-wide disclosures about product revenues, other revenues and long-lived assets by geographic area and information relating to major customers are presented below. Revenues are primarily attributed to individual countries based on location of the customer.

**Table of Contents**

	<b>2008</b>	<b>2007</b>	<b>2006</b>
Sales to external customers:			
United States	\$ 186,173	\$ 239,963	\$ 262,284
Europe	40,395	37,522	32,274
Asia	102,350	107,214	116,184
	\$ 328,918	\$ 384,699	\$ 410,742
Income from operations:			
United States	\$ (26,959)	\$ 15,158	\$ 38,678
Europe	19,802	7,732	6,678
Asia	22,597	24,037	21,318
Intercompany eliminations	(2,316)	(987)	715
	\$ 13,124	\$ 45,940	\$ 67,389
*Long-lived assets:			
United States	\$ 36,083	\$ 37,225	\$ 37,627
Europe	15,115	16,706	16,292
Asia	53,065	45,985	46,068
	\$ 104,263	\$ 99,916	\$ 99,987

\* Long-lived assets include property and equipment, goodwill, other intangible assets and customer service equipment.

Applied Materials Inc., our largest customer, accounted for 21% of our sales in 2008, 29% of our sales in 2007 and 30% of our sales in 2006. Accounts receivable from Applied Materials, Inc. were approximately \$7.3 million and \$9.5 million as of December 31, 2008 and 2007, respectively, which represented approximately 13% and 15% of the Company's total accounts receivable, respectively.

**NOTE 12. RELATED PARTY TRANSACTIONS**

The Company leases its executive offices and manufacturing facilities in Fort Collins, Colorado from two limited liability partnerships in which the Company's Chairman of the Board of Directors holds an interest. The leases relating to these spaces expire in 2009, 2010, 2011 and 2016 and, each lease contains annual payments of approximately \$1.0 million.

For the year ended December 31, 2008, approximately \$3.2 million was paid attributable to these leases, and approximately \$3.1 and \$3.2 million in each of the years ended December 31, 2007 and 2006, respectively. Rent and related amounts are expensed as incurred.



The Company also had an agreement, which was terminated in 2006, whereby monthly payments of approximately \$12,000 were made to one of the above mentioned limited liability partnerships, which secured future leasing rights on a parcel of land in Colorado. Such amounts were expensed as incurred. Approximately \$100,000 was paid attributable to this agreement in the year ended December 31, 2006.

In November 2008, we reimbursed Douglas Schatz, our Chairman of the Board and former Chief Executive Officer, for a \$125,000 filing fee that he paid to the Federal Trade Commission in connection with notifications submitted by us and Mr. Schatz under the Hart-Scott-Rodino Antitrust Improvements Act of 1976. The notifications were required in connection with Mr. Schatz acquisition of common stock upon the vesting of restricted stock units that had been granted to Mr. Schatz while he was serving as our Chief Executive Officer.

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

Not applicable.

## **Table of Contents**

### **ITEM 9A. CONTROLS AND PROCEDURES**

#### ***Evaluation of Disclosure Controls and Procedures***

We maintain disclosure controls and procedures that are designed to ensure that the information required to be disclosed in the reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2008. Based upon this evaluation, management concluded that our disclosure controls and procedures were effective as of December 31, 2008.

#### ***Management's Report on Internal Control over Financial Reporting***

We maintain internal control over our financial reporting, which is a process designed under the supervision of our Chief Executive Officer and Chief Financial Officer and implemented by our Board of Directors, management and other personnel. Our internal control over financial reporting is designed to provide reasonable assurance concerning the reliability of our financial reporting and the preparation of our financial statements.

Management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our internal control over financial reporting as of December 31, 2008, using the criteria described in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based upon this evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2008.

#### ***Changes in Internal Control over Financial Reporting***

There was no change in our internal control over financial reporting that occurred during the fourth quarter of 2008 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

#### ***Limitations on Controls and Procedures***

Management has concluded that our disclosure controls and procedures and internal control over financial reporting provide reasonable assurance that the objectives of our control system are met. We do not expect, however, that our disclosure controls and procedures or internal control over financial reporting will prevent or detect all misstatements, errors and fraud, if any. All control systems, no matter how well designed and implemented, have inherent limitations; and no evaluation therefore can provide absolute assurance that every misstatement, error or instance of fraud, if any, or risk thereof, has been or will be prevented or detected. The occurrence of a misstatement, error or fraud, if any, would not necessarily require a conclusion that our controls and procedures are not effective.

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

None.

## **PART III**

In accordance with General Instruction G(3) of Form 10-K, certain information required by this Part III is incorporated by reference to the definitive proxy statement relating to our 2009 Annual Meeting of Stockholders (the 2009 Proxy Statement), as set forth below. The 2009 Proxy Statement will be filed with the Securities and Exchange Commission within 120 days after the end of our fiscal year.

### **ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT**

The information set forth in the 2009 Proxy Statement under the headings "Proposal No. 1/ Election of Directors - Nominees" and "9 Section 16(a) Beneficial Ownership Reporting Compliance" is incorporated herein by reference. The information under the heading "Executive Officers of the Registrant" in Part I of this Form 10-K is also incorporated herein by reference.

### **ITEM 11. EXECUTIVE COMPENSATION**

The information set forth in the 2009 Proxy Statement under the headings "Executive Compensation" and "Stock Performance Graph" is incorporated herein by reference.

**Table of Contents**

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

The information set forth in the 2009 Proxy Statement under the headings "Common Stock Ownership by Management and Other Stockholders" and "Equity Compensation Plan Information" is incorporated herein by reference.

**ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS**

The information is set forth in Note 12 of the Notes to the Consolidated Financial Statements, and in the 2009 Proxy Statement under the caption "Certain Transactions with Management" is incorporated herein by reference.

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

The information set forth in the 2009 Proxy Statement under the caption "Fees Billed by Independent Public Accountants" is incorporated herein by reference.

**Table of Contents**

**PART IV**

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

(A) Documents filed as part of this report are as follows:

1. Financial Statements:

Reports of Grant Thornton LLP

Consolidated Financial Statements:

Balance Sheets at December 31, 2008 and 2007

Statements of Operations for each of the three years in the period ended December 31, 2008

Statements of Stockholders' Equity for each of the three years in the period ended December 31, 2008

Statements of Cash Flows for each of the three years in the period ended December 31, 2008

Notes to Consolidated Financial Statements

2. Financial Statement Schedules for each of the three years in the period ended December 31, 2008

**NOTE:** All schedules have been omitted because they are either not required or the information is included in the financial statements and notes thereto.

(B) Exhibits:

3.1 Restated Certificate of Incorporation, as amended.(1)

3.2 By-laws.(2)

3.3 Amendment to By-laws.(3)

4.1 Form of Specimen Certificate for Common Stock.(2)

10.1 Loan and Security Agreement dated July 6, 2005, by and among Silicon Valley Bank, as a bank, and Advanced Energy Industries, Inc., as borrower.(4)

10.2 Loan Modification Agreement dated July 25, 2006, by and between Silicon Valley Bank and Advanced Energy Industries, Inc. (5)

10.3 Loan Modification Agreement dated August 2, 2007, by and between Silicon Valley Bank and Advanced Energy Industries, Inc. (6)

10.4 Lease, dated June 12, 1984, amended June 11, 1992, by and between Prospect Park East Partnership and Advanced Energy Industries, Inc., for property located in Fort Collins, Colorado.(2)

10.5 Lease, dated March 14, 1994, as amended, by and between Sharp Point Properties, L.L.C., and Advanced Energy Industries, Inc., for property located in Fort Collins, Colorado.(2)

10.6 Lease, dated May 19, 1995, by and between Sharp Point Properties, L.L.C. and Advanced Energy Industries, Inc., for a building located in Fort Collins, Colorado.(2)

10.7 Lease dated March 20, 2000, by and between Sharp Point Properties, L.L.C. and Advanced Energy Industries, Inc., for a building located in Fort Collins, Colorado.(7)



**Table of Contents**

10.8	Lease dated January 16, 2003, by and between China Great Wall Computer Shenzhen Co., Ltd., Great Wall Limited and Advanced Energy Industries (Shenzhen) Co., Ltd., for a building located in Shenzhen, China.(8)
10.9	Form of Indemnification Agreement.(2)
10.10	1995 Stock Option Plan, as amended and restated through February 7, 2001.(9)*
10.11	1995 Non-Employee Directors Stock Option Plan, as amended and restated through February 7, 2001.(9)*
10.12	2001 Employee Stock Option Plan.(1)*
10.13	2002 Employee Stock Option Plan.(1)*
10.14	2003 Stock Option Plan.(1)*
10.15	Amendment No. 1 to 2003 Stock Option Plan, dated January 31, 2005.(10)*
10.16	Form of Stock Option Agreement pursuant to the 2003 Stock Option Plan.(10)*
10.17	Amended and Restated 2003 Employees Stock Option Plan. (6)*
10.18	2003 Non-Employee Directors Stock Option Plan.(1)*
10.19	2003 Non-Employee Directors Stock Option Plan, as amended and restated.(6)*
10.20	Form of Restricted Stock Unit Award Agreement pursuant to the 2003 Non-Employee Directors Stock Option Plan, as amended and restated as of February 15, 2006. (11) *
10.21	Form of Restricted Stock Unit Agreement pursuant to the 2003 Non-Employee Directors Stock Option Plan. (12) *
10.22	Restricted Stock Unit Agreement pursuant to the 2003 Stock Option Plan.(13)*
10.23	Non-employee Director Compensation summary.(14)*
10.24	Executive Change in Control Severance Agreement.(15)
10.25	Retirement Term Sheet relating to Douglas S. Schatz.(16)
10.26	Offer Letter to Hans-Georg Betz dated June 30, 2005.(17)
10.27	Executive Change in Control Severance Agreement dated June 30, 2005 by and between Advanced Energy Industries, Inc. and Hans-Georg Betz.(17)
910.28	Global Supply Agreement by and between Advanced Energy Industries, Inc. and Applied Materials Inc. dated August 29, 2005.(18) +
10.29	

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Shipping Amendment to the Global Supply Agreement by and between Advanced Energy Industries, Inc. and Applied Materials Inc. dated August 29, 2005.(18) +

10.30 Settlement Agreement dated October 3, 2005, by and between Advanced Energy Industries, Inc. and MKS Instruments, Inc. and its subsidiary, Applied Science and Technology, Inc.(19)

10.31 Non-Employee Director Compensation Structure. (20) \*

10.32 2006 Leadership Performance Incentive Plan. (12) \*

55

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**Table of Contents**

- 10.33 Advisory Services Agreement dated as of October 26, 2007 by and between Advanced Energy Industries, Inc. and Joseph R. Bronson.(25)
- 10.34 Executive Change in Control Agreement, dated March 29, 2008, by and among Advanced Energy Industries, Inc. and Hans Georg Betz.(22)
- 10.35 Executive Change in Control Agreement, dated March 29, 2008, by and among Advanced Energy Industries, Inc. and Lawrence D. Firestone.(22)
- 10.36 Executive Change in Control Agreement, dated March 29, 2008, by and among Advanced Energy Industries, Inc. and Yuval Wasserman.(22)
- 10.37 Executive Change in Control Agreement, dated March 29, 2008, by and among Advanced Energy Industries, Inc. and Charles S. Rhoades.(23)
- 10.38 2008 Omnibus Incentive Plan.(24)
- 10.39 Auction Rate Securities Rights Agreement dated October 8, 2008 by and between Advanced Energy Industries, Inc. and UBS Financial Services, Inc.
- 14.1 Code of Ethical Conduct, as revised. (21)
- 21.1 Subsidiaries of Advanced Energy Industries, Inc.
- 23.1 Consent of Grant Thornton LLP, Independent Registered Public Accounting Firm.
- 24.1 Power of Attorney.(15)
- 31.1 Certification of the Chief Executive Officer Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2 Certification of the Principal Financial Officer Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1 Certification of the Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2 Certification of the Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- (1) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2003 (File No. 000-26966), filed November 4, 2003.
- (2) Incorporated by reference to the Registrant's Registration Statement on Form S-1 (File No. 33-97188), filed September 2, 1995, as amended.
- (3) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed December 5, 2007.



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- (4) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed July 12, 2005.
- (5) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed July 26, 2006.
- (6) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2007 (File No. 000-26966), filed August 3, 2007.
- (7) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2000 (File No. 000-26966), filed March 27, 2001.
- (8) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2003 (File No. 000-26966), filed February 24, 2004.
- (9) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2001 (File No. 000-26966), filed May 9, 2001.
- (10) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed February 3, 2005.
- (11) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed May 31, 2006.

**Table of Contents**

- (12) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2006 (File No. 000-26966), filed August 9, 2006.
- (13) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2005 (File No. 000-26966), filed March 28, 2006.
- (14) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed February 1, 2006.
- (15) Incorporated by reference to the Registrant's Annual Report on Form 10-K (File No. 000-26966), filed March 31, 2005.
- (16) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed August 9, 2005.
- (17) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed July 6, 2005.
- (18) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2005 (File No. 000-26966), filed November 7, 2005.
- (19) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed October 7, 2005.
- (20) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed July 28, 2006.
- (21) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed May 1, 2007.
- (22) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed April 4, 2008.
- (23) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2008 (File No. 000-26966), filed May 9, 2008.
- (24) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2008 (File No. 000-26966), filed August 7, 2008.
- (25) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-26966), filed October 29, 2007.

\* Compensation  
Plan

+ Confidential  
treatment has  
been granted for  
portions of this

agreement.

**Table of Contents**

**SIGNATURES**

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

ADVANCED ENERGY INDUSTRIES,  
INC.  
(Registrant)

/s/ Hans Georg Betz

Hans Georg Betz  
Chief Executive Officer and President

Date: February 25, 2009

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

<b>Signatures</b>	<b>Title</b>	<b>Date</b>
/s/ Hans Georg Betz Hans Georg Betz	Chief Executive Officer and President and Director	February 25, 2009
/s/ Lawrence D. Firestone Lawrence D. Firestone	Executive Vice President and Chief Financial Officer	February 25, 2009
/s/ Douglas S. Schatz Douglas S. Schatz	Chairman of the Board	February 25, 2009
/s/ Frederick A. Ball Frederick A. Ball	Director	February 25, 2009
/s/ Richard P. Beck Richard P. Beck	Director	February 25, 2009
/s/ Trung T. Doan Trung T. Doan	Director	February 25, 2009
/s/ Edward C. Grady Edward C. Grady	Director	February 25, 2009
/s/ Thomas M. Rohrs	Director	February 25, 2009

Thomas M. Rohrs

/s/ Elwood Spedden

Director

February 25, 2009

Elwood Spedden

58