ADVANCED ENERGY INDUSTRIES INC
Form 10-K/A
July 11, 2005

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

FORM 10-K/A

(Mark One)

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

For the fiscal year ended December 31, 2004.

o 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	**84-0846841**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1625 Sharp Point Drive, Fort Collins, CO	**80525**
(Address of principal executive offices)	(Zip Code)

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

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

None

Securities registered pursuant to section 12(g) of the Act:

Common Stock, $0.001 par value

(Title of class)

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

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

Indicate by check mark whether the Registrant is an accelerated filer (as defined in Exchange Act Rule 12b-2). Yes þ No o.

The approximate aggregate market value of voting and non-voting common stock held by non-affiliates of the registrant was $210.8 million as of June 30, 2004.

32,767,792

(Number of shares of Common Stock outstanding as of March 24, 2005)

DOCUMENTS INCORPORATED BY REFERENCE

Document	Incorporated By Reference In Part No.
Portions of Advanced Energy Industries, Inc. definitive proxy statement for its 2005 Annual Meeting of Stockholders to be held on May 4, 2005	III

EXPLANATORY NOTE

Advanced Energy Industries, Inc. (the Company) is filing this Amendment No. 1 to its Annual Report on Form 10-K for the year ended December 31, 2004 (which was filed with the Securities and Exchange Commission on March 31, 2005) to (a) include a new report of Grant Thornton LLP, our independent registered public accounting firm, with respect to the Company s internal control over financial reporting and our management s assessment of the Company s internal control over financial reporting, (b) include an updated, unqualified opinion by Grant Thornton LLP on the financial statements included in our Form 10-K relating to the year ended December 31, 2004, and (c) clarify information included under Controls and Procedures (Item 9A), and (d) expand disclosures in Business (Item 1), Management s Discussion and Analysis of Financial Condition and Results of Operations (Item 7) and the notes to the financial statements included in our Form 10-K (Item 8). No changes have been made to the Company s consolidated balance sheets and statements of operations, stockholders equity and comprehensive loss or cash flows.

For convenience and ease of reference, we are filing the amended 2004 Annual Report in its entirety. This Amendment No. 1 does not reflect events occurring after the original filing of the 2004 Annual Report or modify or update the disclosures therein in any way other than as described above.

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PART I

ITEM 1. BUSINESS

Overview

We incorporated in Colorado in 1981 and reincorporated in Delaware in 1995. In 1995, we effected the initial public offering of our Common Stock. Unless the context otherwise requires, as used in this Form 10-K/A, references to Advanced Energy refer to Advanced Energy Industries, Inc., and references to the Company , we , us or our re Advanced Energy and its consolidated subsidiaries. Our executive offices are located at 1625 Sharp Point Drive, Fort Collins, Colorado 80525, and our telephone number is 970-221-4670. Our website address is 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 (the SEC). Such reports are also available at www.sec.gov.

We design, manufacture and support a group of key components and subsystems primarily for vacuum process systems. Our primary products are complex power conversion and control systems. Our products also control the flow of liquids into the process chambers for semiconductor equipment and provide thermal control and sensing within the chamber. Our customers use our products in plasma-based thin-film processing equipment that is essential to the manufacture of, among other things:

Semiconductor devices for electronics applications;

Flat panel displays for hand-held devices, computer and television screens;

Compact discs, DVDs and other digital storage media;

Optical coatings for architectural glass, eyeglasses and solar panels; and

Industrial laser and medical applications.

We also sell spare parts and repair services worldwide through our customer service and technical support organization.

We market and sell our products primarily to large, original equipment manufacturers (OEMs) of semiconductor, flat panel display, data storage and other industrial thin-film manufacturing equipment. Sales to customers in the semiconductor capital equipment industry comprised 60% of our sales in 2004, 59% in 2003 and 68% in 2002. We sell our products primarily through direct sales personnel to customers in the United States, Europe and Asia, and through distributors in regions both inside and outside the United States. International sales represented 47% of our sales in 2004, 53% in 2003 and 40% in 2002. Additionally, many of our products sold domestically are placed on systems shipped overseas by our customers.

Products

Our major products fall into four categories: Power, Flow Control, Thermal Instrumentation and Source Technology. Our products are designed to improve productivity and lower the cost of ownership for our customers.

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POWER

Our power systems include direct current (DC), high power, low and mid frequency, and radio frequency (RF) power supplies, matching networks and RF instrumentation. Our power systems refine, modify and control the raw electrical power from a utility and convert it into power that is uniform, predictable and repeatable. Our power systems are primarily used by semiconductor and flat panel display manufacturers in the following applications: physical vapor deposition; chemical vapor deposition; reactive sputtering; electroplating; plasma vacuum processes and bias; oxide, poly and conductor etch; carbon dioxide laser excitation; data storage; and architectural glass.

FLOW CONTROL

Our flow control products include thermal mass flow controllers (MFCs), pressure-based MFCs, liquid MFCs, liquid vapor delivery systems, pressure control systems and ultrasonic control systems. Our flow control products control or monitor the flow of high-purity liquids, liquid vapor, and gases encompassing a wide range of input pressures. Our flow control products are primarily used in semiconductor applications, fiber optics, safe delivery system applications, chemical vapor deposition and silica industries.

THERMAL INSTRUMENTATION

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

SOURCE TECHNOLOGY

Our source technology products include plasma and ion beam sources which are used in the direct deposition of thin films of diamond-like carbon, ion-assisted deposition, ion beam etching, optical coating, industrial coating, pre-cleaning and chamber clean. Our plasma-source platform is a complete system, including a remote plasma source, a power supply and an active matching network.

OTHER PRODUCTS

We also offer DC-to-DC converters specifically designed to power low voltage, high-current microprocessors, application-specific integrated circuits, logic and memory chips and servers.

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The following summarizes our portfolio of product platforms:

	Products	Product Description	Major Process Applications
POWER	**Direct Current** DC Pulsing Product Suite, E-Chuck System, E Wave , MDX Series, MDX II Series, Pinnacle ® 3000, Pinnacle® Diamond, Pinnacle® Plus Series, Pinnacle® Series, Summit Series **High Power** Astral® Series, Crystal® **Low and Mid Frequency** LFGC Series, LFGS Series, PDX® Series, PE and PE II Series, RAS Split Inductor **RF and High Frequency** Apex® Series, CESAR Series, HPG Series, HFV Variable Frequency Generators, RFG Series, Ovation Series **Match Networks** VarioMatch Series, Navigator Match Network Series **RF Instrumentation** Z Scan® Sensors	Power conversion and control systems	CVD PECVD HDPCVD PVD Reactive sputtering Vacuum sputtering Etch Oxide Poly Conductor Ion implantation Plasma vacuum process systems Electroplating Wafer handling Bias CO_2 laser excitation Flat panel display Data storage Architectural glass
FLOW CONTROL	**Mass Flow Controllers** Aera® FC-780CHT Series, Aera® FC-790 Series, Aera® FC-900 Series, Aera® FC-1000 Series, Aera ® FC-7700 Series, Aera® FC-7800 Series, Aera® FC-D980 Series, Aera® FC-P2000 Series, Aera® FC-PA780 Series Digital, Aera® LX-1200/1200C	Digital and analog MFCs, large capacity thermal vaporizer and delivery system, compact thermal vaporizer and delivery system, thermal refill and vaporizer recharge system, ultrasonic	Semiconductor processes Fiber optics Safe delivery systems Vaporized liquids Silica industries CVD diffusion

	Series, Aera® PrimAera® Series Digital flow controller		
	Thermal Vaporizer Systems Aera® ADS-L200, Aera® AS Series, Aera® GS-440A		
	Mass Flow Meters Aera® USF100 A-G Ultra-Sonic, Aera® Mass Flow Meter Series , EMCO® Industrial Flow Meters		
THERMAL INSTRUMENTATION	**Thermal Sensing Systems** Sekidenko OR1000F Optical Fiber Thermometer, Sekidenko OR2000F Optical Fiber Thermometer	Non-contact temperature sensing systems	RTP PVD CVD CMP Track Lithography
SOURCE TECHNOLOGY	**Ion Beam Sources** LIS Series **Plasma Source** Xstream with Active Matching Network , Litmas	Direct deposition of thin films, ion-assisted deposition	CVD chamber clean Deposition Thin films Etch Optical coating Industrial coating
OTHER PRODUCTS	**DC-to-DC Converters** HDS High-Density 1.25 V 11 A, HDS High-Density 1.5 V 36 A, HDS High-Density 2.5 V 43 A, HDS High-Density 3.3 V 34 A, HDS High-Density 48 to 12 V, HDS High-Density 5 V 18 A, VRMs, MVRs	Low voltage/high current power conversion	DC-to-DC conversion

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Markets, Applications and Customers

MARKETS

Most of our sales have historically been to customers in the semiconductor capital equipment industry. Sales to customers in this industry represented 60% of our sales in 2004, 59% in 2003 and 68% in 2002. Our power, flow control, thermal instrumentation, source technology as well as other products are also used in the flat panel display, data storage and advanced product applications markets. Following is a discussion of the major markets for our products.

SEMICONDUCTOR CAPITAL EQUIPMENT MANUFACTURING MARKET. We sell our products primarily to semiconductor capital equipment manufacturers for incorporation into equipment used to make integrated circuits, as well as other equipment manufacturers discussed below. Our products are currently used in the major semiconductor processing steps, including:

Chemical vapor deposition

Physical vapor deposition

Oxide etch

Poly etch

Conductor etch

Wafer handling

Chemical mechanical polishing

Our power systems provide the energy to drive the chemical reaction for thin-film processes such as deposition and etch. Our flow control products control the fluid or gas being delivered to ensure high-purity, our thermal instrumentation products measure the temperature of the process chamber and our source technology products optimize CVD clean, deposition and etch processes. The precise control over 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 substantial part of our business for the foreseeable future.

FLAT PANEL DISPLAY MANUFACTURING EQUIPMENT MARKET. We sell our products to manufacturers of flat panel displays and flat panel projection devices, which have fabrication processes similar to those employed in manufacturing integrated circuits. Flat panel 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-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. There are three major types of flat panel displays: liquid crystal displays, field emitter displays, and gas plasma displays. There are two types of flat panel projection devices: liquid crystal projection and digital micro-mirror displays. We sell our products to all five of these flat panel markets.

DATA STORAGE MANUFACTURING EQUIPMENT MARKETS. We sell products to manufacturers of data storage equipment and data storage devices for use in producing a variety of products, including CDs, CD-ROMs and DVDs; computer hard discs, including both media and thin-film heads; and optical storage media. 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 denser, thinner and more precise films. The use of equipment incorporating magnetic media to store analog and digital data expands with the growth

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of the laptop, desktop and workstation computer markets and the consumer electronics audio and video markets.

ADVANCED PRODUCT APPLICATIONS MARKETS. We sell our products to OEMs and producers of end products in a variety of industrial markets. Thin-film optical coatings are used in the manufacture of many industrial products, including solar panels, architectural glass, eyeglasses, lenses, barcode readers and front surface mirrors. Thin films of diamond-like coatings and other materials are currently applied to products in plasma-based processes to strengthen and harden surfaces on such diverse products as tools, razor blades, automotive parts and hip joint replacements. Other thin-film processes that use our products enable a variety of industrial packaging applications such as decorative wrapping and food packaging. 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. Many of these thin-film industrial applications require power levels substantially greater than those used in our other markets.

Also included in the advanced product applications markets are our sales to OEMs of high-end computing, automated test equipment and DataCom products.

APPLICATIONS

We have sold our products for use in connection with the following processes and applications:

Semiconductor	**Data Storage**	**Flat Panel Display**	**Advanced Product Applications**
Chemical vapor deposition	CD-ROMs	Active matrix LCDs	Advanced computer technology workstations and servers
Etch (conductor and dielectric)	CDs	Digital micro-mirror	Automobile coatings
High-density plasma CVD	DVDs	Field emission displays	Chemical, physical and materials research
Ion implantation	Hard disc carbon wear coatings	Large flat panel displays	Circuit board etch-back and de-smear
Magnet field controls	Hard disc magnetic media	LCD projection	Consumer product coatings
Mass flow control	Magneto-optic CDs	Liquid crystal displays	Diamond-like coatings
Megasonic cleaning	Recordable CDs	Medical applications	Food package coatings
Optical fiber thermometers	Thin-film heads	Plasma displays	Glass coatings
Photo-resist stripping			Optical coatings
Physical vapor deposition			Photovoltaics
Plasma-enhanced CVD			Superconductors
Chemical mechanical polishing (CMP)			
Solid-state temperature controls			
Wafer handling			

CUSTOMERS

Our products are sold worldwide to more than 100 OEMs and directly to more than 500 end users. Our ten largest customers accounted for 59% of our total sales in 2004, 54% in 2003 and 53% in 2002. We expect that sales of our products to these customers will continue to account for a large percentage of our sales in the foreseeable future.

Applied Materials, our largest customer, accounted for 27% of our sales in 2004, 20% in 2003 and 27% in 2002. No other customer exceeded 10% of our sales during these yearly periods.

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Backlog

Our backlog decreased from $53.7 million at December 31, 2003 to $33.9 million at December 31, 2004. We schedule production of our systems based on order backlog and customer commitments. Backlog includes only orders scheduled to ship in the following quarter for which written authorizations have been accepted and revenue has not been recognized. Due to possible customer changes in delivery schedules and cancellations of orders, our backlog at any particular date is not necessarily indicative of actual sales for any succeeding period. 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 Service

We sell our products primarily through direct sales personnel to customers in the United States, Europe and Asia. Our sales personnel are located at our headquarters in Fort Collins, Colorado, and in sales offices in San Jose, California; Austin and Dallas, Texas; and Vancouver, Washington. To serve customers in Asia and Europe, we have offices in Shenzhen and Shanghai, China; Bicester, England; Dresden, Filderstadt and Stolberg, Germany; Hachioji and Tokyo, Japan; Bundang, South Korea; and Hsinchu and Taipei Hsien, Taiwan. These offices have primary responsibility for sales in their respective markets. We also have distributors inside and outside the United States.

Sales outside the United States represented approximately 47% of our total sales in 2004, 53% in 2003 and 40% in 2002. International sales are subject to certain risks, including exposure to foreign currency fluctuations, the imposition of governmental controls, political and economic instability, trade restrictions, changes in tariffs and taxes and longer payment cycles typically associated with international sales.

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. We maintain customer service offices in Fort Collins, Colorado; San Jose, California; Austin and Dallas, Texas; Vancouver, Washington; Shanghai, China; Bicester, England; Dresden, Filderstadt and Stolberg, Germany; Hachioji and Tokyo, Japan; Bundang, South Korea; and Hsinchu and Taipei Hsien, Taiwan.

Manufacturing

Our manufacturing locations are in Fort Collins, Colorado; Shenzhen, China; Stolberg, Germany; Hachioji, Japan; and Vancouver, Washington. In 2004, we continued the realignment of our worldwide manufacturing infrastructure, with Shenzhen, China expected to be the central high-volume manufacturing site by the end of 2005. We announced plans to realign the Fort Collins, Colorado and Hachioji, Japan locations to focus on service and support, new product introduction and advanced manufacturing. We expect to complete the realignment by the end of 2005.

With the exception of our Fort Collins, Colorado and Shenzhen, China facilities, we generally manufacture different products at each facility. Of the total number of product lines planned for transfer to Shenzhen, China, we have completed approximately 75% of the power product transfers from Fort Collins, Colorado and have transferred approximately 60% of mass flow control products from Hachioji, Japan as of the end of 2004. Our manufacturing activities consist

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of the assembly and testing of components and subassemblies, which are then integrated into our final products. Once final testing of all electrical and electro-mechanical subassemblies is completed, the final product is subjected to a series of reliability-enhancing operations prior to shipment to our customers. We purchase a wide range of electronic, mechanical and electrical components, some of which are designed to our specifications. We are increasingly outsourcing more of our subassembly work.

We rely on sole and limited source suppliers for certain parts and subassemblies. This reliance creates a potential inability to obtain an adequate supply of required components and reduces control over pricing and delivery time of components. An inability to obtain adequate supplies would require us to seek alternative sources of supply or might require us to redesign our products to accommodate different components or subassemblies. We could be prevented from the timely shipment of our products to our customers if we are forced to seek alternative sources of supply, manufacture such components or subassemblies internally, or redesign our products. Further, due to our customers strict and extensive requirements, most supplier changes require vendor requalification, which can be time consuming and costly.

Intellectual Property

We have a practice of seeking patents on inventions governing new products or technologies as part of our ongoing research, development and manufacturing activities. We currently hold 86 United States patents, 37 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 United Kingdom, Germany, France and the Pacific Rim, 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 Cautionary Statements 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, price, quality and reliability and level of customer service and support. 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.

The markets in which we compete have seen an increase in global competition, especially from Asian and European-based equipment vendors. We have several foreign and domestic competitors for each of our product lines. Some of these competitors are larger and have greater resources than we have. Our ability to continue to compete successfully in these markets depends on our ability to make timely introductions of system 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 we will be required to maintain a high level of investment in both research and development and sales and marketing in order to remain competitive.

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Operating Segment

We operate and manage our business of manufacturing, marketing and servicing components and subsystems for plasma-based manufacturing processes as one segment. All material operating units qualify for aggregation under Statement of Financial Accounting Standards (SFAS) No. 131, Disclosures About Segments of an Enterprise and Related Information, because all of our products and systems have similar economic characteristics, procurement, production and distribution processes. To report revenues from external customers for each product and service or each group of similar products and services would be impracticable. Since we operate in one segment, all financial segment information required by SFAS No. 131 is found in the accompanying consolidated financial statements. Please refer to Note 15 Foreign Operations and Major Customers, included in Part II, Item 8 of this Form 10-K/A for further discussion regarding our operations.

Research and Development

The market for our subsystems for vacuum process systems and related accessories 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 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. Research and development expenses were $51.5 million in 2004, $51.6 million in 2003 and $49.0 million in 2002, representing 13.0% of total sales in 2004, 19.7% in 2003 and 20.5% in 2002.

Number of Employees

As of December 31, 2004, we had a total of 1,651 employees, 1,486 of whom were full-time employees. There is no union representation of our employees, 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 compliance with all such laws and regulations.

Cautionary Statements Risk Factors

This Form 10-K/A includes 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 Form 10-K/A, 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.

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Some of the forward-looking statements in this Form 10-K/A are expectations or projections relating to:

Our ability to refinance our convertible subordinated notes due in 2006;

Our future revenues;

Our future gross profit;

Transitioning our high-volume manufacturing to Shenzhen, China;

Transitioning to high-quality, low-cost suppliers local to our Shenzhen, China facility (Tier 1 Asian suppliers);

Market acceptance of our products;

Reducing our operating breakeven point;

Customer inventory levels, requirements and order levels;

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 this section. 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.

We have $187.7 million of convertible subordinated notes outstanding with maturity dates in the second half of 2006. Our current cash reserves are insufficient to repay this debt in full. We will not be able to internally generate sufficient cash from operations to repay this debt by the maturity dates. Depending upon the price of our stock, refinancing our debt obligations, if possible, may result in dilution of our common shareholders equity.

We will be required to repay the notes at maturity, unless we can refinance the debt or the noteholders convert their notes into common stock before the maturity dates. Our 5.0% convertible subordinated notes with a principal balance of $121.5 million are due September 1, 2006, and our 5.25% convertible subordinated notes with a principal balance of $66.2 million are due November 15, 2006. Our 5.0% notes are convertible into common stock at $29.83 per share. Our 5.25% notes are convertible into common stock at $49.53 per share. Noteholders will be unlikely to convert their notes unless our stock price rises above the conversion levels of the notes. On March 24, 2005 the closing price of our common stock on the Nasdaq National Market was $9.35 per share.

We are exploring ways to refinance the notes, as well as potential sales of assets that are not critical to our core operations. We might not be able to refinance the notes prior to their maturity on commercially reasonable terms, or at all. Refinancing the debt, if possible, might result in dilution to our common stockholder s equity. If we are unable to repay or refinance the notes at or before maturity, the trustee of the notes will have the right to bring judicial proceedings against us to enforce the noteholders rights, including the right to repayment prior and in preference to our common stockholders and potentially the right to force us to liquidate some of our assets.

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The semiconductor, semiconductor capital equipment and flat panel display industries are highly cyclical, which impacts our operating results.

These industries have historically been growth cyclical because of sudden changes in demand for semiconductors, flat panel displays and the related manufacturing capacity. The rate of changes in demand, including end demand, is accelerating, and the effect of these changes is occurring sooner, exacerbating the volatility of these cycles. These changes affect the timing and amount of our customers equipment purchases and investments in new technology, as well as our costs and operations.

During periods of declining demand, our customers typically reduce purchases, delay delivery of products and cancel orders. We might incur significant charges as we seek to align our cost structure with the reduction in sales. In addition, we might not be able to respond adequately or quickly to the declining demand. We may also be required to record significant reserves for excess and obsolete inventory as demand for our products changes. Our inability to reduce costs and the charges resulting from other actions taken in response to changes in demand for our products would adversely affect our operating results.

Our quarterly and annual operating results fluctuate significantly and are difficult to predict.

Beginning in 2001 and through late 2003, demand for our products from the semiconductor capital equipment industry declined substantially from its peak in 2000, and we incurred significant losses each quarter from the second quarter of 2001 through the fourth quarter of 2003. We were able to generate net income of $11.4 million in the first half of 2004 followed by a net loss of $24.1 million in the second half of 2004. Fluctuations in our operating results historically have resulted in corresponding changes in the market prices of our securities. Our operating results are affected by a variety of factors, many of which are beyond our control and difficult to predict. These factors include:

- Changes in economic conditions in the semiconductor, semiconductor capital equipment and flat panel display industries and other industries in which our customers operate;
- The timing and nature of orders placed by our customers;
- The seasonal variations in capital spending by our customers;
- Changes in customers inventory management practices;
- Customer cancellations of previously placed orders and shipment delays;
- Pricing competition from our competitors;

Customer demands to reduce prices, enhance features, improve reliability, shorten delivery times and extend payment terms;

Component shortages or allocations or other factors that change our levels of inventory or substantially increase our spending on inventory or result in manufacturing delays;

The introduction of new products by us or our competitors;

Declines in macroeconomic conditions;

Potential litigation especially regarding intellectual property; and

Our exposure to currency exchange rate fluctuations between the several functional currencies in foreign locations in which we have operations. Currently, a 10% adverse change in exchange rates would have approximately a 3% to 4% adverse impact on reported revenues and expenses.

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Our near-term profitability will be impacted by our transition of the production of substantially all of our product lines to our manufacturing facility in Shenzhen, China, which transition has taken longer than initially anticipated.

We have invested significant human and financial resources to establish our manufacturing facility in Shenzhen, China. These investments are being made in anticipation of reducing our labor costs by increasing our workforce in China and correspondingly decreasing our workforce in the United States.

Slower than expected customer acceptance of products manufactured in our Shenzhen facility has required us to operate duplicate manufacturing facilities throughout 2004, which has negatively affected our gross margin and operating expenses, including logistics costs. By the end of 2004, we had transferred production of 19 of the 25 product lines we had planned to transfer to the Shenzhen facility, with the remaining 6 product lines expected to be transferred by the end of 2005. Some of our major customers have strict and extensive requirements, which may continue to delay or prevent them from accepting the remaining 6 product lines to be transferred to our Shenzhen facility. We will continue to experience operating inefficiencies, and thus might not achieve profitability until we can complete the transfer of a sufficient volume of our manufacturing to our Shenzhen facility.

We might not realize all of the intended benefits of transitioning our supply base to Tier 1 Asian suppliers.

We anticipate purchasing a substantial portion of components for our products from Asian suppliers by the end of 2005 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, including major customers who have strict and extensive requirements, might not accept our products if they contain these lower-priced components. A delay or refusal by our customers to accept such products 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 operating results.

Governmental or regulatory actions in China, Japan, the United States or any other country in which we operate might increase our costs, including new costs incurred to comply with such actions. Any such action could have an adverse effect on our operating results.

The regulatory environments in every country in which we operate are subject to change, and as a result new governmental or regulatory actions may be mandated, with which we may be required to comply. We might incur higher than anticipated costs to comply with such regulations or might be limited in the nature or amount of business that we can conduct. Specifically, a future decision by the Chinese government to allow the Chinese yuan to float against the U.S. dollar could significantly increase the labor and other costs incurred in the operation of our Shenzhen facility.

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Component 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 depends in part on the timely delivery of parts, components and subassemblies from suppliers. We rely on sole and limited source suppliers for some of our parts, components and subassemblies that are critical to the manufacturing of our products. This reliance involves several risks, including the following:

- The potential inability to obtain an adequate supply of required parts, components or subassemblies;
- The potential for a sole source provider to cease operations;
- Our potential need to fund the operating losses of a sole source provider;
- Reduced control over pricing and timing of delivery of parts, components or subassemblies; and
- The potential inability of our suppliers to develop technologically advanced products to support our growth and development of new products.

If we are unable to successfully qualify additional suppliers and manage relationships with our existing and future suppliers, we will experience shortages of parts, components or subassemblies, increased material costs and shipping delays for our products, which will adversely affect our results of operations and relationships with current and prospective customers.

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 United Kingdom, Germany, France and the Pacific Rim, because there are other manufacturers and developers of power conversion and control systems in those countries as well as customers for those systems. If we are unable to protect our intellectual property successfully, our results of operations will be adversely affected.

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Intellectual property rights are difficult to enforce in China.

Commercial law in China 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 or otherwise obtain or use our intellectual property. We cannot assure you 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 under Chinese law.

We have been and continue to be involved in patent litigation, which has resulted in substantial costs and could result in additional costs, restrictions on our ability to sell certain products and an inability to prevent others from using technology we have developed.

In May 2002, a jury determined that we had infringed a patent held by MKS Instruments, Inc. (MKS) by selling one of our reactive gas generators, known as our RAPID product. Following the jury verdict, we entered into a settlement agreement with MKS, pursuant to which we paid MKS $4.2 million and agreed to pay royalties in connection with future sales of the infringing RAPID product.

MKS filed a patent infringement suit against us in the United States District Court in Wilmington, Delaware, in May 2003 and a counterpart action in Germany in June 2004, alleging that our Xstream With Active Matching Network products (Xstream products) infringe patents held by MKS. Our Xstream products are reactive gas generators. In July 2004, a jury in the U.S. litigation returned a verdict against us, finding that our Xstream products infringe three MKS patents. A hearing regarding damages has not been held or scheduled. The court has not enjoined us from selling our Xstream products. A decision on the infringement allegation in Germany is expected on April 8, 2005, while an action for nullity of MKS s German patent remains pending.

We also have been involved in patent litigation with other parties, including Sierra Applied Sciences and the Unaxis Corporation. In 2004, we incurred approximately $4.9 million in legal fees in connection with patent litigation.

Further patent litigation might:

Cause us to incur substantial costs in the form of legal fees, fines and royalty payments;

Result in restrictions on our ability to sell certain products;

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

Require us to redesign products or seek alternative technologies.

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

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

Our ten largest customers accounted for 59% of our total sales during 2004, 54% in 2003 and 53% in 2002. Our largest customer, Applied Materials, accounted for 27% of our total sales in 2004, 20% in 2003 and 27% in 2002. No other customer represented greater than 10% of our total sales for any of the three yearly periods ended December 31, 2004. The loss of any of our significant customers or a material reduction in any of their purchase orders would significantly harm our business, financial condition and results of operations.

Our customers continuously 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 issue price concessions to our customers to remain competitive. A ten percent reduction in our historical selling prices could lead to a nine percent or greater decline in gross margin. We may not be able to reduce our other operating expenses in an amount sufficient to offset potential margin declines.

Certain of our largest customers also exert pressure on us to restrict our product distribution including, limiting the sale of our products to certain original equipment manufacturers, based on shared technological development, and prohibiting sales to our end user customer base entirely. Given our size relative to certain of our largest customers, we may be required to agree to limitations of this nature to remain competitive. Such limitations of our customer base would significantly harm our business.

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. Our inability to improve and expand our products and product offerings would have an adverse affect on our sales and results of operations.

We might not be able to compete successfully in international markets or meet the service and support needs of our international customers.

Our sales to customers outside the United States were approximately 47% in 2004, 53% in 2003 and 40% in 2002. Our success in competing in international markets is subject to our ability to manage various risks and difficulties, including, but not limited to:

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 in enforcement of intellectual property and contract rights in different jurisdictions;

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

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

Collecting past due accounts receivable from foreign customers; 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 must achieve design wins to retain our existing customers and to obtain new customers.

The constantly changing nature of semiconductor fabrication 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.

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 or profits.

We believe that equipment manufacturers often select their suppliers based on factors such as long-term relationships. Accordingly, we may have difficulty achieving design wins from equipment manufacturers who are not currently 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. If we are not successful in achieving design wins our sales and results of operations will be adversely impacted.

Our Chief Executive Officer has announced his intent to retire in 2005. Our success may depend upon our ability to identify and recruit a new chief executive officer who can lead and manage the company.

Douglas S. Schatz, our President, Chief Executive Officer and Chairman of the Board, notified our Board of Directors on December 30, 2004, of his intent to retire from his executive positions as soon as his successor can be recruited. The search for Mr. Schatz s successor requires substantial time and attention from our Board of Directors and senior management. The impending retirement of Mr. Schatz also creates uncertainty among our employees, including senior management. If we are unable to identify and recruit an appropriate successor for Mr. Schatz or if we are unable to retain our senior management team during the process, our ability to realize fully the benefits of our investments in research and development, our Shenzhen facility and other business plans may be at risk.

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Warranty costs on certain products may be in excess of historical experience.

In recent years, we have experienced higher than expected levels of warranty costs on some products. We have been required to repair, rework and, in some cases, replace these products. Our warranty costs generally increase when we introduce newer, more complex products. We recorded warranty expense of approximately $10.5 million in 2004, $8.1 million in 2003 and $13.2 million in 2002. These expenses represented approximately 2.6% of our sales in 2004, 3.1% in 2003 and 5.5% in 2002. If such levels of warranty costs increase in the future, our financial condition and results of operations will be adversely affected.

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. We believe we are in compliance with current applicable regulations, directives and standards and have obtained all necessary permits, approvals and authorizations to conduct our business. However, 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 could be suspended; or

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

Our inability to comply with current or future regulations, directives and standards will adversely affect our operating results.

Our Chief Executive Officer owns a significant percentage of our outstanding common stock, which could enable him to control our business and affairs.

Douglas S. Schatz, our Chief Executive Officer, owned approximately 33% of our common stock outstanding as of March 24, 2005. This stockholding gives Mr. Schatz significant voting power. 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 control our business affairs for the foreseeable future in a manner with which our other stockholders may not agree.

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EXECUTIVE OFFICERS OF THE REGISTRANT

Our executive officers, their positions and their ages as of March 24, 2005, are as follows:

Name	Age	Position
Douglas S. Schatz	59	Chairman of the Board, President and Chief Executive Officer
Michael El-Hillow	53	Executive Vice President of Finance and Administration and Chief Financial Officer
Linda A. Capuano	53	Executive Vice President and Chief Technology Officer
Charles S. Rhoades	44	Executive Vice President, Products and Operations
James G. Guilmart	50	Senior Vice President of Sales

Douglas S. Schatz is a co-founder and has been our Chief Executive Officer and Chairman of the Board since our incorporation in 1981. From our incorporation to July 1999, Mr. Schatz also served as our President. In March 2001, Mr. Schatz was reappointed as President. Mr. Schatz also serves as a Director of Advanced Power Technology, Inc., a manufacturer of power semiconductors. Mr. Schatz is a member of the CEO Committee of the Mountain States Council of the American Electronics Association and serves on the Engineering Advisory Board of Colorado State University.

Michael El-Hillow joined us in November 2001 as Senior Vice President of Finance and Administration and Chief Financial Officer; in February 2003 he was named Executive Vice President. From April 1997 to July 2001, Mr. El-Hillow was Senior Vice President and Chief Financial Officer of Helix Technology Corporation, a manufacturer of vacuum products for semiconductors, flat panel display and data storage markets. He was Senior Vice President and Chief Financial Officer of Spike Broadband Systems, Inc. from July 2001 to October 2001. Prior to his roles at Helix Technology Corporation, he was Vice President, Finance, Treasurer and Chief Financial Officer at A.T. Cross Company and an audit partner at Ernst & Young LLP. Mr. El-Hillow serves on the Board of Directors of Evergreen Solar, Inc., a manufacturer of solar panels and related products.

Linda A. Capuano serves as Executive Vice President and Chief Technology Officer. Prior to joining us in October 2004, Dr. Capuano served in various capacities at Honeywell (formerly AlliedSignal, Inc.) since July 1995. Most recently, she was Corporate Vice President of Technology Strategy at Honeywell International, Inc. since September 2001; her previous roles spanned marketing, technology innovation, new business development, and general business management. She also served as Vice President of Operations and Business Development from June 1988 to July 1995 and as Chief Financial Officer from 1992 to 1994, at Conductus, Inc., a company which she co-founded. Dr. Capuano is also an associate member of the National Academy of Sciences.

Charles S. Rhoades joined us in September 2002 as Senior Vice President and General Manager of Control Systems and Instrumentation; in November 2004 he was named Executive Vice President of Products and Operations. From March 2000 to September 2002, Mr. Rhoades was Vice President, Corporate Development at Portera Systems. Prior to Portera Systems, he was Managing Director of Product Development at Lam Research.

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James G. Guilmart joined us in September 1999 as Director of Applied Materials Account Team and was named Senior Vice President of Sales in October 2000. From October 1998 to August 1999, he was Senior Vice President, SAP Business Unit at Siemens Information and Communications Products, LLC. Prior to Siemens, he was Vice President, Business Implementation at Unisys Corporation.

ITEM 2. PROPERTIES

Information concerning our principal properties at December 31, 2004 is set forth below.

Location	Type	Principal Use	Sq. Footage	Ownership
San Jose, CA	Office	Distribution	20,000	Leased
Fort Collins, CO	Office, plant	Headquarters, Research and development, Manufacturing, Distribution	248,000	Leased
Austin, TX	Office	Distribution	8,000	Leased
Dallas, TX	Office	Distribution	2,000	Leased
Vancouver, WA	Office, plant	Research and development, Manufacturing, Distribution	20,000	Leased
Shanghai, China	Office	Distribution	8,000	Leased
Shenzhen, China	Office, plant	Manufacturing, Distribution	100,000	Leased
Bicester, England	Office	Distribution	1,000	Leased
Dresden, Germany	Office	Distribution	2,000	Leased
Filderstadt, Germany	Office	Distribution	9,000	Leased
Stolberg, Germany	Office, plant	Research and development, Manufacturing, Distribution	17,000	Leased
Hachioji, Japan	Office, plant	Research and development, Manufacturing, Distribution	46,000	Owned (1)
Tokyo, Japan	Office	Distribution	4,000	Leased
Bundang, South Korea	Office	Distribution	14,000	Owned (2)
Hsinchu, Taiwan	Office	Distribution	9,000	Leased
Taipei Hsien, Taiwan	Office	Distribution	13,000	Leased

(1) The Company owns this facility which serves as collateral for senior borrowings of approximately $6.0 million as of December 31, 2004, maturing serially through April 2010.

(2) The Company owns this facility and has a mortgage note payable of approximately $1.7 million outstanding as of December 31, 2004, due in 2007, which is collateralized by the building.

During 2005, we expect to reduce the square footage of our Fort Collins, Colorado facility by approximately 15% 20%. We consider all of the above facilities suitable and adequate to meet our production and office space needs for the foreseeable future.

In 2004, we closed the following facilities:

Location	Type	Principal Use	Sq. Footage	Ownership

Campbell, CA	Office	Research and development	14,000	Leased
Longmont, CO	Office	Distribution	4,000	Leased
Voorhees, NJ	Office, plant	Research and development, Manufacturing, Distribution	78,000	Leased
Beaverton, OR	Office	Distribution	3,000	Leased
Bundang, South Korea	Office	Distribution	4,000	Leased

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ITEM 3. LEGAL PROCEEDINGS

On May 14, 2003, MKS Instruments, Inc. (MKS) filed a patent infringement suit against us in the United States District Court in Wilmington, Delaware, alleging that our Xstream With Active Matching Network products (Xstream products) infringe patents held by MKS. On July 23, 2004, a jury returned a verdict against us, finding that our Xstream products infringe three MKS patents. A hearing regarding damages has not been held or scheduled, nor has the court enjoined us from selling our Xstream products.

On June 2, 2004, as a counterpart to the Delaware litigation described above, MKS filed a petition in the District Court in Munich, Germany, alleging infringement by our Xstream products of a German patent owned by MKS, which is a counterpart patent to one of the patents subject to the Delaware litigation. On August 4, 2004, the German court dismissed MKS s petition and assessed costs of the proceeding against MKS. MKS has refiled an infringement petition in the district court of Mannheim. A decision on the infringement allegation is expected on April 8, 2005, while an action for nullity of MKS s German patent remains pending.

On July 12, 2004, we filed a complaint in the United States District Court for the District of Delaware against MKS alleging that MKS s Astron reactive gas source products infringe our U.S. Patent No. 6,046,546. A stipulation of voluntary dismissal was filed by the parties on March 9, 2005, which leaves us free to refile our claims upon conclusion of MKS s lawsuit against our Xstream products.

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 trades on the Nasdaq National Market under the symbol AEIS. At March 24, 2005, the number of common stockholders of record was 820, and the closing sale price on that day was $9.35 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 National Market; quotations do not necessarily represent actual transactions:

	2004		2003	
	High	Low	High	Low
First Quarter	$ 28.19	$ 19.13	$ 17.43	$ 7.91
Second Quarter	$ 23.07	$ 12.83	$ 16.83	$ 7.37
Third Quarter	$ 15.32	$ 8.78	$ 24.65	$ 13.56
Fourth Quarter	$ 10.97	$ 7.92	$ 29.99	$ 18.66

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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. Furthermore, our revolving credit facility prohibits the declaration or payment of any cash dividends on our common stock.

ITEM 6. SELECTED FINANCIAL DATA

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/A in order to fully understand factors that may affect the comparability of the information presented below.

The selected consolidated statement of operations data for the year ended December 31, 2004, and the related consolidated balance sheet data as of December 31, 2004, was derived from the consolidated financial statements audited by Grant Thornton LLP, Independent Registered Public Accounting Firm. The selected consolidated statement of operations data for the years ended December 31, 2003 and 2002, and the related consolidated balance sheet data as of December 31, 2003, were derived from consolidated financial statements audited by KPMG LLP, Independent Registered Public Accounting Firm. The related audit reports are included in this Form 10-K/A, within Part II, Item 8, Financial Statements and Supplementary Data. The selected consolidated statement of operations data for the years ended December 31, 2001 and 2000, and the consolidated balance sheet data as of December 31, 2002, 2001 and 2000, were derived from audited consolidated financial statements not included in this Form 10-K/A.

(In thousands, except per share data)	**Years Ended December 31,**				
	2004	**2003**	**2002**	**2001**	**2000**
Statement of Operations Data:					
Sales	$ 395,305	$ 262,402	$ 238,898	$ 193,600	$ 359,782
Gross profit	119,679	87,947	68,760	57,432	176,453
Total operating expenses	121,223	111,079	130,745	104,319	91,253
(Loss) income from operations	(1,544)	(23,132)	(61,985)	(46,887)	85,200
Net (loss) income	$ (12,747)	$ (44,241)	$ (41,399)	$ (31,379)	$ 68,034
Diluted (loss) earnings per share	$ (0.39)	$ (1.37)	$ (1.29)	$ (0.99)	$ 2.10
Diluted weighted-average common shares outstanding	32,649	32,271	32,026	31,712	32,425

	December 31,				
	2004	**2003**	**2002**	**2001**	**2000**
Balance Sheet Data:					
Cash, cash equivalents and marketable securities	$ 107,982	$ 134,892	$ 172,347	$ 271,978	$ 189,527
Working capital	206,915	205,835	247,942	349,608	277,154
Total assets	395,975	414,731	455,733	450,195	365,835
Total debt	195,408	201,651	212,220	207,724	83,927
Stockholders equity	144,978	151,834	183,339	214,345	238,798

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

The following discussion contains, in addition to historical information, forward-looking statements, within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Statements that are other than historical information are forward-looking statements. For example, statements relating to our beliefs, expectations, plans and projections are forward-looking statements, as are statements that certain actions, conditions or circumstances will continue or change. Forward-looking statements involve risks and uncertainties. Consequently, our actual results may differ materially from the results discussed in the forward-looking statements. Factors that could cause or contribute to such differences or prove any forward-looking statements, by hindsight to be overly optimistic or unachievable, include, but are not limited to, the following:

Ability to refinance our convertible subordinated notes payable due in 2006;

Changes or slowdowns in general economic conditions or conditions in the semiconductor, semiconductor capital equipment and flat panel display industries and other industries in which our customers operate;

Acceptance by our customers of products manufactured or planned to be manufactured at our China-based manufacturing facility;

Ability to transition a substantial portion of our materials purchases to high-quality, low-cost suppliers local to our Shenzhen, China facility (Tier 1 Asian suppliers);

Timing and nature of orders placed by our customers, including their product acceptance criteria;

Future warranty costs in excess of anticipated levels;

Periodic charges for excess and obsolete inventory;

Pricing competition from our competitors;

Lower average selling prices than anticipated;

Costs incurred and judgments resulting from patent or other litigation;

Component shortages or allocations or other factors that change our levels of inventory or substantially increase our spending on inventory;

The introduction of new products by us or our competitors;

Changes in our customers inventory management practices; and

Customer cancellations of previously placed orders and shipment delays.

For a discussion of these and other factors that may impact our realization of our forward-looking statements, see Cautionary Statements Risk Factors within Item 1 of Part I of this Form 10-K/A.

Executive Summary

We focused substantial attention in 2004 on reducing costs, by making significant progress in our transition of high-volume manufacturing from our Fort Collins, Colorado facility to our Shenzhen, China facility, methodically addressing our inventory and materials costs, and bringing greater discipline to our product life-cycle program. By the end of 2004, we had transitioned to our Shenzhen facility production of 19 of the 25 product lines we currently plan to transition. We expect to transfer the remaining 6 product lines by the end of 2005. Also by the end of 2004, we had selected Tier 1 Asian suppliers for a substantial portion of the parts and components anticipated to be used in the production of these 25 product lines. During the transition of the product lines to our Shenzhen facility, we have been incurring significant

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operating and logistics costs as a result of duplicate manufacturing facilities in Shenzhen and Fort Collins, which has placed significant downward pressure on our gross margin. As the transition of production progresses, in addition to our realizing significantly lower labor and other costs at the Shenzhen facility compared to our Fort Collins facility, the need for the inefficient duplicate manufacturing and related costs should decline.

Our net loss for 2004 was $12.7 million, compared to a net loss of $44.2 million in 2003 and $41.4 million in 2002. The improvement was principally due to the higher sales base. Our sales in 2004 were $395.3 million, a 51% increase over sales in 2003, and our sales in 2003 reflected an increase of 10% over sales in 2002. Our increasing sales from 2003 to 2004 principally reflect recovery from the 2002-2003 downturns in the semiconductor, semiconductor capital equipment, and flat panel display industries. Our sales in the second half of 2004, however, were 15% lower than our sales in the first half of 2004, due to decreasing sales to our semiconductor OEM customers, offset by continued growth in the flat panel display and other advanced thin film markets such as industrial coatings. We believe the decline in our sales to our semiconductor OEM customers reflects an industry slowdown.

Our gross margin remained low in 2004. We expect gross margin to improve as the transition of high-volume manufacturing to our Shenzhen facility and move to Tier 1 Asian suppliers progress. We also expect the operational changes we have effected, particularly in our pricing, procurement and product life-cycle management programs, to positively impact our gross margin beginning in 2005.

Results of Operations

The following table summarizes certain data as a percentage of sales extracted from our consolidated statements of operations:

	Years Ended December 31,		
	2004	**2003**	**2002**
Sales	100.0%	100.0%	100.0%
Cost of sales	69.7	66.5	71.2
Gross profit	30.3	33.5	28.8
Operating expenses:			
Research and development	13.0	19.7	20.5
Selling, general and administrative	15.8	20.6	27.9
Litigation damages			1.7
Restructuring charges	1.0	1.6	3.8
Impairment of intangible assets	0.9	0.4	0.8
Total operating expenses	30.7	42.3	54.7
Loss from operations	(0.4)	(8.8)	(25.9)
Other expense	(1.8)	(3.6)	(0.7)
Net loss before income taxes	(2.2)	(12.4)	(26.6)
(Provision) benefit for income taxes	(1.0)	(4.5)	9.3
Net loss	(3.2)%	(16.9)%	(17.3)%

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SALES

The following tables summarize annual net sales, and percentages of net sales, by customer type for each of the three years in the period ended December 31, 2004:

	Years Ended December 31,		
	2004	2003	2002
	(In thousands)		
Semiconductor capital equipment	$ 238,728	$ 155,153	$ 163,108
Data storage	29,229	26,397	13,570
Flat panel display	56,304	28,953	19,826
Advanced product applications	71,044	51,899	42,394
	$ 395,305	$ 262,402	$ 238,898

	Years Ended December 31,		
	2004	2003	2002
Semiconductor capital equipment	60%	59%	68%
Data storage	8	10	6
Flat panel display	14	11	8
Advanced product applications	18	20	18
	100%	100%	100%

The following tables summarize annual net sales, and percentages of net sales, by geographic region for each of the three years in the period ended December 31, 2004. The following amounts do not contemplate where our customers may subsequently transfer our products.

	Years Ended December 31,		
	2004	2003	2002
	(In thousands)		
United States and Canada	$ 208,002	$ 124,185	$ 143,698
Europe	59,552	48,185	32,791
Asia	126,862	88,919	61,327
Rest of world	889	1,113	1,082
	$ 395,305	$ 262,402	$ 238,898

	Years Ended December 31,		
	2004	2003	2002
United States and Canada	53%	47%	60%
Europe	15	19	14
Asia	32	34	26
Rest of world			

100%	100%	100%

Total sales were $395.3 million in 2004, $262.4 million in 2003 and $238.9 million in 2002, representing an increase of 10% from 2002 to 2003 and 51% from 2003 to 2004. This growth is due primarily to recovery from downturns in the semiconductor and semiconductor capital equipment industries, and continued growth of the flat panel display industry. In 2004, the industry upturns were most notable in the first half of the year. Sales in the second half of 2004 decreased 15% from the first half, as the semiconductor capital equipment industry appears to be entering a slowdown. Looking forward, we expect that this slowdown will continue in the near term.

Our sales to the semiconductor capital equipment industry declined by approximately 5% from 2002 to 2003 and increased by approximately 54% from 2003 to 2004, due primarily to the cyclicality of this industry.

Our sales to the data storage, flat panel display and advanced product applications markets, have been steadily increasing each year from 2001 through 2004. This growth is primarily attributed to market share gains, order trends and the general expansion of end customer products including large flat panel displays, liquid crystal displays, DVD applications and applications

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dependent upon industrial coatings. Flat panel display sales have grown most notably, with an increase of 46% from 2002 to 2003 and 94% from 2003 to 2004. The 94% increase from 2003 to 2004 was primarily driven by sales of our new Summit DC power system to OEM customers building PVD tools for Generation 6 and Generation 7 panel sizes.

Certain of our major customers require shipping terms of FOB destination point. When the majority of our shipments were made from Fort Collins the one-day shipping time in the United States resulted in minimal delay of revenue recognition from time of shipment. Given the volume of shipments coming from China to the United States, beginning in 2005, we will be delaying the recognition of revenue for these shipments by five to seven days on sales to these certain major customers.

The impact of the acquisitions of Aera Japan, Ltd. (Aera) and Dressler HF Technik GmbH (Dressler) on the 2002 sales level was minimal and would not impact the sales growth percentage from 2002 to 2003, as a vast majority of the 2002 sales of these entities were included in the consolidated operating results.

GROSS MARGIN

Our gross margin was 30.3% in 2004, 33.5% in 2003 and 28.8% in 2002. Our gross margins during these years have been adversely affected principally by the following factors:

The lower sales base caused in large part by the severe downturn in the semiconductor equipment industry during 2002 and most of 2003, resulted in lower absorption of our fixed costs;

Lower average selling prices than anticipated;

During our transition of high-volume manufacturing to Shenzhen, China beginning in 2003, we have been required to operate manufacturing facilities in both Shenzhen and Fort Collins to produce the same products, which has required duplicate management, procurement and engineering teams, as well as facilities costs, and the transition has taken longer than initially anticipated;

Increased shipping and related costs in 2003 and 2004 for products manufactured in our Shenzhen facility;

High demand for two product groups with margins lower than our corporate average;

Charges for excess and obsolete inventory were approximately $11.3 million in 2004, $3.0 million in 2003 and $5.8 million in 2002. The 2004 charge was primarily due to changes in our product life-cycle management program, discontinuance of certain products in select markets, the product mix shift from 200mm wafers to 300mm wafers and the expected continued slowdown in the semiconductor industry in the near term. The 2003 and 2002 charges were primarily due to declined sales outlook and a strategic management decision to discontinue certain product offerings. Due to the highly customized nature of our inventory, minimal quantities of reserved inventory are subsequently sold. The reserved inventory is typically disposed when it is determined that no possible future use could arise. If significant, the Company will disclose the impact on gross margin of sales of this inventory in the future; and

Warranty costs, particularly with respect to the introduction of new products, were approximately $10.5 million in 2004, $8.1 million in 2003, and $13.2 million in 2002.

The improvement in gross margin from 2002 to 2003 was primarily due to cost reduction measures and improved absorption of overhead due to the higher sales base.

The decline in gross margin from 2003 to 2004 was primarily due to: lower average selling prices than anticipated; increasing manufacturing costs at the Shenzhen facility as production of more product lines were transferred and customers began accepting products from such facility, without equivalent decreases in manufacturing and facilities costs at our Fort Collins facility (impact of approximately 200 300 basis points); high demand during 2004 for product lines with relatively low margins; and excess and obsolete inventory charges during the fourth quarter of 2004 resulting from changes in our product life-cycle management program,

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discontinuance of certain products in select markets, the product mix shift from 200mm wafers to 300mm wafers and the expected continued slowdown in the semiconductor industry in the near term.

We have taken measures to bring greater discipline to our pricing, procurement and product life-cycle management programs. We expect gross margin to improve as the transition of high-volume manufacturing to our Shenzhen facility and move to Tier 1 Asian suppliers progress, resulting in lower labor and materials costs.

However, factors that could cause our gross margins to be negatively impacted in 2005 and beyond include, but are not limited to the following:

- Decrease in average selling prices;
- Costs associated with the continued transition of our high-volume manufacturing to our new China facility, including costs incurred to operate duplicate manufacturing facilities and increased shipping and related costs;
- Unanticipated costs to comply with our customers strict and extensive requirements, especially related to our China transition and move to Tier 1 Asian suppliers;
- Cost reduction programs initiated by semiconductor manufacturers and semiconductor capital equipment manufacturers that negatively impact our average selling price;
- Warranty costs in excess of historical rates and our expectations;
- Increased levels of excess and obsolete inventory, either due to market conditions, the introduction of new products by our competitors, or our decision to discontinue certain product lines; and
- Changes in foreign currency exchange rates that might affect our costs.

RESEARCH AND DEVELOPMENT

The market for our subsystems for vacuum process systems and related accessories 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 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. 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. Since our inception, all of our research and development costs have been expensed as incurred.

Our research and development expenses were $51.5 million in 2004, $51.6 million in 2003 and $49.0 million in 2002. As a percentage of sales, research and development expenses decreased from 20.5% in 2002 to 19.7% in 2003 and to 13.0% in 2004, due primarily to the higher sales base. The 5.4% increase in research and development expenses from 2002 to 2003 was primarily due to increases in payroll and depreciation of equipment used for new product development. We expect our 2005 research and development expenses to decrease from 2004 in dollar terms, primarily due to less engineering support needed in connection with our transition of high-volume product manufacturing to China and a refocusing of our efforts on the critical platforms that we expect to need in the next few years.

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SELLING, GENERAL AND ADMINISTRATIVE

Our selling expenses support domestic and international sales and marketing activities that include personnel, trade shows, advertising, and other selling and marketing activities. We constantly monitor our sales and marketing levels to meet current industry conditions. Our general and administrative expenses support our worldwide corporate, legal, patent, tax, financial, corporate governance, administrative, information systems and human resource functions in addition to our general management.

Selling, general and administrative (SG&A) expenses were $62.4 million in 2004, $54.0 million in 2003 and $66.6 million in 2002. As a percentage of sales, SG&A expenses decreased from 27.9% in 2002 to 20.6% in 2003 and to 15.8% in 2004 due to the increasing sales base and our cost reduction measures, including the closures of certain locations in each year. Partially offsetting the decrease as a percentage of sales from 2003 to 2004, is an increase in selling expense in 2004 of $3.8 million due to a change in accounting estimate related to our demonstration equipment. As a result of this change in estimate, the net book value of demonstration equipment was written-off to SG&A expense.

Prior to the fourth quarter of 2004, our demonstration equipment program was structured to enable our customers or potential customers to evaluate equipment in order to facilitate sales. Under this program, we amortized our demonstration equipment based on its originally estimated useful life of two years. During the fourth quarter of 2004, we evaluated this program and determined that it was not achieving the desired results, primarily in terms of the ultimate sale of the demonstration equipment. As a result, we shifted our focus from selling the demonstration equipment to utilizing the equipment for achieving design wins with our major customers and significant potential customers, with the demonstration equipment used solely as a sales and marketing tool and with no subsequent efforts to sell the equipment. Based upon these changes, specifically our decision not to expend resources to realize sales value from the demonstration equipment currently in the field, we wrote-off the net book value of the demonstration equipment. We now expense our demonstration equipment to SG&A in the period in which it is given to our customer or potential customer. We do not expect this change to have a material impact on our operating results going forward.

Patent litigation expenses from 2002 through 2004 have comprised a portion of our SG&A expenses. In addition to litigation damages paid to MKS as described below, we have recorded legal fees and expenses related to litigation with MKS and others of approximately 2% to 8% of our total SG&A expenses for each of the three years in the period ended December 31, 2004.

LITIGATION DAMAGES

During 2002, we recorded a charge of $4.2 million pertaining to damages awarded by a jury in a patent infringement case in which we were the defendant. The Applied Science and Technology, or ASTeX, division of MKS Instruments, Inc. (MKS) was the plaintiff in the case, which was tried in a Delaware court. Sales of the product in question have accounted for less than five percent of our total sales each year since the product s introduction. We entered into a settlement agreement with MKS allowing us to sell the infringing product to one of our customers subsequent to the date of the jury award. Under the settlement agreement, royalties payable to MKS from sales of the infringing product were not material in 2004 and 2003.

RESTRUCTURING CHARGES

We recorded restructuring charges totaling $9.1 million in 2002, primarily associated with changes in operations designed to reduce redundancies and better align our mass flow controller business acquired in January 2002 within our operating framework. Our restructuring plans and associated costs consisted of $6.0 million to close and consolidate certain manufacturing facilities, and $3.1 million for related headcount reductions of approximately 223

employees. The remaining facility closing liability is expected to be paid over the remaining lease term expiring at the end of 2006 and is reflected net of expected sublease income of $97,000. Additional charges and cash requirements may be required in the future if the expected sublease income is not realized.

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At the end of 2002, we announced major changes in our operations to occur through 2003. These included establishing the manufacturing location in China; consolidating worldwide sales forces; a move to Tier 1 Asian suppliers; and the intention to close or sell certain facilities. Associated with these changes, we recognized restructuring charges of approximately $4.3 million during 2003. These charges consisted of the recognition of expense for involuntary employee termination benefits for 109 employees in our United States operations; voluntary employee termination benefits, primarily in our Japanese operations for 36 employees; and asset impairments incurred as a result of closing our Longmont, CO manufacturing facilities.

During 2004, in conjunction with our continuing progress in transitioning our high-volume manufacturing to Shenzhen, China and other cost reduction initiatives, we recorded $3.9 million of restructuring charges, primarily attributable to employee severance and termination costs for 262 employees in the Fort Collins facility. These headcount reductions will be offset, in part, by new hires in the Shenzhen, China facility. Upon completion of the transfer of high-volume manufacturing from Fort Collins to Shenzhen, China, we expect to save approximately $10.0 million to $12.0 million annually in labor and related costs at current production volumes, representing the reduced costs primarily in the U.S. offset by increased costs in China. The expected savings are anticipated to be realized as to approximately $7.0 million in costs of sales, approximately $2.0 million in SG&A and approximately $2.0 million in research and development. Beginning in the first quarter of 2006 and subsequent periods, we expect to begin to fully realize these savings. We expect to pay approximately $3.3 million by the end of the third quarter of 2005 for remaining employee severance and termination costs.

Additional restructuring charges approximating $2.0 million are expected in the first half of 2005, related to employee severance and termination costs incurred for approximately 70 employees in the Hajiochi, Japan facility, as manufacturing from this facility is also being transferred to Shenzhen, China.

GOODWILL AND OTHER INTANGIBLE ASSET IMPAIRMENTS

Whenever events or circumstances indicate that the carrying value of our goodwill or other intangible assets may not be recoverable, we perform tests for impairment of these assets and record impairment charges, as necessary. Such events or circumstances include downturns or anticipated downturns in the industries in which we serve, changes in customer technology requirements, and other changes in circumstances affecting the underlying value of the recorded asset. We recorded impairment charges of our amortizable intangible assets of $3.3 million in 2004, $1.2 million in 2003 and $1.9 million in 2002.

During the fourth quarter of 2004, in conjunction with our financial forecasting for future periods, it was evident that projected cash flows from certain customers of Dressler were substantially below amounts projected at the time of acquisition and in subsequent forecasting periods. The projected cash flows were considered in determining the fair value of certain contract-based and other amortizable intangible assets recorded at acquisition and also in subsequent periods to assess such assets for potential impairment. Due to the decline in projected cash flows, we performed assessments of the carrying values of the related amortizable intangible assets. These assessments consisted of estimating the intangible asset s fair value and comparing the estimated fair value to the carrying value of the asset. We estimated the intangible asset s fair value through the use of projected cash flows based upon projected revenue streams over the life of the asset, discounted at rates consistent with the risk of the related cash flows. Based on this analysis we determined that the fair values of certain intangible assets were below the respective carrying values, and recorded impairment charges of approximately $2.9 million, which has been reported as an impairment of intangible assets in the accompanying consolidated statement of operations.

Also during the fourth quarter of 2004, in conjunction with our restructuring plan, employees who were the subject of certain contract-based amortizable intangibles were severed from the Company or their responsibilities were significantly altered. As a result, we performed assessments of the carrying values of the related amortizable

intangible assets. These assessments consisted of estimating the intangible asset s fair value and comparing the estimated fair value to the carrying value of the asset. We estimated the intangible asset s fair value through the use of a lost profits method of determining the fair value, arriving at projected cash flows which were then discounted at rates consistent with the risk of the related cash flows. Based on this analysis we determined that the fair values of certain intangible assets were below the respective carrying values, and recorded impairment charges of approximately $397,000, which has been reported as an impairment of intangible assets in the accompanying consolidated statement of operations.

During the third quarter of 2003, we determined that one of our mass flow controller products would not conform to changing customer technology requirements, and as such would no longer be accepted by our customers. As a result, we performed an assessment of the carrying value of the related intangible asset. We estimated the intangible asset s fair value by applying a hypothetical royalty rate to the projected revenue stream and using a cash flow model discounted at rates consistent with the risk of the related cash flows. Based on this analysis we determined that the fair value of the intangible asset was minimal and recorded an impairment charge of approximately $1.2 million, which has also been reported as an impairment of intangible assets in the accompanying consolidated statement of operations.

In the fourth quarter of 2002, our sales to the semiconductor capital equipment industry declined substantially from the third quarter of 2002. As a result, we determined there would be a significant delay by the semiconductor capital equipment industry in adopting advanced connectivity technology, and due to these industry conditions as well as our future strategic priorities, our relevant intangible assets were likely impaired. We evaluated the carrying amount of certain intangible assets by comparing its estimated future cash flows to its carrying value. This analysis indicated that such assets were impaired and we recorded a charge of $1.9 million for 2002, which has been reflected as impairment of intangible assets in the accompanying consolidated statement of operations.

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.

Interest income was approximately $1.7 million in 2004 and 2003 and $3.3 million in 2002. The decline in interest income from 2002 to 2003 was due to our lower level of investment in marketable securities and the overall lower rate of interest paid on our investments which resulted from the Federal Reserve lowering interest rates during the period. The average rate of return on our marketable securities decreased from 2.0% in 2002 to 1.8% in 2003. During 2003, we sold approximately $10.1 million of marketable securities to fund our operations, capital expenditures and payments on our senior borrowings. From 2003 to 2004, the decrease in our level of investment in marketable securities was offset by increased rates of return. The rate of return on our marketable securities increased from an average of 1.8% in 2003 to 2.2% in 2004. During 2004, we sold approximately $25.0 million of marketable securities to fund our operations, capital expenditures and payments on our senior borrowings.

Interest expense consists principally of interest on our convertible subordinated notes, amortization of our deferred offering costs on these notes, and bank loans and capital leases assumed in the acquisition of Aera in January 2002. Interest expense was approximately $11.0 million in 2004, $11.3 million in 2003 and $12.5 million in 2002. Interest expense decreased from 2002 to 2003 due to the repurchase of approximately $15.4 million of our 5.25% convertible subordinated notes and $3.5 million of our 5.00% convertible subordinated notes in the fourth

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quarter of 2002 and due to the repayment of approximately $12.8 million of senior borrowings and capital lease obligations during 2003. Interest expense decreased from 2003 to 2004 due to the repayment of approximately $8.6 million of senior borrowings and capital leases during 2004, offset in part by a new borrowing of approximately $1.6 million.

Our foreign subsidiaries sales are primarily denominated in currencies other than the U.S. dollar. We recorded net foreign currency gains of $1.0 million in 2004, $869,000 in 2003 and $5.3 million in 2002.

Our foreign currency gain in 2002 was primarily related to an intercompany loan of Japanese yen, which was settled in January 2003 that we made to our wholly owned subsidiary Advanced Energy Japan K.K., which has a functional currency of yen, for the purpose of effecting the acquisition of Aera. The loan was transacted in the first quarter of 2002, for approximately 5.7 billion yen, approximately $44.0 million based upon an exchange rate of 130:1. During the first half of that year, the U.S. dollar weakened significantly against the yen to approximately 119:1, resulting in a gain of $4.9 million. In July and September 2002, we entered into various foreign currency forward contracts with our primary banks to mitigate the effects of potential future currency fluctuations between the U.S. dollar and the yen until the associated intercompany obligations were settled.

In the fourth quarter of 2002, we repurchased approximately $15.4 million of our 5.25% convertible subordinated notes and $3.5 million of our 5.00% convertible subordinated notes in the open market at an aggregate cost of approximately $14.5 million. These purchases resulted in a gain of $4.2 million.

Net miscellaneous income of $1.0 million was recorded in 2004, primarily due to the gain on sale of marketable equity securities of $703,000 and the sale of our Noah chiller business for a gain of $404,000. Net miscellaneous expense items were $644,000 in 2003 and $2.1 million in 2002. Net miscellaneous expense in 2003 and 2002 was primarily related to the impairment of a marketable equity security. During the fourth quarter of 2002, the fair value of this security continued a substantial decline, and we determined the decline was other than temporary as defined by the Financial Accounting Standards Board. As a result we recorded an impairment charge of approximately $1.5 million. In the first quarter of 2003, this security continued to decline in value, and we recorded an additional impairment charge of $175,000. Since the first quarter of 2003, the value of this security has appreciated; however the increase in the fair value of this security will not be reflected in income until the security is sold.

(PROVISION) BENEFIT FOR INCOME TAXES

We account for income taxes in accordance with Statement of Financial Accounting Standard (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 current tax rates, as well as for the expected tax benefit of net operating loss and tax credit carryforwards. During 2003, we recorded valuation allowances against certain of our United States and foreign net deferred tax assets in jurisdictions where we have incurred significant losses in 2001, 2002 and 2003. Given such experience, management could not conclude that it was more likely than not that these net deferred tax assets would be realized. Accordingly, our management, in accordance with SFAS No. 109, in evaluating the recoverability of these net deferred tax assets, was required to place greater weight on our historical results as compared to projections regarding future taxable income.

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If we generate future taxable income, or should we be able to conclude that sufficient taxable income is reasonably assured based on profitable operations, in the appropriate tax jurisdictions, against which these tax attributes may be applied, some portion or all of the valuation allowance will be reversed and a corresponding reduction in income tax expense will be reported in future periods. A portion of the valuation allowance relates to the benefit from stock-based compensation. Any reversal of valuation allowance from this item will be reflected as a component of stockholders equity.

The income tax provision of $3.9 million for 2004 represented an effective tax rate of negative 45% and the income tax provision of $11.8 million for 2003 represented an effective tax rate of negative 36%, due to taxable income earned in certain foreign jurisdictions. The income tax benefit of $22.3 million for 2002 represented an effective tax rate of 35%.

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. Reversals of valuation allowances recorded in purchase accounting will be reflected as a reduction of goodwill in the period of reversal. For the year ended December 31, 2004, valuation allowances established in purchase accounting were reversed with a corresponding reduction in goodwill of approximately $3.3 million.

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, 2004. 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.

	Quarters Ended							
	Mar. 31, 2003	June 30, 2003	Sept. 30, 2003	Dec. 31, 2003	Mar. 31, 2004	June 30, 2004	Sept. 30, 2004	Dec. 31, 2004
	(In thousands, except per share data)							
Sales	$ 56,158	$ 62,946	$ 68,567	$ 74,731	$ 104,487	$ 108,869	$ 93,550	$ 88,399
Gross profit	17,950	20,273	23,093	26,631	38,414	36,962	29,740	14,563
(Loss) income from operations	(10,885)	(6,825)	(5,741)	319	9,810	8,754	1,855	(21,963)
Other expense	(2,750)	(2,340)	(2,261)	(1,957)	(1,155)	(2,417)	(1,994)	(1,690)
Net (loss) income	$ (8,590)	$ (5,774)	$ (27,438)	$ (2,439)	$ 6,924	$ 4,470	$ (1,136)	$ (23,005)
Diluted (loss) earnings per share	$ (0.27)	$ (0.18)	$ (0.85)	$ (0.08)	$ 0.21	$ 0.13	$ (0.03)	$ (0.70)

	Quarters Ended							
	Mar. 31, 2003	June 30, 2003	Sept. 30, 2003	Dec. 31, 2003	Mar. 31, 2004	June 30, 2004	Sept. 30, 2004	Dec. 31, 2004
Percentage of Sales:								

Sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Gross margin	32.0	32.2	33.7	35.6	36.8	34.0	31.8	16.5
(Loss) income from operations	(19.4)	(10.8)	(8.4)	0.4	9.4	8.0	2.0	(24.8)
Other expense	(4.9)	(3.7)	(3.3)	(2.6)	(1.1)	(2.2)	(2.1)	(1.9)
Net (loss) income	(15.3)%	(9.2)%	(40.0)%	(3.3)%	6.6%	4.1%	(1.2)%	(26.0)%

We had a loss in the fourth quarter of 2004 of $23.0 million. Pretax charges in the fourth quarter included $9.2 million to cost of sales for increased excess and obsolete inventory reserves, $3.8 million to selling, general and administrative for the change in estimate of the useful life of the demonstration equipment (see Note 1 within Part II, Item 8), $3.7 million to restructuring for employee severance and termination costs primarily attributable to the Fort Collins facility (see

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Note 3 within Part II, Item 8), $3.3 million to impairment of intangible assets related to certain amortizable intangible assets acquired in conjunction with our purchase of Dressler and Aera (see Note 8 within Part II, Item 8). These items contributed significantly to our fourth quarter 2004 results. We increased our reserve for excess and obsolete inventory in the fourth quarter of 2004 as a result of the fourth quarter strategic management decision to discontinue certain product offerings, the outlook for near term demand, the declining trend in our sales from the second quarter of 2004 to the fourth quarter of 2004, and the expected continued slowdown in the semiconductor industry in the near term.

We had a loss of $27.4 million in the third quarter of 2003. During this quarter we recorded a valuation allowance against certain of our U.S. and foreign net deferred tax assets in jurisdictions where we have recognized significant losses (see Note 12 within Part II, Item 8).

Due to the cyclical nature of the semiconductor capital equipment industry as well as the other industries in which our customers operate, and the sudden changes resulting in severe downturns and upturns, we have experienced and expect to continue to experience significant fluctuations in our quarterly operating results. Our levels of operating expenditures are based, in part, on expectations of future revenues that such expenses support. If revenue levels in a particular quarter do not meet expectations, operating results may be adversely affected.

Liquidity and Capital Resources

At December 31, 2004, our principal sources of liquidity consisted of cash, cash equivalents and marketable securities of $108.0 million, and a credit facility consisting of a $25.0 million revolving line of credit, none of which was outstanding at December 31, 2004. Advances under the revolving line of credit would bear interest at the prime rate minus 1% (4.75% at March 24, 2005). Any advances under this revolving line of credit will be due and payable in May 2005. We are subject to covenants on our line of credit that provide certain restrictions related to working capital, net worth, acquisitions and payment and declaration of dividends. We were in compliance with all such covenants at December 31, 2004.

During 2004, our cash, cash equivalents and marketable securities decreased $26.9 million from $134.9 million at December 31, 2003 to $108.0 million at December 31, 2004, primarily due to use in operations, capital expenditures and senior borrowing repayments. Due to the same uses, our cash, cash equivalents and marketable securities decreased $37.4 million from $172.3 million at December 31, 2002 to $134.9 million at December 31, 2003. In 2006, when our convertible subordinated notes become due, it is possible we may need substantial funds to repay such debt, which totaled $187.7 million at December 31, 2004. Our 5.00% convertible subordinated notes with a principal balance of $121.5 million are due September 1, 2006, and our 5.25% convertible subordinated notes with a principal balance of $66.2 million are due November 15, 2006. We will be required to repay the notes at maturity, unless we can refinance the debt or the noteholders convert their notes into common stock before the maturity dates. Noteholders will be unlikely to convert their notes unless our stock price rises above the conversion levels of the notes. Our 5.00% convertible subordinated notes are convertible into common stock at $29.83 per share, and our 5.25% convertible subordinated notes are convertible into common stock at $49.53 per share. At March 24, 2005, the closing price of our common stock on the Nasdaq National Market was $9.35 per share. We therefore do not expect the noteholders to convert their notes prior to maturity. As a result, we are exploring ways to refinance the notes, as well as potential sales of assets that are not critical to our core operations.

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To address our liquidity requirements, we have set a goal to reduce our quarterly operating breakeven point to a level based upon $70 million to $75 million sales, after our transition to China-based manufacturing and to Tier 1 Asian suppliers is complete, which we estimate to occur by the end of 2005. Additionally, we may raise capital through the public or private markets during 2005 by issuing common stock or convertible debt securities, or a combination of the two. Such proceeds will be used to realign our capital structure and provide liquidity for the next semiconductor capital equipment up-cycle. However, we cannot provide assurance that such sources of liquidity will be available to us on commercially reasonable terms, or at all.

We have historically financed our operations and capital requirements through a combination of cash provided by operations, the issuance of long-term debt and common stock, bank loans, capital lease obligations and operating leases. However, with the exception of the second quarter of 2004, we have not generated positive cash flow from operations since 2001.

Operating activities used cash of $11.4 million in 2004, reflecting our net loss of $12.7 million partially offset by non-cash items of $39.1 million and increased by net working capital changes of approximately $37.8 million. Non-cash items primarily consisted of depreciation and amortization of $21.1 million and increased provision for excess and obsolete inventory of $11.3 million. Net working capital changes primarily consisted of a $19.8 million related to increased inventory excluding inventory reserve increases, $8.9 million related to increased trade accounts receivable and $5.8 million related to decreased trade accounts payable.

Investing activities provided cash of $12.3 million in 2004, which primarily consisted of $25.0 million from proceeds on the sale of marketable securities, offset by $14.0 million for the purchase of property and equipment. We expect to make between $10.0 million and $11.0 million of capital expenditures in 2005, due in part to our continued investment in our manufacturing operations as well as our information technology infrastructure. Our planned level of capital expenditures is subject to frequent revisions as our business experiences sudden changes and as we move into industry upturns and downturns and expected sales levels change. In addition, changes in foreign currency exchange rates may significantly impact our capital expenditures in a particular period.

Investing cash flows experience significant fluctuations from year to year as we buy and sell marketable securities, which we convert to cash to fund strategic investments and our current operations, and as we transfer cash into marketable securities when we attain levels of cash that are greater than needed for current operations. However, we do not expect to generate significant levels of cash that are greater than needed for our current operations in the near term.

Financing activities used cash of $5.2 million in 2004, which primarily consisted of payments on our senior borrowings and capital lease obligations of $8.6 million, partially offset by $1.8 million from the exercise of employee stock options and sale of common stock through our employee stock purchase plan and $1.6 million from the proceeds of a senior borrowing used to purchase a building in South Korea.

We expect our financing activities to continue to fluctuate in the future. If market conditions and our financial position are deemed appropriate, we may repurchase additional convertible notes in the open market. Our payments under capital lease obligations and senior borrowings may also increase in the future if we enter into additional capital lease obligations or change the level of our bank financing. Our estimated payments under capital lease obligations and senior borrowings during 2005 will be approximately $3.7 million. However, a significant portion of these obligations are held in countries other than the United States; therefore, future foreign

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currency fluctuations, especially between the U.S. dollar and the yen, could cause significant fluctuations in our estimated 2005 payment obligations.

CONTRACTUAL OBLIGATIONS

The following table sets forth our future payments due under significant off-balance sheet arrangements, long-term debt and capital lease obligations as of December 31, 2004.

	Payments Due by Period (In thousands)						
Contractual Obligations	**2005**	**2006**	**2007**	**2008**	**2009**	**Thereafter**	**Total**
Convertible subordinated notes (1)	$	$ 187,718	$	$	$	$	$ 187,718
Senior borrowings	3,432	2,185	2,073				7,690
Capital lease obligations	303	225	112	57	40		737
Operating lease obligations	6,062	5,492	4,443	3,761	2,957	9,432	32,147
Inventory purchase obligations	5,000	2,500					7,500
Total obligations	$ 14,797	$ 198,120	$ 6,628	$ 3,818	$ 2,997	$ 9,432	$ 235,792

(1) Cash requirements for interest on these notes approximate $9.6 million annually.

Please refer to Note 10 Convertible Subordinated Notes Payable, Note 9 Senior Borrowings, Note 14 Commitments And Contingencies and Note 16 Related Party Transactions included in Part II, Item 8 of this Form 10-K/A for further discussion regarding our significant off-balance sheet arrangements, long-term debt and capital lease obligations.

Our inventory purchase obligations consist of minimum purchase commitments we entered into to ensure we have an adequate supply of critical components to meet the demand of our customers. We believe that these inventory purchases will be consumed in our on-going operations during the respective years of purchase commitment.

We have also committed to advance up to $850,000 to a privately held company in exchange for an exclusive intellectual property license. The amount and timing of this advance is dependent upon the privately held company achieving certain development milestones. As of December 31, 2004, approximately $50,000 has been advanced under this agreement, which was recorded within research and development expense in the consolidated statement of operations.

Recent Acquisitions

On January 18, 2002, we acquired Aera Japan Limited, or Aera, a privately held Japanese corporation. Aera supplies the semiconductor capital equipment industry with product lines that include digital mass flow controllers, thermal-based mass flow controllers, pressure-based mass flow controllers, liquid mass flow controllers and liquid vapor delivery systems. Aera provides us with a key leadership position in the gas delivery market. In addition, Aera s products expand our offering of critical subsystem solutions that enable the plasma-based manufacturing processes used in the manufacture of semiconductors.

On March 28, 2002, we acquired Dressler HF Technik GmbH, or Dressler, a privately owned Stolberg, Germany-based provider of power supplies and matching networks. We acquired Dressler to expand our product offerings to customers in the semiconductor, data storage and flat panel equipment markets with Dressler s power

product portfolio that includes a wide range of power levels and radio frequencies. In addition, with inroads already made into the laser and medical markets, Dressler enables us to explore new market opportunities. Dressler also strengthens our presence in the European marketplace and has well-established relationships with many European customers, who look to Dressler for innovative technical capability, high-quality products, and highly responsive customer service.

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The results of operations of these acquired companies are included in our consolidated statements of operations as of and since the date of acquisition. The pro forma results for the Company, Aera and Dressler for the year ended December 31, 2002, assuming the acquisitions of Aera and Dressler occurred on January 1, 2002, are not presented as the difference between the pro forma results and actual results are not material.

Critical Accounting Policies and Estimates

The above discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. In preparing our consolidated financial statements, we must make estimates and judgments that affect the reported amounts of assets and liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities at the date of our financial statements. Actual results may differ from these estimates under different assumptions or conditions. We have evaluated the accounting policies used in the preparation of the consolidated financial statements and related notes under Part II, Item 8 of this Form 10-K/A and believe that our accounting policies are reasonable and appropriate. We believe that the following critical accounting policies, among others, are most critical as they relate to our more significant judgments and estimates used in the preparation of our consolidated financial statements.

REVENUE RECOGNITION The Company s standard shipping term is freight on board (FOB) shipping point, for which revenue is recognized upon shipment of its products, at which time title passes to the customer, the price is fixed and collectability is reasonably assured. For certain customers, the Company has FOB destination terms, for which revenue is recognized upon receipt of the products by the customer, at which time title passes to the customer, the price is fixed and collectability is reasonably assured. Generally, the Company does not have obligations to its customers after its products are shipped under FOB shipping point terms or after its products are received by the customer under FOB destination terms, other than pursuant to warranty obligations. In limited instances the Company provides installation of its products. In accordance with Emerging Issues Task Force Issue 00-21 Accounting for Revenue Arrangements With Multiple Deliverables , the Company allocates 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. In certain limited instances, some of the Company s customers have negotiated product acceptance provisions relative to specific orders. Under these circumstances, the Company defers revenue recognition until the related acceptance provisions have been satisfied. Revenue deferrals are reported as customer deposits and deferred revenue in the consolidated balance sheet.

In certain instances, the Company requires its customers to pay for a portion or all of their purchases prior to the Company building or shipping these products. Cash payments received prior to shipment are recorded as customer deposits and deferred revenue in the consolidated balance sheets, and then recognized as revenue upon shipment of the products. The Company does not offer price protections to its customers or allow returns, unless covered by its normal policy for repair of defective products.

WARRANTY POLICY The Company offers warranty coverage for its products, typically ranging from 12 to 24 months after shipment. The Company estimates the anticipated costs of repairing products under warranty based on the historical cost of the repairs and expected failure rates. The assumptions used to estimate warranty accruals are reevaluated periodically in light of

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actual experience and, when appropriate, the accruals are adjusted. The Company s determination of the appropriate level of warranty accrual is subjective and based on estimates. The industries in which the Company operates are subject to rapid technological change and, as a result, the Company periodically introduces newer, more complex products, which tend to result in increased warranty 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 statement of operations.

EXCESS AND OBSOLETE INVENTORY Inventory is written down or written off when it becomes obsolete, generally due to engineering changes to a product or discontinuance of a product line, or when it is deemed excess. Judgment by management is necessary in estimating the net realizable value of inventory based primarily upon forecasts of product demand. Charges for excess and obsolete inventory are recorded, as necessary, within cost of sales in the consolidated statement of operations.

STOCK-BASED COMPENSATION At December 31, 2004, the Company had three active stock-based compensation plans, which are more fully described in Note 18 within Part II, Item 8. The Company accounts for employee stock-based compensation using the intrinsic value method prescribed by Accounting Principles Board (APB) Opinion No. 25, Accounting for Stock Issued to Employees and related interpretations. APB Opinion No. 25 requires the use of the intrinsic value method, which measures compensation cost as the excess, if any, of the quoted market price of the stock at the measurement date over the amount an employee must pay to acquire the stock. With the exception of certain options granted in 1999 and 2000 by a shareholder of Sekidenko, Inc., prior to its acquisition by the Company (which was accounted for as a pooling of interests), all options granted under these plans have an exercise price equal to the market value of the underlying common stock on the date of grant, therefore no stock-based compensation cost is reflected in the Company s net loss. The Company makes disclosures of pro forma net loss and loss per share as if the fair-value-based method of accounting had been applied as required by SFAS No. 123, Accounting for Stock-Based Compensation and as amended by SFAS No. 148, Accounting for Stock-Based Compensation Transition and Disclosure (see Note 18 within Part II, Item 8).

The Company will adopt the provisions of SFAS No. 123(R), Share Based Compensation , as of the Company s third quarter of fiscal year 2005, as further discussed under the heading New Accounting Pronouncements under Note 1 within Part II, Item 8. The adoption of this statement may have a significant impact on the Company s results of operations as the Company will be required to record compensation expense in the consolidated statement of operations rather than disclose the impact on the Company s results of operations within the notes to the consolidated financial statements.

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 potential 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 potential 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 and the amount of the loss can be reasonably estimated.

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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 and certain other intangible assets with indefinite lives are not amortized. Instead, goodwill and other indefinite-lived intangible assets are subject to periodic (at least annual) tests for impairment. For the periods presented, the Company does not have any indefinite-lived intangible assets, other than goodwill. Impairment testing is performed in two steps: (i) the Company 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, the Company measures the amount of impairment loss by comparing the implied fair value of goodwill with the carrying amount of that goodwill.

Finite-lived intangible assets continue to be 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.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and long-term debt obligations. 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, 2004, our investments in marketable securities consisted primarily of commercial paper, municipal bonds and notes and institutional money markets. These securities are highly liquid. Earnings on our marketable securities are typically invested into similar securities. In 2004, the rates we earned on our marketable securities averaged approximately 2.2% on a before tax equivalent basis. The impact on interest income of a 10% decrease in the average interest rate would have decreased interest income by approximately $174,000 in 2004, $170,000 in 2003 and $300,000 in 2002. Interest rate risk on our investment portfolio has decreased since 2002 with the decrease in our marketable securities balance, which is primarily attributable to the use of these funds in operations, for the acquisitions of Aera in January 2002 and Dressler in March 2002, and for the repurchase of a portion of our convertible subordinated notes in the fourth quarter of 2002.

The interest rates on our subordinated debt are fixed, specifically, at 5.25% for the $66.2 million of our debt that is due in November 2006, and at 5.00% for the $121.5 million of our debt that is due in September 2006. Our offerings of subordinated debt in 1999 and 2001 increased our fixed interest expense upon each issuance, though interest expense was partially reduced by the repurchases of portions of these offerings. Because these rates are fixed, we believe there is no risk of increased interest expense with regard to these instruments.

The interest rates on the borrowings of one of our foreign subsidiaries are variable and as of December 31, 2004 ranged from 1.5% to 3.1%. We believe a 10% increase in the average interest rate on these instruments would not have a material effect on our financial position or results of operations.

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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. In 2004 compared to 2003, the U.S. dollar weakened on average approximately 7% against the Japanese yen and 9% against the euro. It is highly uncertain how currency exchange rates will fluctuate in the future. We have entered into various foreign currency forward exchange contracts to mitigate against currency fluctuations in the Japanese yen, Taiwanese dollar, South Korean won and Chinese yuan. The notional amount of our foreign currency contracts at December 31, 2004 was $13.9 million. The potential fair value loss for a hypothetical 10% adverse change in foreign currency exchange rates at December 31, 2004, would be approximately $1.5 million, which would be essentially offset by corresponding gains related to the underlying assets. At December 31, 2004 we held foreign currency forward exchange contracts, maturing through January 2005, primarily to purchase U.S. dollars and sell various foreign currencies. The following table summarizes our outstanding contracts as of December 31, 2004:

(In thousands)	Notional Amounts	Market Settlement Amounts	Unrealized (Loss)/Gain
Japanese yen contracts	$ 8,200	$ 8,263	$ 63
Taiwanese dollar contracts	4,000	4,031	31
South Korean won contract	1,300	1,315	15
Chinese yuan contract	400	398	(2)
Balance at December 31, 2004	$ 13,900	$ 14,007	$ 107

We also have long-term non-U.S. dollar-denominated debt of $4.3 million and $5.9 million as of December 31, 2004 and 2003, respectively. A weakening of the U.S. dollar by 10% against the applicable Asian currencies would have resulted in unrealized translation losses of approximately $473,000 and $646,000 as of December 31, 2004 and 2003, respectively. We will continue to evaluate various methods to minimize the effects of currency fluctuations when we translate the financial statements of our foreign subsidiaries into U.S. dollars.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and
Shareholders of Advanced Energy Industries, Inc.

We have audited the accompanying consolidated balance sheet of Advanced Energy Industries, Inc. and subsidiaries (the Company) as of December 31, 2004, and the related consolidated statements of operations, stockholders equity and comprehensive loss, and cash flows for the year then ended. 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 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 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 audit provides 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, 2004, and the results of their operations and their cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Our audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. Schedule II listed in the index of financial statements is presented for purposes of additional analysis and is not a required part of the basic financial statements. This schedule has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the effectiveness of Advanced Energy Industries, Inc. s internal control over financial reporting as of December 31, 2004, 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 July 6, 2005 expressed an unqualified opinion on management s assessment of the effectiveness of internal control over financial reporting and an adverse opinion on the effectiveness of internal control over financial reporting because of the existence of material weaknesses.

/s/ GRANT THORNTON LLP

Denver, Colorado
July 6, 2005

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and
Shareholders of Advanced Energy Industries, Inc.

We have audited management s assessment, included in the accompanying Management s Report on Internal Control Over Financial Reporting (included in Item 9A of this Form 10-K/A), that Advanced Energy Industries, Inc. (the Company) did not maintain effective internal control over financial reporting as of December 31, 2004, because of the effect of material weaknesses identified in management assessment, 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. Our responsibility is to express an opinion on management s assessment and an opinion on the effectiveness of 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, evaluating management s assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinions.

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.

A material weakness is a control deficiency, or combination of control deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected. The Company s management has identified and included in its assessment two material weaknesses. The first material weakness relates to the lack of segregation of duties within the Company s enterprise resource planning (ERP) system, as certain employees have ERP system access to record transactions outside of their assigned job responsibilities. The Company s ERP system is integrated throughout the organization including material foreign locations, with the exception of the Japan locations. The ERP system interacts with most of the Company s major processes including manufacturing, payables, receivables and inventory controls. This material weakness could result in a material misstatement of annual and interim financial statements that would not be prevented or detected in the normal course of operations. The second material weakness relates to two significant deficiencies in the Company s Japan operations, that when considered in the aggregate, represents a material weakness. The first significant deficiency relates to each

of the two Japan facilities having its own unique information system, as well as a lack of segregation of duties, with certain employees having access in these systems to record transactions outside of their assigned job responsibilities. The second significant deficiency in Japan was the lack of proper segregation of duties and oversight at the local level. This material weakness could result in a material misstatement of the operating results of the Japanese subsidiaries which are included in the Company s annual and interim financial statements that would not be prevented or detected in the normal course of operations. These material weaknesses were considered in determining the nature, timing and extent of audit tests applied in our audit of the 2004 consolidated financial statements, and this report does not affect our report dated July 6, 2005, on those financial statements.

In our opinion, management s assessment that Advanced Energy Industries, Inc. did not maintain effective internal control over financial reporting as of December 31, 2004, is fairly stated, in all material respects, based on COSO. Also in our opinion, because of the effect of the material weaknesses described above on the achievement of the objectives of the control criteria, Advanced Energy Industries, Inc. has not maintained effective internal control over financial reporting as of December 31, 2004, based on COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheet of Advanced Energy Industries, Inc. and subsidiaries as of December 31, 2004, and the related consolidated statements of operations, stockholders equity and comprehensive loss, and cash flows for the year then ended, and our report dated July 6, 2005, expressed an unqualified opinion.

/s/ GRANT THORNTON LLP

Denver, Colorado
July 6, 2005

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Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Advanced Energy Industries, Inc.:

We have audited the accompanying consolidated balance sheet of Advanced Energy Industries, Inc. (a Delaware corporation) and subsidiaries as of December 31, 2003 and the related consolidated statements of operations, stockholders equity and comprehensive loss, and cash flows for each of the years in the two-year period then ended. In connection with our audits of these consolidated financial statements, we also have audited the related financial statement schedules as listed in the accompanying index. These consolidated financial statements and financial statement schedules are the responsibility of the Company s management. Our responsibility is to express an opinion on these consolidated financial statements and financial statement schedules 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, 2003, and the results of their operations and their cash flows for each of the years in the two-year period then ended, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedules, when considered in relation to the basic consolidated financial statements taken as a whole, present fairly, in all material respects, the information set forth therein.

Advanced Energy Industries, Inc. and subsidiaries adopted the provisions of Statements of Financial Accounting Standards No. 141, *Business Combinations*, and No. 142, *Goodwill and Other Intangible Assets*, effective January 1, 2002.

Advanced Energy Industries, Inc. and subsidiaries adopted the provisions of Statement of Financial Accounting Standards No. 145, *Rescission of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections*, effective January 1, 2003.

/s/ **KPMG LLP**

Denver, Colorado
February 20, 2004

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ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(In thousands)

	December 31, 2004	2003
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 38,404	$ 41,522
Marketable securities	69,578	93,370
Accounts receivable		
Trade (less allowances for doubtful accounts of approximately $1,049 and $1,303 at December 31, 2004 and 2003, respectively)	66,610	57,156
Other	5,443	4,771
Income tax receivable	404	151
Inventories, net	73,224	65,703
Other current assets	5,736	5,486
Total current assets	259,399	268,159
PROPERTY AND EQUIPMENT, at cost, net of accumulated depreciation of $59,464 and $50,848 at December 31, 2004 and 2003, respectively	44,746	44,725
OTHER ASSETS:		
Deposits and other	6,468	5,951
Goodwill	68,276	69,510
Other intangible assets, net of accumulated amortization of $9,624 and $11,197 at December 31, 2004 and 2003, respectively	12,032	19,433
Demonstration and customer service equipment, net of accumulated amortization of $6,880 and $5,688 at December 31, 2004 and 2003, respectively	2,968	3,934
Deferred debt issuance costs, net	2,086	3,019
Total assets	$ 395,975	$ 414,731

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

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ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(In thousands, except per share data)

	December 31, 2004	2003
LIABILITIES AND STOCKHOLDERS EQUITY		
CURRENT LIABILITIES:		
Trade accounts payable	$ 17,683	$ 23,066
Taxes payable	2,974	445
Accrued payroll and employee benefits	7,788	7,953
Accrued warranty expense	6,791	6,612
Accrued restructuring charges	4,414	3,175
Other accrued expenses	5,986	7,079
Customer deposits and deferred revenue	662	2,952
Capital lease obligations, current portion	294	554
Senior borrowings, current portion	3,432	8,028
Accrued interest payable on convertible subordinated notes	2,460	2,460
Total current liabilities	52,484	62,324
LONG-TERM LIABILITIES:		
Capital leases, net of current portion	421	263
Senior borrowings, net of current portion	4,258	5,905
Deferred income tax liabilities, net	3,709	4,672
Convertible subordinated notes payable	187,718	187,718
Other long-term liabilities	2,407	2,015
Total long-term liabilities	198,513	200,573
Total liabilities	250,997	262,897
COMMITMENTS AND CONTINGENCIES		
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; 32,760 and 32,573 shares issued and outstanding at December 31, 2004 and 2003, respectively	33	33
Additional paid-in capital	144,500	142,667
Accumulated deficit	(12,795)	(48)
Deferred compensation		(60)
Unrealized holding gains on available-for-sale securities, net	1,051	1,491
Cumulative translation adjustments, net	12,189	7,751

Total stockholders equity	144,978	151,834
Total liabilities and stockholders equity	$ 395,975	$ 414,731

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

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ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share amounts)

	Years Ended December 31,		
	2004	**2003**	**2002**
SALES	$ 395,305	$ 262,402	$ 238,898
COST OF SALES	275,626	174,455	170,138
GROSS PROFIT	119,679	87,947	68,760
OPERATING EXPENSES:			
Research and development	51,541	51,647	48,995
Selling, general and administrative	62,444	53,951	66,586
Litigation damages			4,200
Restructuring charges	3,912	4,306	9,060
Impairment of intangible assets	3,326	1,175	1,904
Total operating expenses	121,223	111,079	130,745
LOSS FROM OPERATIONS	(1,544)	(23,132)	(61,985)
OTHER INCOME (EXPENSE):			
Interest income	1,737	1,721	3,314
Interest expense	(11,049)	(11,254)	(12,460)
Foreign currency gain	1,023	869	5,280
Gain on retirement of convertible subordinated notes			4,223
Other income (expense), net	1,033	(644)	(2,064)
	(7,256)	(9,308)	(1,707)
Net loss before income taxes	(8,800)	(32,440)	(63,692)
(PROVISION) BENEFIT FOR INCOME TAXES	(3,947)	(11,801)	22,293
NET LOSS	$ (12,747)	$ (44,241)	$ (41,399)
BASIC AND DILUTED NET LOSS PER SHARE	$ (0.39)	$ (1.37)	$ (1.29)
BASIC AND DILUTED WEIGHTED-AVERAGE COMMON SHARES OUTSTANDING	32,649	32,271	32,026

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

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ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY AND COMPREHENSIVE LOSS
(In thousands)

	Common Stock		Additional Paid-in	Retained Earnings (Accumulated		Accumulated Other Comprehensive (Loss)	Total Stockholders
	Shares	Amount	Capital	Deficit)	Deferred Compensation	Income	Equity
BALANCES, December 31, 2001	31,848	$ 32	$ 131,698	$ 85,592	$ (1,094)	$ (1,883)	$ 214,345
Exercise of stock options for cash	118		1,389				1,389
Issuance of common stock for acquisition of minority interest of Litmas	120		4,219				4,219
Sale of common stock through employee stock purchase plan	54		689				689
Tax benefit related to shares acquired by employees under stock compensation plans			468				468
Amortization of deferred compensation					518		518
Adjustment for forfeited options			(34)		34		
Comprehensive loss:							
Equity adjustment from foreign currency translation, net of tax						4,400	
Unrealize							