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

Table of Contents

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.

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

Table of Contents

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.

Table of Contents

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.

Table of Contents

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

Table of Contents

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

Table of Contents

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.

Table of Contents

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

Table of Contents

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.

Table of Contents

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.

Table of Contents

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.

Table of Contents

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.

Table of Contents

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.

Table of Contents

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.

Table of Contents

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.

Table of Contents

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;

Table of Contents

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.

Table of Contents

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.

Table of Contents

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.

Table of Contents

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

Table of Contents

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

Table of Contents

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

Table of Contents

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

Table of Contents

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)%

Table of Contents

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

Table of Contents

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,

Table of Contents

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.

27

Table of Contents

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.

Table of Contents

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

Table of Contents

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.

Table of Contents

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,	Mar. 31,	June 30,	Sept. 30,	Dec. 31,