

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. For example, statements relating to our beliefs, expectations and plans are forward-looking statements, as are statements that certain actions, conditions or circumstances will continue. Forward-looking statements involve risks and uncertainties. As a result, 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:

- the significant fluctuations in our quarterly operating results;
- the volatility of the semiconductor and semiconductor capital equipment industries;
- timing and success of integration of recent and potential future acquisitions; and
- supply constraints and technological changes.

For a discussion of these and other factors that may impact our realization of our forward-looking statements, see Part I "Cautionary Statements – Risk Factors" in our Form 10-K for the year ended December 31, 2000.

OVERVIEW

We design, manufacture and support products and systems critical to plasma-based manufacturing processes. These systems are important components of industrial manufacturing equipment that modifies surfaces or deposits or etches thin film layers on computer chips, CDs, flat panel displays such as computer screens, DVDs, windows, eyeglasses and other products. We market and sell our systems primarily to large global OEMs of semiconductor, data storage and flat panel display manufacturing equipment and for manufacturers of other products in advanced product applications markets. We recognize revenues upon shipment of our systems.

The semiconductor capital equipment industry accounted for approximately 52% of our sales in 1998, 65% in 1999 and 70% in 2000. We have been successful in achieving a number of design wins each year, which have resulted in our obtaining new customers and solidifying relationships with our existing customers. We believe our ability to continue to achieve design wins with existing and potential customers will be critical to our future success.

We continue to seek to expand our product offerings and customer base through internal development and acquisitions. We took a step towards achieving further market penetration in September 1998 when we acquired the assets of Fourth State Technology, Inc. This acquisition enhanced our capability to design and manufacture RF power-related process control systems used to monitor and analyze data in thin film etch processes.

In October 1998 we acquired RF Power Products, Inc. ("RFPP"), which designs, manufactures and supports RF power conversion and control systems, consisting of generators and matching networks. We believe our ability to offer an expanded line of RF systems to our existing customer base has strengthened our relationships. We sell these products principally to semiconductor capital equipment manufacturers. We also sell similar systems to capital equipment manufacturers in the flat panel display and thin film data storage industries. In April 1999 we changed the name of RFPP to Advanced Energy Voorhees, Inc. and conduct business under that name.

In October 1999 we acquired a majority interest in LITMAS, a company that designs and manufactures plasma gas abatement systems and high-density plasma sources.

In November 1999 we completed two underwritten public offerings, one for \$135 million of convertible subordinated notes, and one for 1,000,000 shares of our common stock, at a price of \$39 per share. These offerings provided aggregate net proceeds of approximately \$167.1 million.

In December 1999 we completed formation of our wholly owned sales and service subsidiary in Taiwan.

In March 2000 we formed a strategic partnership with Symphony Systems, a supplier of network-based applications and open-architecture software solutions to the semiconductor and semiconductor capital equipment industries, to deliver an advanced network-based infrastructure to our customers.

In April 2000 we acquired Noah Holdings, Inc. ("Noah"), which manufactures solid state temperature control systems to control process temperatures during semiconductor manufacturing.

In June 2000 we signed an exclusive distribution agreement with Berkeley Process Control, Inc., a manufacturer of integrated motion and machine control technologies.

In July 2000 we entered into an agreement to acquire EMCO, which manufactures electronic and electromechanical precision instruments for measuring and controlling the flow of liquids, steam and gases. EMCO became a wholly owned subsidiary of Advanced Energy in January 2001.

In August 2000 we acquired Sekidenko, Inc. ("Sekidenko"), which supplies optical fiber thermometers to the semiconductor capital equipment industry.

In October 2000 we opened a representative office in Shenzhen, China, to be responsible for market development, sales and technical support in China.

In October and November 2000 we repurchased \$53.4 million principal amount of our convertible subordinated notes on the open market, leaving us with \$81.6 million of such long-term debt outstanding. These purchases resulted in an after-tax net extraordinary gain of \$7.6 million.

In November 2000 we entered into a strategic investment agreement with Dressler HF Technik GmbH, a privately held supplier of RF power solutions for plasma-based applications located in Germany.

RESULTS OF OPERATIONS

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

	Years Ended December 31,		
	2000	1999	1998
Sales	100.0%	100.0%	100.0%
Cost of sales	51.0	54.5	70.1
Gross margin	49.0	45.5	29.9
Operating expenses:			
Research and development	10.2	14.0	18.2
Sales and marketing	6.7	9.0	10.9
General and administrative	6.8	8.0	9.8
Restructuring charges	0.3	—	0.7
Merger costs	1.3	—	2.1
Storm recoveries	—	—	(0.8)
Total operating expenses	25.3	31.0	40.9
Income (loss) from operations	23.7	14.5	(11.0)
Other income (expense)	2.1	0.7	0.1
Net income (loss) before income taxes, minority interest and extraordinary item	25.8	15.2	(10.9)
Provision (benefit) for income taxes	9.0	5.8	(2.7)
Minority interest in net income	0.0	0.0	—
Net income (loss) before extraordinary item	16.8	9.4	(8.2)
Extraordinary item (net of applicable taxes)	2.1	—	—
Net income (loss)	18.9%	9.4%	(8.2)%

SALES

We sell power conversion and control systems and related equipment primarily to the semiconductor capital equipment, data storage and advanced product applications markets in the United States, to the flat panel display and data storage markets in Japan, and to data storage and advanced product applications and industrial markets in Europe. We also sell spare parts and repair services worldwide through our customer service and technical support organization.

Sales were \$134.0 million, \$202.8 million and \$359.8 million in 1998, 1999 and 2000, respectively, representing an increase of 51% from 1998 to 1999 and an increase of 77% from 1999 to 2000. Our sales increases were due to increased unit sales.

A substantial portion of our sales growth from 1998 to 2000 was due to higher system sales to our four largest customers, two of whom are primarily semiconductor capital equipment OEMs, one of whom is a data storage OEM, and one of whom is a flat panel display OEM. Our sales in 1999 reflected the recovery in the semiconductor capital equipment industry from the severe downturn of 1998, and resulted from capacity expansion and increased investment in advanced technology by the semiconductor industry. This recovery and expansion resulted in record sales for us in 1999. It also resulted in record sales for us in 1999 to the semiconductor capital equipment industry specifically. This recovery continued into 2000, and resulted in another record year of sales for us in total and to the semiconductor capital equipment industry. Our experience has shown that our sales to semiconductor capital equipment customers is dependent on the volatility of that industry, as a result of sudden changes in semiconductor supply and demand, and rapid technological advances in both semiconductor devices and wafer fabrication processes.

Our sales to the semiconductor capital equipment industry in 1999 increased 88% over sales to that industry in 1998. Sales to the data storage industry increased 26% from 1998 to 1999. Sales to the flat panel display industry increased 92% from 1998 to 1999. Sales to advanced product applications industries decreased 15% from 1998 to 1999.

Our sales to the semiconductor capital equipment industry in 2000 increased 92% over sales to that industry in 1999. Sales to the data storage industry increased 13% from 1999 to 2000. Sales to the flat panel display industry increased 162% from 1999 to 2000. Sales to advanced product applications industries increased 32% from 1999 to 2000.

The following tables summarize annual net sales, and percentages of net sales, by customer type for us for each of the three years in the period ended December 31, 2000:

(In thousands)	Years Ended December 31,		
	2000	1999	1998
Semiconductor			
capital equipment	\$252,889	\$131,395	\$ 69,894
Data storage	24,751	21,823	17,300
Flat panel display	29,273	11,171	5,832
Advanced product applications	37,726	28,563	33,593
Customer service technical support	15,143	9,897	7,400
	\$359,782	\$202,849	\$134,019

	Years Ended December 31,		
	2000	1999	1998
Semiconductor capital equipment	70%	65%	52%
Data storage	7	11	13
Flat panel display	8	5	4
Advanced product applications	11	14	25
Customer service technical support	4	5	6
	100%	100%	100%

The following tables summarize annual net sales, and percentages of net sales, by geographic region for us for each of the three years in the period ended December 31, 2000:

(In thousands)	Years Ended December 31,		
	2000	1999	1998
United States and Canada	\$260,596	\$148,424	\$ 98,042
Europe	52,893	32,344	25,986
Asia Pacific	45,874	21,583	9,580
Rest of world	419	498	411
	\$359,782	\$202,849	\$134,019

	Years Ended December 31,		
	2000	1999	1998
United States and Canada	72%	73%	73%
Europe	15	16	20
Asia Pacific	13	11	7
Rest of world	0	0	0
	100%	100%	100%

GROSS MARGIN

Our gross margins were 29.9%, 45.5% and 49.0% for 1998, 1999 and 2000, respectively. The improvement in gross margin from 1998 to 1999 was primarily a result of our efforts to reduce material costs, improve overhead cost controls and a more favorable absorption of manufacturing costs which resulted from the higher sales base. The improvement in gross margin from 1999 to 2000 was primarily a result of a more favorable absorption of manufacturing costs, which resulted from the higher sale base. We added new facilities in Fort Collins, Colorado in the first quarter of 2001 to increase our manufacturing capacity. Due to substantial fixed costs involved in this expansion, there could be an adverse impact on overhead absorption in 2001 if the increased capacity is not fully utilized.

In the fourth quarter of 1997 the semiconductor capital equipment industry entered a sudden and severe downturn which continued through the end of 1998. The downturn in this industry, with the resulting underutilization of capacity, significantly impacted our financial results for 1998. The combination of the expansion and lower sales resulted in an over-capacity situation for us, leading to unfavorable absorption of manufacturing overhead and a substantially reduced margin. This underutilization of manufacturing capacity continued to negatively impact gross margins, until sales to the semiconductor capital equipment market recovered in 1999 and 2000.

Historically, price competition has not had a material effect on margins. However, competitive pressures may produce a decline in average selling prices for certain products. Any decline in average selling prices not offset by reduced costs could result in a decline in our gross margins.

We provide warranty coverage for our systems ranging from 12 to 30 months, and estimate the anticipated costs of repairing our systems under such warranties based on the historical average costs of the repairs. To date, we have not experienced significant warranty costs in excess of our recorded reserves.

RESEARCH AND DEVELOPMENT

We invest in research and development to identify new technologies, develop new products and improve existing product designs. Our research and development expenses were \$24.4 million, \$28.3 million and \$37.0 million for 1998, 1999 and 2000, respectively, representing an increase of 16% from 1998 to 1999 and 31% from 1999 to 2000. As a percentage of sales, research and development expenses decreased from 18.2% in 1998 to 14.0% in 1999 and decreased again to 10.2% in 2000 because of the increasingly higher sales base. The increase in expenses from 1998 to 2000 is primarily due to increases in

payroll, materials and supplies and depreciation of equipment used for new product development.

We believe continued investment in the research and development of new systems is critical to our ability to serve new and existing markets, and we continue to invest in new product development during industry downturns. Since our inception, the majority of our research and development costs generally have been internally funded and all have been expensed as incurred.

SALES AND MARKETING EXPENSES

Our sales and marketing expenses support domestic and international sales and marketing activities which include personnel, trade shows, advertising, and other marketing activities. Sales and marketing expenses were \$14.6 million, \$18.3 million and \$24.1 million for 1998, 1999 and 2000, respectively. This represents a 25% increase from 1998 to 1999 and a 32% increase from 1999 to 2000. The increase in expenses from 1998 to 2000 is primarily due to higher payroll, commissions, promotion, distribution and travel costs. We incurred these expenses to continue to increase our sales management and product management capabilities. As a percentage of sales, sales and marketing expenses decreased from 10.9% in 1998 to 9.0% in 1999 and decreased again to 6.7% in 2000 because of the increasingly higher sales base, while dollars spent increased.

GENERAL AND ADMINISTRATIVE EXPENSES

Our general and administrative expenses support our worldwide financial, administrative, information systems and human resources functions. General and administrative expenses were \$13.1 million, \$16.2 million and \$24.6 million for 1998, 1999 and 2000, respectively. This represents a 24% increase from 1998 to 1999 and a 51% increase from 1999 to 2000. The increases from 1998 to 2000 are primarily due to higher spending for payroll and purchased services. As a percentage of sales, general and administrative expenses decreased from 9.8% in 1998 to 8.0% in 1999 and decreased again to 6.8% in 2000 because of the increasingly higher sales base.

We continue to implement our management system software, including the replacement of existing systems in our domestic and foreign locations. We expect that charges related to personnel training and implementation of the new software will continue into 2001.

RESTRUCTURING AND MERGER COSTS AND ONE-TIME CREDIT

In 1998 we recorded a \$1.1 million recovery, which represented a settlement with our insurance carrier related to storm damage to our headquarters and main manufacturing facilities in the Fort Collins area in 1997. We had previously recorded \$2.7 million of storm damages in 1997.

In August 1998 we announced a restructuring plan to respond to the downturn in the semiconductor capital equipment market. The plan included a reduction of workforce of 128 people, the closure of one facility in our Fort Collins, Colorado campus, and the abandonment of plans to construct a new manufacturing facility in Fort Collins. We achieved other reductions in workforce at the Voorhees facility throughout 1998. We took a charge of \$1.0 million for the restructuring in the third quarter of 1998.

On October 8, 1998, Advanced Energy acquired RF Power Products, Inc., accounted for as a pooling of interests transaction that involved the exchange of four million shares of Advanced Energy common stock for the publicly held common stock of RFPP. As part of the business combination, we incurred \$2.7 million of expense recorded in the fourth quarter of 1998 for merger costs. We incurred additional operating expenses during 1999 relating to consolidating and integrating operations of this business combination.

On April 6, 2000, Advanced Energy acquired Noah Holdings, Inc. in a pooling of interests transaction that involved the exchange of approximately 687,000 shares of Advanced Energy common stock for the privately held common stock of Noah. As part of the business combination, we incurred \$2.3 million of expense in the second quarter of 2000 for merger costs. We incurred additional operating expenses during 2000 and expect to incur further operating expenses in 2001 relating to consolidating and integrating operations of this business combination.

On July 17, 2000, we announced the consolidation of our Tower, Inc., facility in Fridley, Minnesota, into our existing facility in Voorhees, New Jersey. We recorded a restructuring charge of \$1.0 million in the third quarter of 2000 related to the consolidation, which was completed during the fourth quarter of 2000.

On August 18, 2000, Advanced Energy acquired Sekidenko, Inc., in a merger that was accounted for as a pooling of interests. This merger involved the exchange of 2.1 million shares of Advanced Energy common stock for the privately held common stock of Sekidenko. As part of the business combi-

nation, we took a charge of \$2.3 million in the third quarter of 2000 for merger costs. We incurred additional operating expenses during 2000 and expect to incur further operating expenses in 2001 relating to consolidating and integrating operations of this business combination.

The \$2.7 million of merger costs incurred in 1998 and \$4.6 million of merger costs incurred in 2000 cannot be capitalized, and in certain cases are nondeductible for income tax purposes.

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 \$1.1 million, \$2.2 million and \$10.7 million for the years 1998, 1999 and 2000, respectively. In 1998 interest income was earned primarily from earnings on investments made from the proceeds of our initial public offering in 1995 and our underwritten public offering in 1997. In 1999 and 2000 interest income was earned primarily from the proceeds of our offering of convertible subordinated notes and common stock offering of November 1999.

Interest expense consists principally of accruals of interest on our convertible subordinated notes, on borrowings under our bank credit and capital lease facilities and a state government loan. Interest expense was approximately \$340,000, \$1.4 million and \$7.7 million for the years 1998, 1999 and 2000, respectively. The increase of interest expense from 1998 to 2000 was primarily due to interest on the convertible subordinated notes.

Our foreign subsidiaries' sales are primarily denominated in currencies other than the U.S. dollar. We recorded net foreign currency gains of \$369,000 and \$1.5 million for 1998 and 1999, respectively, and a net foreign currency loss of \$196,000 in 2000. The increase from 1998 to 1999 was primarily due to strengthening of the exchange rate of the Japanese yen to the U.S. dollar. The loss in 2000 was due to a weakening of the exchange rate of the Japanese yen to the U.S. dollar offset by the effect of our use of forward foreign exchange contracts to hedge our exposure to fluctuations in foreign exchange rates. Since 1997 we have entered into various forward foreign exchange contracts as a hedge against currency fluctuations in the Japanese yen. We will continue to evaluate various policies to minimize the effect of foreign currency fluctuations.

Eleven European countries adopted a Single European Currency (the "euro") as of January 1, 1999 with a transition period continuing through at least January 1, 2002. As of January 1, 1999, these eleven of the fifteen member countries of the European Union (the "participating countries") established fixed conversion rates between their existing sovereign currencies and the euro. For three years after the introduction of the euro, the participating countries can perform financial transactions in either the euro or their original local currencies. This will result in a fixed exchange rate among the participating countries, whereas the euro (and the participating countries' currencies in tandem) will continue to float freely against the U.S. dollar and other currencies of non-participating countries. A twelfth European country adopted the euro on January 1, 2001. Although we do not expect the introduction of the euro currency to have a significant impact on our revenues or results of operations, we are unable to determine what effects, if any, the currency change in Europe will have on competition and competitive pricing in the affected regions.

Miscellaneous expense items were \$939,000 and \$698,000 in 1998 and 1999, respectively. Miscellaneous income of \$4.7 million in 2000 was primarily due to a \$4.8 million gain on a sale of an investment.

PROVISION (BENEFIT) FOR INCOME TAXES

The income tax benefit for 1998 was \$3.5 million and represented an effective tax rate of 24%. The income tax provision of \$11.7 million for 1999 represented an effective rate of 38%. The income tax provision of \$36.8 million in 2000, which included \$4.6 million of provision for an extraordinary item, represented an effective rate of 35%. Changes in our relative earnings and the earnings of our foreign subsidiaries affect our consolidated effective tax rate. We adjust our income taxes periodically based upon the anticipated tax status of all foreign and domestic entities.

EXTRAORDINARY GAIN

In the fourth quarter of 2000 we repurchased an aggregate of approximately \$53.4 million principal amount of our convertible subordinated notes in the open market, for a cost of approximately \$40.8 million. These purchases resulted in a pretax extraordinary gain of \$12.2 million, or \$7.6 million after tax.

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, 2000. We believe that

all necessary adjustments have been included in the amounts stated below to present fairly such quarterly information. The operating results for any quarter are not necessarily indicative of results for any subsequent period.

(In thousands, except per share data)	Quarters Ended							
	Mar. 31, 1999	June 30, 1999	Sept. 30, 1999	Dec. 31, 1999	Mar. 31, 2000	June 30, 2000	Sept. 30, 2000	Dec. 31, 2000
Sales	\$36,419	\$45,363	\$55,626	\$65,441	\$75,028	\$85,701	\$96,317	\$102,736
Cost of sales	21,187	25,093	30,675	33,692	38,361	43,338	49,492	52,138
Gross profit	15,232	20,270	24,951	31,749	36,667	42,363	46,825	50,598
Operating expenses:								
Research and development	6,029	6,983	7,211	8,103	8,113	8,504	9,711	10,668
Sales and marketing	3,432	4,187	4,589	6,117	5,867	5,373	6,232	6,629
General and administrative	3,509	3,746	4,437	4,533	5,639	5,810	6,748	6,376
Restructuring charge	—	—	—	—	—	—	1,000	—
Merger costs	—	—	—	—	—	2,333	2,250	—
Total operating expenses	12,970	14,916	16,237	18,753	19,619	22,020	25,941	23,673
Income from operations	2,262	5,354	8,714	12,996	17,048	20,343	20,884	26,925
Other (expense) income	(80)	45	1,063	522	120	731	5,598	1,036
Net income before income taxes, minority interest and extraordinary item	2,182	5,399	9,777	13,518	17,168	21,074	26,482	27,961
Provision for income taxes	951	2,109	3,687	4,994	5,947	8,023	10,195	8,076
Minority interest in net income	—	—	—	69	(17)	(67)	(2)	106
Net income before extraordinary item	1,231	3,290	6,090	8,455	11,238	13,118	16,289	19,779
Extraordinary item (net of income taxes)	—	—	—	—	—	—	—	7,610
Net income	\$ 1,231	\$ 3,290	\$ 6,090	\$ 8,455	\$11,238	\$13,118	\$16,289	\$ 27,389
Diluted earnings per share before extraordinary item	\$ 0.04	\$ 0.11	\$ 0.20	\$ 0.27	\$ 0.35	\$ 0.40	\$ 0.50	\$ 0.61
Diluted earnings per share from extraordinary item	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 0.22
Diluted earnings per share	\$ 0.04	\$ 0.11	\$ 0.20	\$ 0.27	\$ 0.35	\$ 0.40	\$ 0.50	\$ 0.83
Diluted weighted-average common shares outstanding	30,814	30,604	30,932	31,816	32,512	32,543	32,417	34,078 *

* Includes dilution from subordinated notes

	Quarters Ended							
	Mar. 31, 1999	June 30, 1999	Sept. 30, 1999	Dec. 31, 1999	Mar. 31, 2000	June 30, 2000	Sept. 30, 2000	Dec. 31, 2000
(Percentage of Sales)								
Sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of sales	58.2	55.3	55.1	51.5	51.1	50.7	51.4	50.7
Gross margin	41.8	44.7	44.9	48.5	48.9	49.3	48.6	49.3
Operating expenses:								
Research and development	16.6	15.4	13.0	12.4	10.8	9.9	10.0	10.4
Sales and marketing	9.4	9.2	8.2	9.3	7.9	6.2	6.5	6.5
General and administrative	9.6	8.3	8.0	6.9	7.5	6.8	7.0	6.2
Restructuring charge	—	—	—	—	—	—	1.0	—
Merger costs	—	—	—	—	—	2.7	2.4	—
Total operating expenses	35.6	32.9	29.2	28.6	26.2	25.6	26.9	23.1
Income from operations	6.2	11.8	15.7	19.9	22.7	23.7	21.7	26.2
Other (expense) income	(0.2)	0.1	1.9	0.8	0.2	0.9	5.8	1.0
Net income before income taxes, minority interest and extraordinary item	6.0	11.9	17.6	20.7	22.9	24.6	27.5	27.2
Provision for income taxes	2.6	4.6	6.7	7.7	7.9	9.4	10.6	7.8
Minority interest in net income	—	—	—	0.1	0.0	(0.1)	0.0	0.1
Net income before extraordinary item	3.4	7.3	10.9	12.9	15.0	15.3	16.9	19.3
Extraordinary item (net of income taxes)	—	—	—	—	—	—	—	7.4
Net income	3.4%	7.3%	10.9%	12.9%	15.0%	15.3%	16.9%	26.7%

We have experienced and expect to continue to experience significant fluctuations in our quarterly operating results. Our expense levels are based, in part, on expectations of future revenues. If revenue levels in a particular quarter do not meet expectations, operating results may be adversely affected. A variety of factors have an influence on the level of our revenues in a particular quarter. These factors include:

- general economic conditions;
- specific economic conditions in the semiconductor and semiconductor capital equipment industries and other industries in which our customers operate;
- timing and nature of orders from major customers;
- changes in customers' inventory management practices;
- customer cancellations of previously placed orders and shipment delays;
- pricing competition from our competitors;
- costs incurred by responding to specific feature requests by customers;
- component shortages resulting in manufacturing delays;
- exchange rate fluctuations;
- management decisions to commence or discontinue product lines;
- our ability to design, introduce and manufacture new products on a cost effective and timely basis;
- the introduction of new products by us or our competitors;
- the timing of research and development expenditures; and
- expenses related to acquisitions, strategic alliances, and the further development of marketing and service capabilities.

We are dependent on obtaining orders for shipment in a particular quarter to achieve our revenue objectives for that quarter. Accordingly, it is difficult for us to predict accurately the timing and level of sales in a particular quarter. We anticipate quarterly fluctuations in sales to continue.

Our quarterly operating results in 1999 and 2000 reflect the changing demand for our products during this period, principally from manufacturers of semiconductor capital equipment, data storage equipment and flat panel displays, and our ability to adjust our manufacturing capacity to meet this demand. Sales to the semiconductor capital equipment industry increased each quarter throughout 1999 and 2000. Data storage sales were flat from the first quarter of 1999 to the second quarter of 1999, then increased in the third and fourth quarters of 1999. Data storage sales then decreased in the first and second quarters of 2000, increased in the third quarter of 2000 and decreased in the fourth quarter of 2000. Sales to the flat panel display industry increased each quarter

of 1999 and 2000. Sales to advanced product applications markets, though fluctuating on a quarterly basis throughout 1999 and 2000, were higher in the second half of 1999 than in the first half of 1999, were higher again in the first half of 2000 and again in the second half of 2000. Our revenue from all sectors is heavily influenced by general economic conditions in each of the industries we serve.

Our gross margin improved on a quarterly basis in 1999 and reached a relatively consistent level in each of the quarters in 2000. Gross margin improved from 41.8% in the first quarter of 1999 to 44.7% in the second quarter of 1999, then improved to 44.9% in the third quarter of 1999 and to 48.5% in the fourth quarter of 1999. These increases were due to increased utilization of capacity from the recovery in the semiconductor capital equipment industry and from our increased efforts to lower material costs. Gross margin improved slightly to 48.9% in the first quarter of 2000 and again to 49.3% in the second and fourth quarters of 2000, with a slight decrease to 48.6% in the third quarter of 2000.

Operating expenses were \$13.0 million, \$14.9 million, \$16.2 million and \$18.8 million during the first, second, third and fourth quarters of 1999, respectively, but declined as a percentage of sales throughout 1999 as the sales base increased each quarter. Operating expenses excluding restructuring and merger costs were \$19.6 million, \$19.7 million, \$22.7 million and \$23.7 million during the first, second, third and fourth quarters of 2000, respectively. Operating expenses, excluding restructuring and merger costs, declined as a percentage of sales in the first and second quarters of 2000, and increased slightly as a percentage of sales in the third and fourth quarters of 2000. As a percentage of sales, operating expenses have generally declined during periods of rapid sales growth, when sales increased at a rate faster than our ability to add personnel and facilities to support the growth. Operating expenses as a percentage of sales have generally increased during periods of flat or decreased sales, when our infrastructure is retained to support anticipated future growth.

Other income (expense) consists primarily of interest income and expense, foreign currency gain and loss, and miscellaneous gains, losses, income and expense items. Interest income and expense increased significantly in the fourth quarter of 1999, when the interest income and expense from the proceeds of the convertible subordinated notes and the interest from the proceeds of the common stock sale began. Interest income and expense stayed at higher levels throughout 2000. During 1999 we recorded a net foreign exchange gain of \$1.5 million, which occurred mostly in the second

half of the year, and in 2000 we recorded a \$196,000 foreign currency loss. We continue to utilize forward foreign exchange contracts in Japan to mitigate the effects of foreign currency fluctuations. The third quarter of 2000 included a \$4.8 million gain on a sale of an investment.

Our effective rate for income tax provision fluctuated throughout 1999 and 2000, varying from 31% to 44%. The fluctuations were due to certain nondeductible expenses including merger costs, and due to initiatives we implemented in 2000 to reduce our overall rate.

LIQUIDITY AND CAPITAL RESOURCES

Since our inception, we have financed our operations, acquired equipment and met our working capital requirements through borrowings under our revolving lines of credit, long-term loans secured by property and equipment, cash flow from operations and proceeds from underwritten public offerings of our common stock and convertible subordinated debt.

Operating activities provided cash of \$10.4 million in 1999, primarily as a result of net income, depreciation, amortization, increases in accounts payable and increased accruals for payroll, employee benefits and income taxes, offset by increases in accounts receivable and inventories. Operating activities provided cash of \$22.8 million in 2000, primarily as a result of net income, depreciation, amortization and increases in accounts payable and increased accruals for payroll, employee benefits and income taxes, partially offset by increases in receivables and inventories, gains on retirement of convertible subordinated notes and a sale of an investment, and earnings from marketable securities. We expect future receivable and inventory balances to fluctuate with net sales. We are required to maintain higher levels of buffer stock inventory to satisfy our customers' delivery requirements. Any increase in our inventory levels will require the use of cash to finance the inventory.

Investing activities used cash of \$176.2 million in 1999, and consisted of a net increase in marketable securities of \$168.9 million, the purchase of property and equipment of \$7.2 million and an addition to an investment of \$175,000. Investing activities provided cash of \$27.4 million in 2000, and consisted of a net decrease in marketable securities of \$38.1 million, proceeds from a sale of an investment of \$4.5 million and proceeds from a sale of equipment of \$150,000, offset by purchases of property and equipment of \$14.1 million, a purchase of technology of \$1.0 million and an addition to an investment of \$250,000.

Financing activities provided cash of \$174.5 million in 1999, and consisted of net proceeds from convertible subordinated debt of \$130.5 million, net proceeds from the sale of common stock of \$37.8 million, proceeds from the exercise of employee stock options and sale of common stock through our employee stock purchase plan ("ESPP") of \$4.5 million, and other proceeds of \$1.7 million. Financing activities used cash of \$37.5 million in 2000, and consisted of open market repurchases of our convertible notes of \$40.8 million and other uses of \$1.6 million, offset by proceeds from the exercise of employee stock options and sale of common stock through our ESPP of \$4.9 million.

In the fourth quarter of 2000 we repurchased an aggregate of approximately \$53.4 million principal amount of our convertible subordinated notes in the open market, for a cost of approximately \$40.8 million. The note purchases were funded from our available cash. We may repurchase additional notes in the open market from time to time, if market conditions and our financial position are deemed favorable for such purchases.

We plan to spend approximately \$12.5 million in 2001 for the acquisition of equipment, leasehold improvements and furnishings, with depreciation expense for 2001 projected to be \$9.5 million. In January 2001 we used cash to purchase the outstanding common stock of EMCO for approximately \$30 million.

As of December 31, 2000, we had working capital of \$279.6 million. Our principal sources of liquidity consisted of \$31.7

million of cash and cash equivalents, \$157.8 million of marketable securities, and a credit facility consisting of a \$30.0 million revolving line of credit, with options to convert up to \$10.0 million to a three-year term loan. Advances under the revolving line of credit bear interest at either the prime rate (8.5% at February 28, 2001) minus 1.25% or the LIBOR 360-day rate (4.88375% at February 28, 2001) plus 150 basis points, at our option. All advances under this revolving line of credit will be due and payable April 7, 2001. As of December 31, 2000 there was an advance outstanding of \$875,000 to our Japanese subsidiary, Advanced Energy Japan K.K. We also had another line of credit of \$1.9 million of which there was no balance outstanding at December 31, 2000. This credit line expired in January 2001.

We believe that our cash and cash equivalents, marketable securities, cash flow from operations and available borrowings, will be sufficient to meet our working capital needs through at least the end of 2001. After that time, we may require additional equity or debt financing to address our working capital, capital equipment or expansion needs. In addition, any significant acquisitions we make may require additional equity or debt financing to fund the purchase price, if paid in cash. There can be no assurance that additional funding will be available when required or that it will be available on terms acceptable to us.

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and long-term debt obligations. We generally place our investments with high credit quality issuers and by policy are averse to principal loss and seek to protect and preserve our invested funds by limiting default risk, market risk and reinvestment risk. As of December 31, 2000, our investments consisted primarily of commercial paper, municipal bonds and notes and mutual funds.

Foreign Currency Exchange Rate Risk

We transact business in various foreign countries. Our primary foreign currency cash flows are generated in countries in Asia and Europe. We have entered into various forward foreign exchange contracts to hedge against currency fluctuations in the Japanese yen. We will continue to evaluate vari-

ous methods to minimize the effects of currency fluctuations. At December 31, 2000, we held foreign forward exchange contracts with nominal amounts of \$11.5 million and market settlement amounts of \$10.7 million for an unrealized gain position of \$826,000.

Other Risk

We have invested in a start-up company and may in the future make additional investments in start-up companies that develop products which we believe may provide future benefits. The current start-up investment and any future start-up investments will be subject to all of the risks inherent in investing in companies that are not established.